APPENDIX F

Tulare County and Porterville Plans

Appendix F-1

Tulare County General Plan 2030 Update

Tulare County General Plan Update

2030 Update

Tulare County

General Plan

Part I - Goals and Polices Report

Part II – Area Plans

Part III - Community, Hamlet, County Adopted City General, Valley Sub-Area, Corridor Sub-Area, Foothill Sub-Area, and Mountain Sub-Area Plans

**separate documents

**not a part of this update

August 2012

Please see the next page.

Tulare County

Revised Draft
General Plan 2030 Update

Value Statements	
	▪ **The beauty of the County and the health and safety of its residents will be protected and enhanced.** ▪ **The County will create and facilitate opportunities to improve the lives of all County residents.** ▪ **The County will protect its agricultural economy while diversifying employment opportunities.** ▪ **Every community will have the opportunity to prosper from economic growth.** ▪ **Growth will pay its own way providing sustainable, high quality infrastructure and services.**

Tulare County
Resource Management Agency
5961 South Mooney Boulevard
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August 2012

Please see the next page.

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Tulare County General Plan 2030 Update

Table of Contents

Part I Goals and Policies Report

Chapter 1 – Introduction **1-1**
Section 1.1 – General Plans in California 1-1
Section 1.2 – Tulare County General Plan: The Structure 1-2
Section 1.3 – Goals and Policies Report Framework (Part I of the General Plan) 1-8
Section 1.4 – Environmental Analysis 1-13
Section 1.5 – Interpreting the General Plan: Consistency Determinations 1-13
Section 1.6 – Cross Element or Chapter Considerations 1-14
Section 1.7 – In Summary 1-15

Component A – General Plan Framework **A-1**

Chapter 2 – Planning Framework **2-1**
Section 2.1 – General 2-7
Section 2.2 – Communities 2-9
Section 2.3 – Hamlets 2-35
Section 2.4 – Cities 2-49
Section 2.5 – New Towns 2-67
Section 2.6 – Coordination and Cooperation 2-68
Section 2.7 – General Plan Maintenance 2-69
Section 2.8 – Work Plan/Implementation Measures 2-71

Component B – Prosperity **B-1**

Chapter 3 – Agriculture **3-1**
Section 3.1 – Agriculture Preservation 3-4
Section 3.2 – Agriculture Productivity and Employment 3-7
Section 3.3 – Work Plan/Implementation Measures 3-9

Chapter 4 – Land Use **4-1**
Section 4.1 – Growth and Development 4-22
Section 4.2 – Resource Uses 4-26
Section 4.3 – Residential Uses 4-27
Section 4.4 – Commercial Development 4-28
Section 4.5 – Industrial Development 4-29
Section 4.6 – Public/Institutional Development 4-30
Section 4.7 – Community Design 4-31
Section 4.8 – Work Plan/Implementation Measures 4-35

Chapter 5 – Economic Development **5-1**
Section 5.1 – General 5-2
Section 5.2 – Business Attraction, Expansion, and Retention 5-3
Section 5.3 – Diversified Economy 5-5
Section 5.4 – Labor Force Development 5-6
Section 5.5 – Tourism 5-7
Section 5.6 – Commercial Development 5-8
Section 5.7 – Work Plan/Implementation Measures 5-11

Chapter 6 – Housing **6-1**

Component C – Environment ..... **C -1**

Chapter 7 – Scenic Landscapes **7-1**
Section 7.1 – Natural and Working Landscapes 7-3
Section 7.2 – Scenic Corridors and Places 7-4
Section 7.3 – Community Design 7-6
Section 7.4 – Design of Infrastructure 7-7
Section 7.5 – Work Plan/Implementation Measures 7-9

Chapter 8 – Environmental Resources Management **8-1**
Section 8.1 – Biological Resources 8-9
Section 8.2 – Mineral Resources - Surface Mining 8-11
Section 8.3 – Mineral Resources - Other 8-13
Section 8.4 – Energy Resources 8-14
Section 8.5 – Recreation and Open Space Resources 8-15
Section 8.6 – Cultural Resources 8-18
Section 8.7 – Soil Resources 8-19
Section 8.8 – Work Plan/Implementation Measures 8-21

Chapter 9 – Air Quality **9-1**
Section 9.1 – Regional Perspective 9-7
Section 9.2 – Transportation Design 9-8
Section 9.3 – Land Use/Design 9-9
Section 9.4 – Air Pollution Control 9-10
Section 9.5 – Work Plan/Implementation Measures 9-13

Chapter 10 – Health and Safety **10-1**
Section 10.1 – General 10-20
Section 10.2 – Geologic and Seismic Hazards 10-22
Section 10.3 – Airport Hazards 10-51
Section 10.4 – Hazardous Materials 10-52
Section 10.5 – Flood Hazards 10-53
Section 10.6 – Urban and Wildland Fire Hazards 10-54
Section 10.7 – Emergency Response 10-58
Section 10.8 – Noise 10-60
Section 10.9 – Healthy Communities 10-63
Section 10.10 – Work Plan/Implementation Measures 10-64

Chapter 11 – Water Resources **11-1**
Section 11.1 – General 11-6
Section 11.2 – Water Quality 11-8
Section 11.3 – Water Supply 11-9
Section 11.4 – Work Plan/Implementation Measures 11-11

Chapter 12 – Animal Confinement Facilities Plan **12-1**

Component D – Infrastructure **D-1**

Chapter 13 – Transportation and Circulation **13-1**
Section 13.1 – Roadways and Highways 13-3
Section 13.2 – Rail Transportation 13-8
Section 13.3 – Aviation 13-9
Section 13.4 – Public Transportation 13-10
Section 13.5 – Other Transportation Modes 13-11
Section 13.6 – Work Plan/Implementation Measures 13-13
Section 13.7 – Implementation Program - Roadway Standards 13-17

Chapter 14 – Public Facilities and Services **14-1**
Section 14.1 – General 14-3
Section 14.2 – Water Supply 14-6
Section 14.3 – Wastewater 14-7
Section 14.4 – Storm Drainage 14-8
Section 14.5 – Solid Waste 14-9
Section 14.6 – Communications Systems 14-10
Section 14.7 – Fire Protection and Law Enforcement 14-10
Section 14.8 – Schools and Community Facilities 14-12
Section 14.9 – Energy Facilities 14-13
Section 14.10 – Work Plan/Implementation Measures 14-15

Chapter 15 – Flood Control Master Plan **15-1**

Goals and Policies Report Tables

Table 1.1 Relationship between County's General Plan and the State Mandated Elements 1-12
Table 2.1 Community Plan Content 2-12
Table 4.1 Land Use Designations 4-7
Table 4.2 Countywide Land Use Designation Matrix 4-10
Table 4.3 Specific Plan Content 4-24
Table 10.1 Land Use Compatibility for Community Noise Environments 10-25
Table 13.1 Uninterrupted Traffic Flow Facilities Level of Service (LOS) 13-7
Table 13.2 Interrupted Traffic Flow Facilities Level of Service (LOS) 13-7

Goals and Polices Report Figures

Figure 2.1-1 Regional Location 2-6
Figure 2.2-1 Tulare County Communities 2-13
Figure 2.2-2 Alpaugh UDB 2-14
Figure 2.2-3 Cutler-Orosi UDB 2-15
Figure 2.2-4 Ducor UDB 2-16
Figure 2.2-5 Earlimart UDB 2-17
Figure 2.2-6 East Orosi UDB 2-18
Figure 2.2-7 Goshen UDB 2-19
Figure 2.2-8 Ivanhoe UDB 2-20
Figure 2.2-9 Lemon Cove UDB 2-21
Figure 2.2-10 London UDB 2-22

Figure 2.2-11 Pixley UDB 2-23
Figure 2.2-12 Plainview UDB 2-24
Figure 2.2-13 Poplar-Cotton Center UDB 2-25
Figure 2.2-14 Richgrove UDB 2-26
Figure 2.2-15 Springville UDB 2-27
Figure 2.2-16 Strathmore UDB 2-28
Figure 2.2-17 Sultana UDB 2-29
Figure 2.2-18 Terra Bella UDB 2-30
Figure 2.2-19 Three Rivers UDB 2-31
Figure 2.2-20 Tipton UDB 2-32
Figure 2.2-21 Traver UDB 2-33
Figure 2.2-22 Woodville UDB 2-34
Figure 2.3-1 Tulare County Hamlets 2-37
Figure 2.3-2 Allensworth HDB 2-38
Figure 2.3-3 Delft Colony HDB 2-39
Figure 2.3-4 East Tulare Villa HDB 2-40
Figure 2.3-5 Lindcove HDB 2-41
Figure 2.3-6 Monson HDB 2-42
Figure 2.3-7 Seville HDB 2-43
Figure 2.3-8 Teviston HDB 2-44
Figure 2.3-9 Tonyville HDB 2-45
Figure 2.3-10 Waukena HDB 2-46
Figure 2.3-11 West Goshen HDB 2-47
Figure 2.3-12 Yettem HDB 2-48
Figure 2.4-1 Tulare County Cities 2-56
Figure 2.4-2 City of Dinuba 2-57
Figure 2.4-3 City of Exeter 2-58
Figure 2.4-4 City of Farmersville 2-59
Figure 2.4-5 City of Lindsay 2-60
Figure 2.4-6 City of Porterville 2-61
Figure 2.4-7 City of Tulare 2-62
Figure 2.4-8 City of Visalia 2-63
Figure 2.4-9 City of Woodlake 2-64
Figure 2.4-10 City of Delano 2-65
Figure 2.4-11 City of Kingsburg 2-66
Figure 4-1 Tulare County Planning Areas 4-5
Figure 7-1 Designated Candidate Scenic State Highways and County Scenic Routes 7-5
Figure 8-1 Tulare County Plan for Open Space 8-7
Figure 8-2 Tulare County Mineral Resource Zones 8-12
Figure 10-1 Flood Hazards and Faults 10-23
Figure 10-2 Fire Threat 10-25
Figure 10-3 Designated Floodways 10-27
Figure 10-4 Ground Shaking and Landslide Potential for Tulare County 10-29
Figure 10-5 Seismic/Geologic Hazard and Microzones 10-31
Figure 10-6 Areas Vulnerable to Flooding After Wildfires 10-33
Figure 10-6A Areas Vulnerable to Flooding After Wildfires Redwood Mountain/ Badger Area 10-35
Figure 10-6B Areas Vulnerable to Flooding After Wildfires Three Rivers Area 10-37
Figure 10-6C Areas Vulnerable to Flooding After Wildfires Upper Balch Park Area 10-39
Figure 10-6D Areas Vulnerable to Flooding After Wildfires Springville Area 10-41
Figure 10-6E Areas Vulnerable to Flooding After Wildfires Great Western Divide North Half Area 10-43
Figure 10-6F Areas Vulnerable to Flooding After Wildfires Great Western Divide South Half-Posey Area 10-45

Figure 10-6G Areas Vulnerable to Flooding After Wildfires Kennedy Meadows Area 10-47
Figure 10-7 Areas for Groundwater Recharge 10-49
Figure 11-1 Tulare County Valley Watersheds 11-4
Figure 11-2 Tulare County Foothill and Mountain Watersheds 11-5
Figure 13-1 Tulare County Road System 13-5
Figure 13-2 Regional Bicycle Transportation Plan 13-12

Part II Area Plan Policies

Chapter 1 – Rural Valley Lands Plan **1-1**
Section 1.1 – Rural Valley Lands Plan Policies 1-3
Section 1.2 – Work Plan/Implementation Measures 1-6
Section 1.3 – Rural Valley Lands Plan Criteria and Evaluation Matrix 1-7

Chapter 2 – Corridors Framework Plan **2-1**
Section 2.1 – Corridor Policies 2-1
Section 2.2 – Work Plan/Implementation Measures 2-5

Chapter 3 – Foothill Growth Management Plan **3-1**
Section 3.1 – Foothill Growth Management Plan Policies 3-7
Section 3.2 – Existing Foothill Area Communities 3-9
Section 3.3 – Development 3-10
Section 3.4 – Recreation/Open Space 3-10
Section 3.5 – Foothill Agriculture 3-11
Section 3.6 – Scenic Corridors 3-11
Section 3.7 – Historical and Archeological Sites 3-11
Section 3.8 – Environmental Protection 3-12
Section 3.9 – Water and Sewer Facilities 3-14
Section 3.10 – Public Services 3-14
Section 3.11 – Work Plan/Implementation Measures 3-21
Section 3.12 –Development Standards 3-27

Chapter 4 – Mountain Framework Plan **4-1**
Section 4.1 – Mountain Framework Plan Policies 4-3
Section 4.2 – Work Plan/Implementation Measures 4-9

Area Plan Figures

Figure 1-1 Rural Valley Lands Plan 1-5
Figure 2-1 Corridors 2-3
Figure 3-1 Foothill Growth Management Plan 3-16
Figure 3-2 Badger/Elderwood Development Corridor 3-17
Figure 3-3 Kaweah River Development Corridor 3-18
Figure 3-4 Tule River Development Corridor 3-19
Figure 3-5 Round Valley Development Corridor 3-20
Figure 4-1 Mountain Framework Plan 4-2
Figure 4.1-2 Balance Rock Mountain Service Center 4-11
Figure 4.1-3 Balch Park Mountain Service Center 4-12
Figure 4.1-4 Blue Ridge Mountain Service Center 4-13
Figure 4.1-5 California Hot Springs/Pine Flat Mountain Service Center 4-14
Figure 4.1-6 Fairview Mountain Service Center 4-15
Figure 4.1-7 Hartland Mountain Service Center 4-16
Figure 4.1-8 Johnsondale Mountain Service Center 4-17
Figure 4.1-9 McClenney Tract Mountain Service Center 4-18
Figure 4.1-10 Panorama Heights Mountain Service Center 4-19
Figure 4.1-11 Posey/Idlewild Mountain Service Center 4-20
Figure 4.1-12 Poso Park Mountain Service Center 4-21
Figure 4.1-13 Silver City Mountain Service Center 4-22
Figure 4.1-14 Sugarloaf Mountain Park Mountain Service Center 4-23

Figure 4.1-15 Sugarloaf Park Mountain Service Center 4-24
Figure 4.1-16 Sugarloaf Village Mountain Service Center 4-25
Figure 4.1-17 Wilsonia Mountain Service Center 4-26

Part III

Community, Hamlet, County Adopted City General, Valley Sub-Area, Corridor Sub-Area, Foothill Sub-Area, and Mountain Sub-Area Plans

**Part III serves as a place holder for existing and future documents of the General Plan. See Chapter 1 - Introduction for a list of adopted plans and those to be adopted in the future.

Chapter 1 - Community Plans ..... *separate documents*
Section 1.1 Alpaugh ..... *separate documents*
Section 1.2 Cutler/Orosi Community Plan ..... *separate documents*
Section 1.3 Earlimart Community Plan ..... *separate documents*
Section 1.4 East Orosi ..... *separate documents*
Section 1.5 Goshen Community Plan ..... *separate documents*
Section 1.6 Ivanhoe Community Plan ..... *separate documents*
Section 1.7 Lemon Cove ..... *separate documents*
Section 1.7 London ..... *separate documents*
Section 1.8 Pixley Community Plan ..... *separate documents*
Section 1.9 Plainview ..... *separate documents*
Section 1.10 Poplar/Cotton Center Community Plan ..... *separate documents*
Section 1.11 Richgrove Community Plan ..... *separate documents*
Section 1.12 Springville Community Plan ..... *separate documents*
Section 1.13 Strathmore Community Plan ..... *separate documents*
Section 1.14 Sultana ..... *separate documents*
Section 1.15 Terra Bella/Ducor Community Plan ..... *separate documents*
Section 1.16 Three Rivers Community Plan ..... *separate documents*
Section 1.17 Tipton ..... *separate documents*
Section 1.18 Traver Community Plan ..... *separate documents*
Section 1.19 Woodville ..... *separate documents*

Chapter 2 Hamlet Plans ..... *separate documents*
Section 2.1 Allensworth ..... *separate documents*
Section 2.2 Delft Colony ..... *separate documents*
Section 2.3 East Tulare Villa ..... *separate documents*
Section 2.4 Lindcove ..... *separate documents*
Section 2.5 Monson ..... *separate documents*
Section 2.6 Seville ..... *separate documents*
Section 2.7 Teviston ..... *separate documents*
Section 2.8 Tonyville ..... *separate documents*
Section 2.9 Waukena ..... *separate documents*
Section 2.10 West Goshen ..... *separate documents*
Section 2.11 Yettem ..... *separate documents*

Chapter 3 County Adopted City General Plans ..... *separate documents*
Section 3.1 Delano ..... *separate documents*
Section 3.2 Dinuba ..... *separate documents*
Section 3.3 Exeter ..... *separate documents*
Section 3.4 Farmersville ..... *separate documents*
Section 3.5 Kingsburg ..... *separate documents*

Section 3.6 Lindsay ..... *separate documents*
Section 3.7 Porterville ..... *separate documents*
Section 3.8 Tulare ..... *separate documents*
Section 3.9 Visalia ..... *separate documents*
Section 3.10 Woodlake ..... *separate documents*

Chapter 4 – Valley Sub-Area Plans ..... *separate documents*
Section 4.1 Kings River Plan ..... *separate documents*
Section 4.2 Juvenile Detention Facility - Sequoia Field Land Use and Public Buildings Elements ..... *separate documents*
Section 4.3 Sequoia Field Land Use and Public Buildings Element ..... *separate documents*

Chapter 5 – Corridor Sub-Area Plans ..... *separate documents*

Chapter 6 – Foothill Sub-Area Plans ..... *separate documents*

Chapter 7 - Mountain Sub-Area Plans ..... *separate documents*
Section 7.1 Great Western Divide North Half Plan ..... *separate documents*
Section 7.2 Great Western Divide South Half Plan ..... *separate documents*
Section 7.3 Kennedy Meadows Plan ..... *separate documents*
Section 7.4 Posey Plan ..... *separate documents*
Section 7.5 Redwood Mountain Plan ..... *separate documents*
Section 7.6 South Sierra Plan ..... *separate documents*
Section 7.7 Upper Balch Park Plan ..... *separate documents*

List of Appendices

Appendix A – Policies by Alphabetical Subject ..... App. A-1
Appendix B – Policy Glossary by Subject ..... App. B-1
Appendix C – Goals and Policies Report Acronyms ..... App. C-1
Appendix D – Disadvantaged Communities Assessment ..... App. D-1
Appendix E – Historical Data on Wildfires ..... App. E-1

Record of General Plan Amendments Adopted and Pending Post 2012

1. GPA 09-003/Cutler-Orosi Land Use Plan/Adopted October 14, 2014/ BOS Resolution Number 2014-0727 ..... *separate documents*
2. GPA 13-002/Farmersville Area Land Use Plan/Adopted October 21, 2014/ BOS Resolution Number 2014-00738 ..... *separate documents*
3. GPA 14-001/Goshen Community Plan/Pending ..... n/a
4. GPA 14-002/Pixley Community Plan/Adopted June 16, 2015/ BOS Resolution Number 2015-0419 ..... *separate documents*
5. GPA 14-003/Traver Community Plan/Adopted December 16, 2014/ BOS Resolution Number 2014-0898 ..... *separate documents*
6. GPA 14-004/Three Rivers Community Plan/Pending ..... n/a
7. GPA 14-005/Earlimart Community Plan/Pending ..... n/a
8. GPA 14-006/Void ..... n/a
9. GPA 14-007/Visalia Area Land Use Plan/Adopted June 16, 2015/ BOS Resolution Number 2015-0419 ..... *separate documents*
10. GPA 14-008 Porterville Area Community Plan Update/Adopted February 24, 2015/ BOS Resolution Number 2015-0136 ..... *separate documents*
11. GPA 15-001/Highway 99 Corridor Plan-Sequoia Gateway/Pending ..... n/a

12. GPA 15-002/Sequoia Gateway Specific Plan/Pending ..... n/a
13. GPA 15-003/2015 Housing Element Update/Adopted November 17, 2015/
BOS Resolution Number 2015-0964 ..... **6-1**
14. GPA 15-004 Cutler-Orosi Community Plan Update/Pending ..... n/a
15. GPA 15-005/Terra Bella Community Plan Update/Adopted November 3, 2015/
BOS Resolution Number 2015-0909 ..... *separate documents*
16. GPA 15-006/ Strathmore Community Plan Update/Adopted June 16, 2015/
BOS Resolution Number 2015-0419 ..... *separate documents*
17. GPA 15-007/Tipton Community Plan Update/Adopted June 16, 2015/
BOS Resolution Number 2015-0419 ..... *separate documents*
18. GPA 15-008/Ducor Community Plan Update/Adopted November 3, 2015/
BOS Resolution Number 2015-0909 ..... *separate documents*
19. GPA 15-009/Goshen Community Plan Land Use/Pending ..... n/a
20. GPA 15-010/Disadvantaged Communities Assessment/Adopted November 17, 2015/
BOS Resolution Number 2015-0964 ..... *App. D-1*
21. GPA 16-001/Tulare Area Land Use Plan/Adopted June 28, 2016/
BOS Resolution Number 2015-0494 ..... *separate documents*
22. GPA 16-002/Porterville Area Land Use Plan/Adopted June 28, 2016/
BOS Resolution Number 2015-0494 ..... *separate documents*
23. GPA 16-003/Earlimart Community Plan Land Use/Pending ..... n/a
24. GPA 16-004/Health and Safety Element Update/Adopted June 28, 2016/
BOS Resolution Number 2015-0896 ..... *separate documents*
25. GPA 16-005/Visalia Area Land Use Plan/Pending ..... n/a
26. GPA 16-006/Foothill Growth Management Plan Land Use Plan/Pending ..... n/a

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Tulare County General Plan

Part I

Goals & Policies Report

August 2012

1. Introduction

1.1 General Plans in California

State law requires each City and County to prepare and adopt a comprehensive and long-range General Plan for its future physical development (Government Code § 65300). A General Plan must address seven mandatory topics (referred to as "elements"): land use, circulation, housing, open-space, conservation, safety, and noise, to the extent that the topics exist in the planning area (Government Code §§ 65301(c), 65302). Cities and Counties in the San Joaquin Valley must also address air quality matters as specified by Government Code § 65302.1. Cities and Counties may also voluntarily include other "optional" elements or address other topics of local interest as they choose (Government Code § 65303). State law establishes that each element is of equal importance and that the elements must be consistent with one another (Government Code § 65300.5).

Together, the policies set out in the seven mandated elements of a General Plan and, in the San Joaquin Valley, the policies under the topic of air quality form a comprehensive set of planning policies as follows:

- The **Circulation Element** identifies the general location and extent of existing and proposed transportation facilities and utilities;
- The **Conservation Element** addresses the conservation, development, and use of natural resources;
- The **Housing Element** is a comprehensive assessment of current and future housing needs for all segments of the County's population, as well as a program for meeting those needs;
- The **Land Use Element** designates the general distribution and intensity of land uses within the unincorporated areas of the County;
- The **Noise Element** identifies major noise sources and contains policies intended to protect the public from exposure to excessive noise levels;
- The **Open-Space Element** describes measures for the preservation of open space for the protection of natural resources, the managed production of resources, and for recreation and public health and safety; and
- The **Safety Element** establishes policies to protect the public from risks associated with natural and human-made hazards such as seismic hazards, geologic hazards, flooding, wildfire hazards, and air pollution.
- In the San Joaquin Valley, under the topic of air quality, a General Plan must include data and analysis, goals, policies and objectives, and feasible implementation strategies to improve air quality.
- Tulare County has also included goals, policies, objectives, and feasible implementation strategies to address greenhouse gas emissions and climate change impacts.

A comprehensive General Plan provides a jurisdiction (a City or County) with a consistent framework for land use decision-making. The General Plan has been called the “constitution” for land use development to emphasize its importance to land use decisions. A General Plan is called upon to address a range of diverse, sometimes divergent, public interests. A County utilizes broad discretion to weigh and balance competing interests in formulating general-plan policies. The General Plan and its policies, maps, and diagrams form the basis for the County’s zoning, subdivision, and public works actions. Under California law, no specific plan, zoning, subdivision map, or public works project may be approved unless the County finds that it is consistent with the adopted General Plan as per Government Code §§ 65359, 65401, 65454, 65860, and 66473.5.

A City or County may adopt a General Plan in any format deemed appropriate or convenient by the Legislative Body that best fits its unique circumstances. Furthermore, the General Plan may be adopted for all or part of the territory of the County, and may be adopted as a single document or as a group of documents relating to subjects or geographic segments of the planning area (Government Code § 65301). In doing so, the jurisdiction must ensure that the General Plan and its component parts comprise an integrated, internally consistent, and compatible statement of development policies (Government Code §65300.5).

1.2 Tulare County General Plan: The Structure

Historic General Plan Overview

In undertaking the General Plan 2030 Update (GPU) and preparing the Recirculated Draft Environmental Impact Report (RDEIR), the County of Tulare is not writing on a “blank slate”. The GPU amends the existing County General Plan by modernizing, updating, and adding to existing General Plan policies that have been developed over time since the first County general plan was adopted in 1964.

Historically, the Tulare County General Plan has been structured in an informal, three tier system:

The first tier consisted of the seven mandatory elements of a General Plan and several optional or voluntary elements, including the Urban Boundaries Element, the Animal Confinement Facilities Plan (ACFP)-Phase I, and others. The policies in these elements applied countywide.The second tier consisted of two adopted area plans: the Rural Valley Lands Plan and the Foothill Growth Management Plan. These plans covered two major geographical areas within the unincorporated area in the County and established policies applicable in these particular areas.

The third tier consisted of community plans**,** several sub-area plans, and a number of County Adopted City General Plans (land use plans adopted by the County for areas just beyond the boundaries of incorporated cities). These plans were designed to add and tailor policies applicable within certain defined boundaries.

General Plan 2030 Update Overview

Tulare County General Plan 2030 Update is the product of an update process that, in 2010, added a variety of important new goals and policies to existing components of the County’s General Plan. In addition, some obsolete policies of the General Plan were deleted by this update process. In many cases, those obsolete policies were replaced by new provisions. Further, a Work Plan, consisting of implementation measures, was developed.

The historic three tier structure remains, formalized as three "Parts":

Part I, called the "Goals and Policies Report," includes fourteen elements that apply countywide. Those adopted in 2010 as new or revised elements join three existing elements, the Housing Element (adopted in 2003), Flood Control Master Plan (1972) and the Animal Confinement Facilities Plan (ACFP)-Phase I (adopted in 2000). The Housing Element, the Flood Control Master Plan, and Animal Confinement Facilities Plan (ACFP)-Phase I, were not revised or readopted as part of the Update but are included in Part I.

The Goals and Policies Report is organized into four components and includes:

Component A. General Plan Framework:

- Planning Framework Element

Component B. Prosperity:

- Agriculture Element
- Land Use Element
- Economic Development Element
- Housing Element (adopted 2012)

Component C. Environment:

- Scenic Landscapes Element
- Environmental Resource Management Element
- Air Quality Element
- Health and Safety Element
- Water Resources Element
- Animal Confinement Facilities Plan (ACPF)-Phase I (adopted 2000)

Component D. Infrastructure:

- Transportation and Circulation Element
- Public Facilities and Services Element
- The Flood Control Master Plan (adopted 1972)

The structure and organization of the Goals and Policies Report is described in greater detail later in this Introduction under "Goals and Policies Report Framework."

Part II includes three "Area Plans," one for each of the three major geographic areas of the County. They are:

- Rural Valley Lands Plan

- Foothill Growth Management Plan
- Mountain Framework Plan

Part II also includes a new Corridor Framework Plan (adopted 2010), which establishes policies that will guide the potential adoption of Corridor Plans within the County. Any such adopted Corridor Plan will be included in Part III.

Part III of the General Plan 2030 Update consists of a number of existing planning documents: Sub-Area Plans, County Adopted City General Plans, and Community Plans. Each of these plans, described in the following pages, applies tailored policies to specified portions of the County. These existing plans were not revised or readopted in 2010 as part of the General Plan Update with two exceptions: the Urban Development Boundary for the Pixley Community Plan Planning Framework Element Chapter (Figure 2.2-11) was modified to include the Harmon Field Airport and the County Adopted City General Plan for Dinuba Planning Framework Element Chapter (Figure 2.4-2) was modified to reflect the recently annexed Dinuba Golf Course, residential and wastewater treatment area.

Furthermore, the General Plan 2030 Update anticipates adopting additional Sub-Area Plans, County Adopted City General Plans, and Community Plans, as well as Mountain Service Center Plans, Hamlet Plans, and Corridor Plans. These anticipated plans are discussed below. Each will become components of Part III of the General Plan when adopted:

Thus, Part III includes:

- Five existing Sub-Area plans:
  - Great Western Divide North Half Plan (a Sub-Area plan located within the boundaries of the Mountain Framework Plan) (adopted 1990)
  - Kennedy Meadows Plan (a Sub-Area plan located within the boundaries of the Mountain Framework Plan) (adopted 1986)
  - Kings River Plan (a Sub-Area plan located within the boundaries of the Rural Valley Lands Plan) (adopted 1975)
  - Sequoia Field Land Use and Public Buildings Element (adopted 1981) amended to Juvenile Detention Facility-Sequoia Field Land Use and Public Buildings Elements (adopted 1995)

The Goals and Policies Report also identifies five additional Sub-Areas, all within the Mountain Framework Plan area, for which Sub-Area plans have not been adopted to date. These Sub-Areas will become components of Part III of the General Plan when adopted:

  - Great Western Divide South Half Plan
  - Posey Plan
  - Redwood Mountain Plan
  - South Sierra Plan
  - Upper Balch Park Plan

- Eight existing County Adopted City General Plans, including two neighborhood plans, that cover the areas between the city limit lines of the eight incorporated cities in Tulare County and the County-

adopted Urban Area Boundaries and Urban Development Boundaries for those cities (note that Tulare County does not have the authority to regulate land use within the city limits of those cities):

- Dinuba (adopted 1964, revised 2010 by this update to include the Dinuba Golf Course)
- Exeter (adopted 1976)
- Farmersville (adopted 1976)
- Lindsay (adopted 1981)
- Porterville (adopted 1990)
  - East Porterville Neighborhood Plan (adopted 1990)
- Tulare (adopted 1980)
- Visalia (adopted 1992)
  - Patterson Tract Neighborhood Plan (adopted 1992)
- Woodlake (adopted 1986)

- In addition, the Goals and Policies Report calls for adopting two additional County Adopted City General Plans. Both of these areas have established Urban Development Boundaries. These County Adopted City General Plans will become components of Part III of the General Plan when adopted:

  - Delano
  - Kingsburg

- Twelve Existing Community Plans:

  - Cutler/Orosi Community Plan (adopted 1988)
  - Earlimart Community Plan (adopted 1988)
  - Goshen Community Plan (adopted 1978)
  - Ivanhoe Community Plan (adopted 1990)
  - Pixley Community Plan (adopted 1997, revised 2010 by this update to include Harmon Field)
  - Poplar/Cotton Center Community Plan (adopted 1996)
  - Richgrove Community Plan (adopted 1987)
  - Springville Community Plan (adopted 1985)
  - Strathmore Community Plan (adopted 1989)
  - Terra Bella/Ducor Community Plan (adopted 2004)
  - Three Rivers Community Plan (adopted 1980)
  - Traver Community Plan (adopted 1989)

- In addition, the Goals and Policies Report designates eight additional communities and calls for adopting a Community Plan for each. Each of these Communities has an existing Urban

Development Boundary except Sultana. These Community Plans will become components of Part III of the General Plan when adopted:

- Alpaugh
- East Orosi
- Lemon Cove
- London
- Plainview
- Sultana
- Tipton
- Woodville

- Mountain Service Center Plans: The Goals and Policies Report designates certain existing developed areas within the boundaries of the Mountain Framework Plan as Mountain Service Centers and calls for adopting Mountain Service Center Plans (as a part of the Mountain Sub Area Plan) for these locations. These Mountain Service Center Plans will become components of Part III of the General Plan when adopted:

  - Balance Rock
  - Balch Park
  - Blue Ridge
  - California Hot Springs/Pine Flat
  - Fairview
  - Hartland
  - Johnsondale
  - McClenney Tract
  - Panorama Heights
  - Posey/Idlewild
  - Poso Park
  - Silver City
  - Sugarloaf Mountain Park
  - Sugarloaf Park
  - Sugarloaf Village
  - Wilsonia

- Hamlet Development Plans: The Goals and Policies Report also designates certain locations as Hamlets and calls for the adoption of a Hamlet Development Plan for each of these. These Hamlet Development Plans will become components of Part III of the General Plan when adopted:

- Allensworth
- Delft Colony
- East Tulare Villa
- Lindcove
- Monson
- Seville
- Teviston
- Tonyville
- Waukena
- West Goshen
- Yettem

- Corridor Plans: The Corridor Framework Plan in Part II establishes policies that would guide the potential adoption of "Corridor Plans" within the County. When adopted the Corridor Plans will become part of Part III of the General Plan. This may include:

  - The Mooney Corridor Concepts Plan (suspended by Tulare County Board of Supervisors, General Plan Amendment 04-001 and Resolution No. 04-0651 pending adoption of the Corridor Framework Plan)
  - Additional Corridor Plans to be determined

Updated or Deleted Sections and Elements

The following provisions of the County's prior General Plan are deleted with the 2012 adoption of General Plan 2030 Update. State-mandated content formerly addressed in these elements is now covered in new provisions of the General Plan, as described in Table 1.1 (page 1-12):

- Civic Center Master Plan
- Environmental Resource Management Element (Open Space/Recreation/Conservation Element)
- Land Use Element
- Library Master Plan
- Noise Element
- Public Buildings Plan
- Safety Element
- Scenic Highways Element
- Seismic Safety Element
- Transportation/Circulation Element
- Urban Boundaries Element
- Water and Liquid Waste Management Element

General Plan Supporting Documents

The following documents were referenced and utilized in the preparation of the General Plan 2030 Update. Documents listed below are not adopted and are provided here for reference only.

- **Background Report**. This report provides a detailed description of the conditions that existed within the Planning Area during the development of the General Plan.
- **Environmental Impact Report (EIR)**. This report is comprised of:
  - **General Plan/EIR Executive Summary**. This document provides an overview of the General Plan and its component documents. It describes the planning area, summarizes the General Plan objectives, provides a brief overview of existing conditions, summarizes the issues raised during preparation of the General Plan, and summarizes the environmental impacts associated with the General Plan.
  - **The Revised Draft Environmental Impact Report (EIR)**. This report prepared for the General Plan is designed to meet the requirements of the California Environmental Quality Act (CEQA). The Planning Commission, Board of Supervisors, members of the public, and interested public agencies will use the EIR during review of the Draft General Plan in order to understand the potential environmental implications associated with implementation of the General Plan.
  - **The Final Environmental Impact Report**. This report will include the Executive Summary, the Draft Environmental Impact Report, and responses to comments received during the State CEQA public comment period on the Draft EIR.

1.3 Goals and Policies Report Framework (Part I of the General Plan)

Components, Elements, Topics, Goals, and Policies

The Goals and Policy Report (Part I of General Plan 2030 Update) sets out a hierarchy of goals, policies, and implementation measures designed to guide future development in the County. To provide an easy-to-use format, the Goals and Policies Report includes thirteen Elements (identified as "Chapters") grouped into four components based on the close relationship of those Elements. The four components are Component A (General Plan Framework), Component B (Prosperity), Component C (Environmental), and Component D (Infrastructure).

Each Component starts with an overview of the Elements contained in that Component and presents the concepts and guiding principles used in their preparation. These statements establish the intent of the General Plan 2030 Update, but are not enforceable policies within the meaning of California planning law.

The individual Elements build on these concepts and guiding principles, with each Element containing key terms, context information, and an Existing Conditions Overview, as well as a set of Goals and Policies. These Goals and Policies are organized under topics and will be used to guide future land use, development, and environmental protection decisions. Each Goal is a statement that describes in general terms a desired future condition or "end" state or result. A Goal provides general direction.

Each Goal has one or more Policies. A Policy is a statement that guides a specific course of action for decision-makers to achieve a desired Goal. The County has strived to develop clear Policies. Consistency determinations are not made based upon a specific Goal but are made based upon Policies set out under that Goal, as provided for in the California Planning and Zoning laws.

A one-, two-, or three-letter acronym is given to identify each Element. This acronym is used to identify the Goals and Policies in a given Element and is used to identify which Policy and Implementation Measures in the Work Plan go together. For example, Goals and Policies for the Land Use Element have the acronym “LU”.

The relationship between Components and Elements is illustrated below:

PART I: GOALS AND POLICIES REPORT

Chapter 1 Introduction
The introduction covers General Plans in California, the design of the Tulare County General Plan, and organization of this Goals and Policies Report.

Component A General Plan Framework	
This component introduces the Goals and Policies Report, provides a profile of Tulare County, and establishes a Planning Framework Element for the County.	
PF Chapter 2	**Planning Framework** This element provides the framework for planning in the County, including a description of regional, community, and hamlet areas. This element describes the creation of community and hamlet growth boundaries, defines parameters for growth in unincorporated areas outside of these areas (including guidance on new towns), and describes the relationship between unincorporated areas and cities.

Component B Tulare County Prosperity	
This component includes the elements that shape the County’s land use and economic futures.	
AG Chapter 3	**Agriculture** As a key component of the County’s economy, this element provides a single location to draw together the range of policy tools needed to protect and enhance this segment of the County’s future.
LU Chapter 4	**Land Use** This element establishes the policy direction that will be used to guide the development of residential, commercial, industrial, and other land uses in the County while seeking to protect agricultural lands, open space, the environment, and scenic landscapes.
ED Chapter 5	**Economic Development** This element establishes the goals, policies, and implementation measures to guide economic development within the County.
H Chapter 6	**Housing (existing element)** In compliance with the detailed requirements of State law, this element identifies housing needs and sets out policies and programs to meet those needs.

Component C Tulare County Environment	
This component covers topics related to natural and cultural resources and public health and safety.	
SL Chapter 7	**Scenic Landscapes** This element sets policies pertaining to organizing features, such as rural landscapes, scenic corridors, and urban forms that make Tulare County unique.
ERM Chapter 8	**Environmental Resources Management** This element identifies goals, policies, and implementation measures to ensure the appropriate use, enjoyment, and protection of natural and cultural resources in Tulare County.
AQ Chapter 9	**Air Quality** This element covers issues related to the protection and improvement of air quality and climate change in the County, including those specified by Government Code § 65302.1 and AB 32 specified by Health and Safety Code § 38501 et seq.
HS Chapter 10	**Health and Safety** This element establishes the goals, policies, and implementation measures as they apply to noise, geologic/seismic hazards, flood hazards, man-made hazards, and emergency operations plans.
WR Chapter 11	**Water Resources** This element addresses issues related to both water quality and water supply in the County.
ACFP Chapter 12	**Animal Confinement Facilities Plan (ACFP)-Phase I (existing element)** This voluntary element addresses issues particularly related to the development or expansion of bovine dairies and feedlots and will ultimately address other animal confinement facilities.

Component D Tulare County Infrastructure	
This component covers the infrastructure systems necessary to ensure adequate services and capacity to handle anticipated growth.	
TC Chapter 13	**Transportation and Circulation** This element identifies goals, policies, and implementation measures designed to ensure that transportation and circulation needs are met within the County.
PFS Chapter 14	**Public Facilities and Services** This element presents goals, policies, and implementation measures seeking to provide adequate public facilities and services as water, solid waste, wastewater, electricity and gas, fire protection, telecommunications, law enforcement, and schools.
FCMP Chapter 15	**Flood Control Master Plan (existing element)** This element addresses issues particularly related to flood control along natural watercourses in Tulare County.

The Components, Elements, Topics, Goals, and Policies of the Goals and Policies Report are formatted as set out in the following example:

C. Environment Component [Component]

Chapter 9. Air Quality [Element]

Examples

9.1 Regional Perspective [Topic]

AQ-1	To improve air quality through a regional approach and interagency cooperation. [Goal]

Example

AQ-1.1 Cooperation with Other Agencies [Policy]

Example

The County shall cooperate with other local, regional, Federal, and State agencies in developing and implementing air quality plans to achieve State and Federal Ambient Air Quality Standards. The County shall partner with the San Joaquin Valley Air Pollution Control District (SJVAPCD), Tulare County Association of Governments (TCAG), and the California Air Resources Board (CARB) to achieve better air quality conditions locally and regionally. [*ERME IV-C; Open Space for the Preservation of Air Quality; Recommendation 3*] [*ERME; Pg 135, Modified*]

Implementation Measures

The Implementation Measures set forth at the end of each Element constitute a preliminary, anticipated Work Plan to assist in carrying out the Goals and Policies. An Implementation Measure is a specific action, program, procedure, or technique. The Implementation Measures are provided to help ensure that appropriate actions are taken to implement the General Plan. The Implementation Measures state which policy(ies) the Implementation Measure supports, which County departments are responsible for seeing that this implementation is achieved, and provides an anticipated timeline for completion of the Implementation Measure. They are generally set out in the following format.

Example

	Implementation	Implements what Policy	Who is Responsible	2010-2015	2015-2020	2020-2030	On-Going
1.	The County shall work with TCAG to develop an enhanced public information program aimed at reducing trips and improving air quality awareness *[New Program] [RACM, Resolution 2004-0067;TU 17.2].*	AQ-1.1 AQ-4.5	RMA	■			

Implementation Measures describe actions that are measurable so their completion can be easily monitored in annual reports. The following principles guide action on these Implementation Measures:

- The timelines associated with the Implementation Measures are general guidelines for completion of the Work Plan and may be changed without an amendment to the General Plan. Because implementation will take time and will be costly, the County will need to prioritize Implementation Measures. It is contemplated that this ongoing process is part of the County's annual general policy-making function and budget cycle
- Completion of various tasks in the Work Plan are subject to available staff, financial resources, and other considerations.

- Implementation can take time, especially when needed resources are limited and required for more than one Implementation Measure.
- While the Plan policies identify specific programs, Implementation Measures may be adjusted over time, based on new information, changing circumstances, and evaluation of their effectiveness, so long as they remain consistent with the intent of the General Plan and adopted mitigation measures.

Relationship to State Mandated Elements and Topics

Table 1.1 illustrates how the elements of the Tulare County General Plan (left column) relate to the seven mandatory elements set out in State law (across the top of the table). A solid square (■) indicates that the issues identified in a State-mandated element are covered in the County element identified in the left column. For Tulare County elements with no square, this is an optional element. Some optional elements, however, have components that are part of the seven mandated elements and therefore have a solid square.

Table 1.1 Relationship between County's General Plan and the State Mandated Elements

Tulare County Elements & Plans	State-Mandated Elements or Topics							
	Land Use	Noise	Circulation	Housing	Open Space	Conservation	Safety	Air Quality
Part I								
Planning Framework	■							
Agriculture					■	■		
Land Use	■							■
Economic Development								
Housing				■				
Scenic Landscapes					■	■		
Environmental Resources Management					■	■		
Air Quality							■	■
Health & Safety		■					■	■
Water Resources						■	■	
Animal Confinement Facilities Plan (ACFP)-Phase I	■				■		■	■
Transportation & Circulation			■					■
Public Facilities & Services			■					
Flood Control Master Plan	■						■	
Part II								
Area & Corridor Framework Plans	■		■		■	■		
Part III								
Community, Hamlet, Sub-Area, & County Adopted City General Plans	■	■	■		■			

1.4 Environmental Analysis

As required by the California Environmental Quality Act (CEQA), Public Resources Code § 21000, et seq, the Planning Commission and Board of Supervisors considered the findings of an environmental impact report (EIR) prior to recommending/adopting the General Plan, respectively. The General Plan and related documents, taken together, meet the State CEQA requirements. As prepared, the EIR provides the environmental setting, the Goals and Policies Report and Area Plans embody the project description and environmental mitigation, and the EIR contains an executive summary of the EIR. The EIR document itself contains the analysis of significant effects and other remaining components required by CEQA.

Feasible mitigation measures recommended to reduce the potential environmental impacts of the General Plan will be incorporated as policies in the General Plan. Mitigation monitoring, as required under CEQA, will be done by implementation of the General Plan and through annual reports to the Planning Commission and Board of Supervisors on the status of General Plan implementation.

1.5 Interpreting the General Plan: Consistency Determinations

As previously described, Goals are not the measure or basis for consistency determinations with this General Plan. Goals serve as general direction-setters for the County. Each Goal is a statement that describes in general terms a desired future condition or “end” state or result.

Policies, however, set out the direction against which consistency findings will be made. General Plan 2030 Update policies fall into four categories depending on the purpose they serve and how they are implemented.

- **Framing Policies**. These are general policy statements that set out broad direction, much like a goal. These typically do not require a follow-up Implementation Measure.
- **Consistency Standard Policies**. These are policies that, taken together, establish a basis for consistency findings in individual project reviews. They set a standard for approval or denial of a project or provide the basis for imposing conditions on the project that would allow for the project’s approval. These policies are “self implementing” in that they do not require a follow up Implementation Measure.
- **County Directory Policies**. These are policies that generally commit the County to undertaking a particular action. Typically, these require a specific Implementation Measure, which will be incorporated into the Work Plan.
- **Environmental Mitigation Policies**. These are policies that serve to minimize or eliminate potentially significant environmental impacts. Often these are identified through the environmental review process and cited specifically in environmental findings made under the California Environmental Quality Act in approving the General Plan and certifying the EIR.

In addition, the General Plan land use designations identified in Chapter 4, in some cases, set out policies and standards. Standards generally establish a level of quantity or quality that must be complied with or satisfied. For example, the land use designations in the Chapter 4 Land Use Element specify a maximum or range for dwelling units per gross acre and a maximum floor area ratio for non-residential uses.

All general plans, including this one, must address a range of diverse, sometimes divergent, public interests. They must do so within a consistent, well-integrated policy framework. A county utilizes broad discretion to weigh and balance competing interests in formulating general plan policies. In implementing those policies, it is the task of the Board of Supervisors, or its delegates, to make determinations in a manner that promotes the objectives and policies of all aspects of the General Plan, and does not obstruct their attainment. Policy implementation may require reasonable and thoughtful consideration of a number of General Plan policies. Such implementation decisions will be made on a case-by-case basis as the Board of Supervisors, Planning Commission, County staff, and others work to implement the entire General Plan. When implementing the General Plan or reviewing projects or approvals for consistency with the General Plan, the County will need to balance numerous planning, environmental and policy considerations.

Another overall principle to guide the reading and interpreting of the General Plan and its policies is that none of its provisions will be interpreted by the County in a manner that violates State or Federal law. For example, PFS-1.3:Impact Mitigation, requires new development to pay for its proportionate share of the costs of infrastructure required to serve the project. This policy will be implemented subject to applicable legal standards, including but not limited to the U.S. Constitution's "Takings" clause. In reading every provision of the General Plan, one should infer that it is limited by the principle: "to the extent legally permitted".

Policies throughout the General Plan use the terminology "shall" and "should." For the purposes of interpreting the policies in this General Plan, the term "shall" indicates a mandatory or required action or a duty to undertake an action unless the context indicates otherwise, in which case the term is synonymous with "should." The term "should" indicates a directive subject to discretion and requires at least review or consideration and, in that context, substantial compliance with the spirit or purpose of these General Plan policies. The term "may" indicates at the sole discretion of the County.

1.6 Cross Element or Chapter Considerations

The General Plan 2030 Update combines and reorganizes the County's historical Elements under modern concepts. However, it still segregates policies into specific subjects. It is generally recognized that certain land use planning concerns "cross" subject lines.

For example, two of the current "hot topic" concerns in 2012 that cross subject lines are the marshalling of resources in light of growing populations and reducing activities emitting greenhouse gases that may impact climate. Three factors are common to both of these concerns: resources, emissions, population growth. Resources are finite and therefore the use must be balanced. A population must be provided adequate services. As the population grows, more resources are required and used. Using certain resources results in greenhouse gas emissions. These emissions may impact the climate ultimately resulting in a difference in the availability resources to support or provide adequate services to the growing population.

In addition to crossing subject lines, the greenhouse gas emission concerns are regional and maybe even global in nature. To that end, the California Governor and State Legislature have charged the California Air Resources Board and the Office of Planning and Resources to develop regulations to assist in addressing these concerns. In addition, the San Joaquin Valley Air Pollution Control District is establishing guidelines for addressing greenhouse gases and climate change for development projects, and regulations pertaining to site specific operations.

Under the California Land Use and Planning laws, the County is generally charged with adopting a General Plan to plan the location and regulate new development and land uses in the unincorporated

areas within its jurisdiction. In recognition of these concerns pertaining to greenhouse gas emissions and the need for sustainability of resources in face of growing populations and in recognition of the County's limited role through the General Plan process, the County has adopted policies to address these concerns in addition to and in conjunction with the other concerns particular to this County. There are policies spread throughout the General Plan 2030 Elements that address these concerns. Used together, these policies provide an overall approach to the concerns of sustainability and climate changes in addition to the traditional concerns addressed through the General Plan concept.

A Policy Glossary by Subject is appended to this document (as Appendix B). It illustrates how modern land use concerns cross subject or Element lines in the Tulare County General Plan 2030 and is organized alphabetically by concern. In reference to the example described above, please see the section on "Sustainability and Greenhouse Gas Emission". This Glossary will be used to assist the County in ensuring that these "cross over" concerns are fully addressed from various subject or Element perspectives.

1.7 In Summary

In summary, this introduction provides an explanation and guide for interpretation and understanding of the structure, format, and substance of this General Plan 2030 Update. As such, it should be used to help explain, interpret, and impose the policies, standards, and requirements set forth in this General Plan.

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A. General Plan Framework Component

The Tulare County General Plan Framework Component sets out the geographic policies that will shape the future of the communities, hamlets, and city Urban Area Boundaries and Urban Development Boundaries, development corridors, and unincorporated areas in the County (Chapter 2). In keeping with the Value Statements and Guiding Principles developed for the General Plan (see below), this component is designed to focus new growth into the County's Urban Development Boundaries, Hamlet Development Boundaries, Mountain Service Centers, and Corridors while encouraging economic development and protecting and facilitating the development of the County's extensive agricultural, scenic, cultural, historic, and natural resources.

Value Statements

To help guide the creation of this General Plan, the Board of Supervisors considered the input received from the community workshops, the Planning Commission, and the Technical Advisory Committee on the values that would guide the preparation of this General Plan. The Board of Supervisors refined this input into the following five value statements. These value statements reflect the County's vision for the future, and were used as the overarching direction during the development of the General Plan.

1. The beauty of the County and the health and safety of its residents will be protected and enhanced.

2. The County will create and facilitate opportunities to improve the lives of all County residents.

3. The County will protect its agricultural economy while diversifying employment opportunities.

4. Every community will have the opportunity to prosper from economic growth.

5. Growth will pay its own way providing sustainable, high quality infrastructure and services.

Framework Concepts

Concept 1: Agriculture
One of the most identified assets in Tulare County is the rich agricultural land on the valley floor and in the foothills. The General Plan identifies agriculture not only as an economic asset to the County but also as a cultural, scenic, and environmental element to be protected and to insure that the utilization of these resources may continue to economically succeed.

Concept 2: Land Use
Tulare County has a number of unincorporated communities that will grow and develop and natural resource lands (agriculture, mineral extraction, and open space) that will be preserved and permitted to expand. It is anticipated that much of the projected population growth will require a range of housing choices, neighborhood support services, and employment producing uses that are centrally located in cities and unincorporated communities. The County will also utilize its goals and policies to guide the conversion of agricultural and natural resource lands to urban uses.

Concept 3: Scenic Landscapes
The scenic landscapes in Tulare County will continue to be one of its most visible assets. The Tulare County General Plan emphasizes the enhancement and preservation of these resources as critical to the future of the County. The County will continue to assess the recreational, tourism, quality of life, and economic benefits that scenic landscapes provide and implement programs that preserve and use this resource to the fullest extent.

Concept 4: Natural and Cultural Resources
As Tulare County develops its unincorporated communities, the County will ensure that development occurs in a manner that limits impacts to natural and cultural resources through the implementation of its Goals and Policies and through proper site planning and design techniques.

Guiding Principles

Principle 1: Opportunities
Provide opportunities for small unincorporated communities to grow or improve quality of life and their economic viability.

Principle 2: Reinvestment
Promote reinvestment in existing unincorporated communities in a way that enhances the quality of life and their economic viability in these locations.

Principle 3: Protection of Resources
Protect the County's important agricultural resources and scenic natural lands from urban encroachment through the implementation of Goals and Policies of the General Plan.

Principle 4: Limit Rural Residential Development
Strictly limit rural residential development potential in important agricultural areas outside of unincorporated communities, hamlets, and city UABs, UDBs (i.e., avoid rural residential sprawl).

Principle 5: Agricultural Facilities
Allow existing and outdated agricultural facilities in rural areas to be retrofitted and used for new agricultural related businesses (including non-agricultural uses) if they provide employment.

Principle 6: Planning Coordination and Cooperation
Enhance planning coordination and cooperation with the agencies and organizations with land management responsibilities in and adjacent to Tulare County.

2. Planning Framework

The Planning Framework Element is divided into the following sections:

- General (Section 2.1)
- Communities (Section 2.2)
- Hamlets (Section 2.3)
- Cities (Section 2.4)
- New Towns (Section 2.5)
- Coordination and Cooperation (Section 2.6)
- General Plan Maintenance (Section 2.7)
- Work Plan/Implementation Measures (Section 2.8)

Key Terms

The following terms are used throughout this element to describe the planning framework for implementation of the Tulare County General Plan:

City. An incorporated urban area differentiated from a community or hamlet by legal status and typically by size, population density, and services provided. In California, a city is a legally incorporated entity with land use authority separate from the County in which it lies.

City Limits. The limits of the area occupied by an incorporated city.

Cluster Development. A development design technique that concentrates buildings in specific areas on a site or area to allow remaining land to be used for recreation, common open space, or the preservation of historically or environmentally sensitive features.

Corridor Area. Areas were commercial and industrial development may occur as part of an adopted Corridor Plan at sites located adjacent to transportation routes. The County may adopt corridor plans as: Urban Corridor Plans, located within urban boundaries such as Mooney Boulevard; Regional Growth Corridor Plans, located along major transportation routes outside urban boundaries; and Scenic Highway Corridor Plans, located along routes established or eligible as State Scenic Highways.

Community (Unincorporated Community). Relying on the definition of Census Designated Places (CDP) used in the 2000 US Census, a community is a closely settled, named, unincorporated place that generally contains a mixture of residential, commercial, and industrial areas similar to those found in incorporated places of similar sizes. A typical community contains an identifiable core encompassing the area that is associated strongly with the community and contains the majority of the community's population, housing, commercial structures, and economic activity. A community must comprise a reasonably compact and continuous land area internally accessible to all points by road. A community

encompasses the surrounding closely settled territory associated with the place name. There are generally no minimum or maximum population thresholds for recognition as a community.

County Adopted City (CAC) General Plan. A Plan that the County adopts to govern land use decisions of the County between the city limits, the UAB of the city, and unincorporated areas of the County.

Development Standards. Regulations including but not limited to setbacks, landscaping, screening, height, site coverage, signs, building layout, parking, site design, and related features of land use.

Foothill Region. The Foothill Region of Tulare County includes geographical areas generally above the 600-foot elevation line, and is bounded on the east by the federally-owned parks in the Sierra Nevada Mountains.

Hamlet. An unincorporated area that shares many of the characteristics of a community but on a smaller scale.

The following criteria are used to define an unincorporated area as a "hamlet" for purposes of the General Plan:

1. Generally located in the Valley region of the County but may be located in the Foothill region, and should be identified in the Foothill Growth Management Plan,
2. A population of over 100 persons,
3. The population resides in the area more than nine months out of the year, and
4. A definable core that contains at least three of the following features:
    a. Special district or town council,
    b. Grocery store or other commercial establishment,
    c. Wastewater system,
    d. Community water system,
    e. Public school,
    f. Post office, and
    g. Community center or other community gathering location (church, Veterans Memorial Hall, etc.)

No hamlets are identified in the Foothill region of the County during this General Plan Update.

Hamlet Development Boundary (HDB). This is an officially adopted and mapped County line around a hamlet that divides lands suitable for development from lands to be protected for agricultural, natural, or rural uses. Land inside a HDB is appropriate for development and is not subject to the criteria evaluation of development as established in the Rural Valley Lands Plan or Foothill Growth Management Plan *[RVLP Policy 1-1].*

Mountain Region. This geographical area included all lands located east of the Foothill Region which generally coincided with the western boundary of federal lands.

Neighborhoods. Existing urban type uses and subdivisions that currently exist within a County Adopted City Urban Development Boundary (CACUDB) and County Adopted City Urban Area Boundary (CACUAB). Many of these neighborhoods do not have formal plans but are planned for within the associated County Adopted City General Plan. Two of the largest Neighborhoods are

Patterson Tract and East Porterville, however, there are many smaller ones, including but not limited to, Rancho Sierra, Tooleville, Cameron Creek, and Oak Ranch.

New Town (Planned Community). A new, large, mixed use community in the unincorporated portion of the County containing housing, commercial, employment, and community support uses. Once a new town has completed its development in accordance with its approved entitlements and the area has become a "built-out" and established settled place that contains a mixture of residential, commercial, and industrial development, the area, will be designated as a Community as defined above.

Other Unincorporated. Unincorporated portions of the County that are not within the Urban Area Boundaries (UABs) associated with cities, the Urban Development Boundaries (UDBs) of communities, Hamlet Development Boundaries (HDBs) of hamlets, or Planned Community Areas (PCAs).

Rural (Non-Agricultural) Development. Development that is generally characterized by very low density residential development (1 to 5 acre parcels) that is not necessarily limited to agricultural or other resource uses.

Sphere of Influence (SOI). The Local Agency Formation Commission (LAFCo) in every County adopts a SOI for each city to represent "the probable physical boundaries and service area" of that city (Government Code §56076). LAFCo also adopts SOI for most special districts. In most instances, the Sphere of Influence (SOI) and the Urban Development Boundary (UDB) may be coterminous.

Urban Area Boundary (UAB). This is an officially adopted and mapped County line around incorporated cities. The hierarchy is as follows: incorporated city limits, Urban Development Boundary (may be coterminous with the Sphere of Influence adopted by LAFCo), and the Urban Area Boundary of an incorporated city. The UABs establish areas (the area between the UDB and UAB) around incorporated cities where the County and cities may coordinate plans and policies relating to street and highway construction, public utility systems, and future right of way preservation, affecting the orderly development of urban fringe areas.

Urban Development. Development generally characterized by low to high density residential development, commercial development, industrial development, and typically supported by public services such as central water and sewer systems.

Urban Development Boundary (UDB). For cities, the County Adopted City UDB is an officially adopted and mapped County line delineating the area expected for urban growth over a 20-year period. This line may be coterminous to the Local Agency Formation Commissions Sphere of Influence. Land within a County Adopted City UDB may be appropriate for development.

For unincorporated communities, the UDB is a County adopted line dividing land to be developed from land to be protected for agricultural, natural, open space, or rural uses. It serves as the official planning area for communities over a 20 year period. Land within an unincorporated UDB is assumed appropriate for development and is not subject to the Rural Valley Lands Plan or Foothill Growth Management Plan *[RVLP Policy 1-1].*

Valley Region. The Valley Region is the geographical area generally below the 600-foot elevation contour line.

Existing Conditions Overview

In the past, the County used three key planning tools to guide urban development in all unincorporated areas of the County. The first was the Urban Boundaries Element; the second are the Area Plans; the third are the General Plans for identified incorporated cities and Community Plans for unincorporated communities. For discussion of the Area Plans which include the Rural Valley Lands Plan, Corridors Framework Plan, Foothill Growth Management Plan, and Mountain Framework Plan, please see Part II.

The Urban Boundaries Element, first adopted in 1974, identified two types of boundaries: Urban Area Boundaries (UABs) and Urban Improvement Areas (UIAs). At the time of the Urban Boundaries Element adoption, the UIAs were defined as the twenty-year growth boundaries and the UABs were defined as the ultimate growth boundary for each city and community. In 1983, the Urban Boundaries Element was amended to replace the UIAs with UDBs, and to modify the UAB model to include a "comment" area around incorporated cities, keeping UABs as the next logical area for urban expansion. In addition, UABs were no longer established around unincorporated communities.

The UDB lines established a twenty-year growth boundary for unincorporated communities for which services will likely be extended to allow new urban growth. The County used population, existing County policies, and a development suitability analysis to determine the location and size of the community UDBs.

The Urban Boundaries Element directed that community plans be adopted for 22 unincorporated communities to guide future development within their community boundaries. Of the 22 communities identified by the element, 15 had adopted Community Plans by mid-2004. Three of the Community Plans contain plans for two communities. Community Plans supplement County-wide General Plan policies. These plans have their own Land Use Diagrams and circulation plans, and include land use designations and development standards to guide area growth. Communities with plans as of 2009 are as follows:

- Cutler-Orosi Community Plan (1988)
- Earlimart Community Plan (1988)
- Goshen Community Plan (1978)
- Ivanhoe Community Plan (1990)
- Pixley Community Plan (1997)
- Poplar-Cotton Center Community Plan (1996)
- Richgrove Community Plan (1986)
- Springville Community Plan (1985)
- Strathmore Community Plan (1989)
- Terra Bella-Ducor Community Plan (2004)
- Three Rivers Community Plan (1980)
- Traver Community Plan (1989)

In 2012, several communities did not have adopted community plans. Under the prior General Plan, UDBs were established during the General Plan Amendment process. These communities had a UAB or UIA until such time that the UDB was established. Under this General Plan update, the UDB for each community is established under Policy PF-2.1: Urban Development Boundaries-Communities. Older UAB or UIA lines for the communities are converted to UDBs. These communities typically have urban uses, urban zoning, and urban infrastructure as intended by the 1974 Urban Boundaries Element. Until such time as a Community Plan is adopted, the land use designation shall be Mixed Use as per policy PF 2.6: Land Use Consistency. These communities are as follows:

- Alpaugh
- East Orosi
- Lemon Cove
- London

- Plainview
- Tipton
- Woodville

The County has adopted County Adopted City General Plans for all eight incorporated cities to guide County land use decisions outside the city limits within the County UDB and UAB. The eight incorporated cities are:

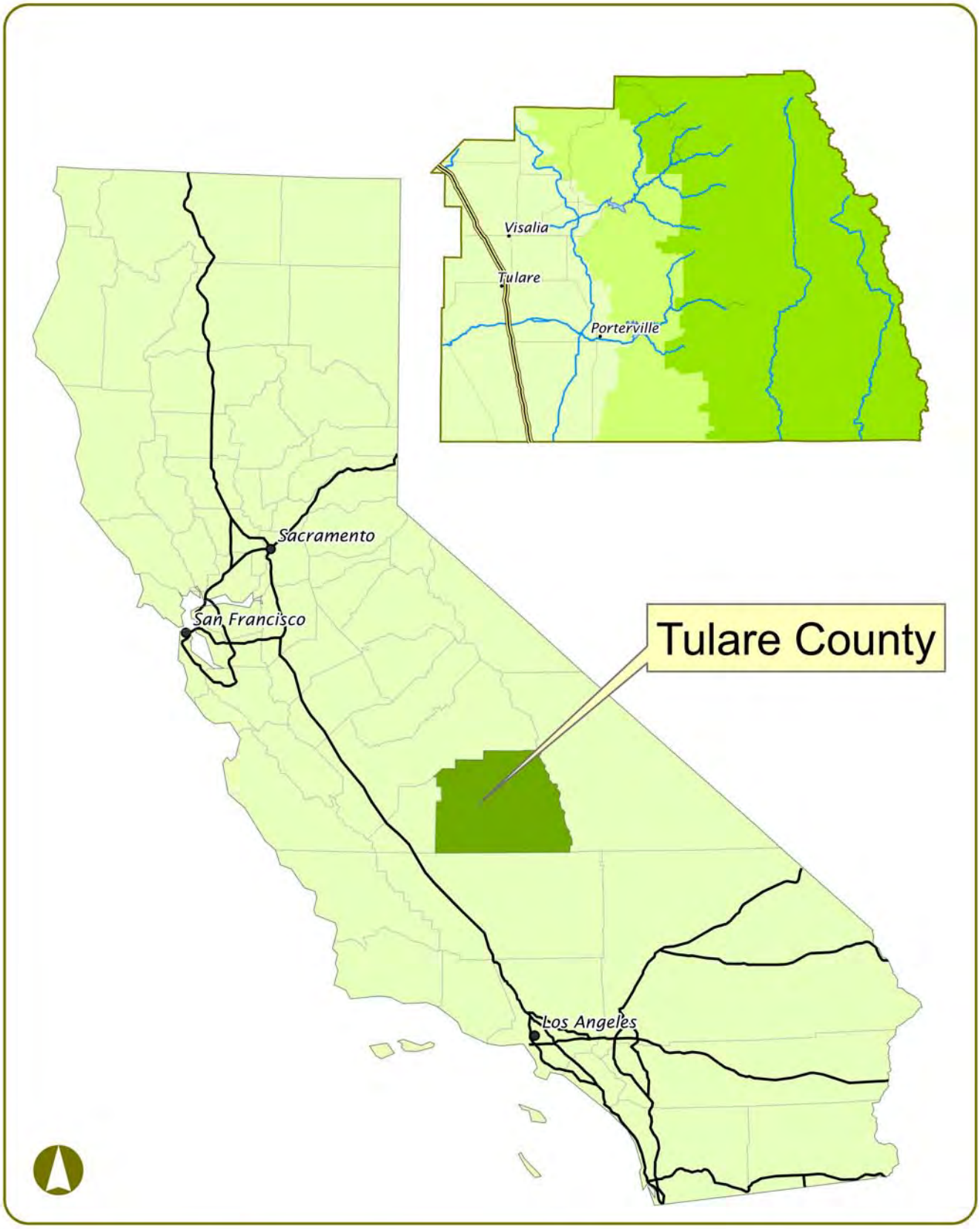
- Dinuba
- Exeter
- Farmersville
- Lindsay
- Porterville
- Tulare
- Visalia
- Woodlake

Two areas adjacent to cities located outside of the County currently have UDBs but no adopted plans at this time. Until such time as a plan is adopted the land use designation shall be mixed use. These areas are adjacent to the following cities located outside of the County:

- Delano
- Kingsburg

The County has recognized certain existing neighborhoods within the Urban Area Boundaries of certain cities. It is anticipated that these neighborhoods will be annexed or that municipal services will be provided to these areas at an appropriate time in the future. Two of these neighborhoods have their own UDBs and are currently able to develop to urban uses with urban standards. These neighborhoods include:

- East Porterville
- Patterson Tract



0 50 100 150 200 Miles

Regional Location | **Figure 2.1-1**

2.1 General

PF-1	To provide a planning framework that promotes the viability of communities, hamlets, and cities while protecting the agricultural, open space, scenic, cultural, historic, and natural resource heritage of the County.

PF-1.1 Maintain Urban Edges
The County shall strive to maintain distinct urban edges for all unincorporated communities within the valley region or foothill region, while creating a transition between urban uses and agriculture and open space.

PF-1.2 Location of Urban Development
The County shall ensure that urban development only takes place in the following areas:

1. Within incorporated cities and CACUDBs;
2. Within the UDBs of adjacent cities in other counties, unincorporated communities, planned community areas, and HDBs of hamlets;
3. Within foothill development corridors as determined by procedures set forth in Foothill Growth Management Plan;
4. Within areas set aside for urban use in the Mountain Framework Plan and the mountain sub-area plans; and
5. Within other areas suited for non-agricultural development, as determined by the procedures set forth in the Rural Valley Lands Plan.

PF-1.3 Land Uses in UDBs/HDBs
The County shall encourage those types of urban land uses that benefit from urban services to develop within UDBs and HDBs. Permanent uses which do not benefit from urban services shall be discouraged within these areas. This shall not apply to agricultural or agricultural support uses, including the cultivation of land or other uses accessory to the cultivation of land provided that such accessory uses are time-limited through Special Use Permit procedures.

ⓘ *Also see Policy PF-2.8: Inappropriate Land Use.*

PF-1.4 Available Infrastructure
The County shall encourage urban development to locate in existing UDBs and HDBs where infrastructure is available or may be established in conjunction with development. The County shall ensure that development does not occur unless adequate infrastructure is available, that sufficient water supplies are available or can be made available, and that there are adequate provisions for long term management and maintenance of infrastructure and identified water supplies.

PF-1.5 Planning Areas
County policies reflect the unique attributes of the various locations and geographic areas in the County. As such, there are policies applicable to one area of the County that are not applicable to others based on natural setting, topography, habitat, existing development, or other attributes which are unique within the planning context of the County.

PF-1.6 Appropriate Land Uses by Location
The County shall utilize the Land Use Element and adopted CAC General Plans, Community Plans, Hamlet Plans, Planned Communities, Corridor Areas, or Area Plans to designate land uses and intensities that reflect and maintain the appropriate level of urbanized development in each CAC General Plan, Community Plan, Hamlet Plan, Planned Community, Corridor Area, or Area Plan.

PF-1.7 Census Boundaries
The County shall work with TCAG and the U.S. Census Bureau to ensure that the Census data geography matches adopted UDBs, UABs, and HDBs.

PF-1.8 Special District Boundaries
In areas where special districts provide rural, as well as urban services, the County shall work with LAFCo to distinguish between "urban" and "rural" service areas for the purpose of establishing spheres of influence for such districts. If an unincorporated community is served by a special district, the UDB or HDB should be consistent with the district's "urban" sphere of influence.

PF-1.9 Capacity Building and Self Governance
The County shall encourage the residents in unincorporated communities, as defined, to be actively involved in self governance. This includes:

1. Establishment of local advisory boards to facilitate the development and maintenance of community and hamlet plans,
2. Providing for local input on development applications as part of the County's review process,
3. Expanding local empowerment through expanding the authorized powers of County service areas and community service districts, and
4. Supporting the incorporation of unincorporated communities when determined through the LAFCo process to be fiscally sound.

PF-1.10 Non-Conforming Uses – General
Any previously or legally established use, building, or parcel that may not be expressly permitted by this plan in any given land use designation or the implementing zoning shall be allowed to continue in accordance with the Tulare County Zoning Ordinance and General Plan.

PF-1.11 Interpretation of Boundaries
The County shall utilize standardized rules for reviewing and adopting boundaries for Unincorporated Community Plans, CAC General Plans, and other plan types.

2.2 Communities

Figure 2.2-1 shows the locations of all twenty one unincorporated Communities within Tulare County and Figures 2.2-2 through 2.2-22 show the County's UDBs adopted for each Community:

- Alpaugh
- Cutler/Orosi
- Ducor
- Earlimart
- East Orosi
- Goshen
- Ivanhoe
- Lemon Cove
- London
- Pixley
- Plainview
- Poplar/Cotton Center
- Richgrove
- Springville
- Strathmore
- Sultana
- Terra Bella
- Three Rivers
- Tipton
- Traver
- Woodville

PF-2	To provide a realistic planning area around each unincorporated community that clearly delineates the boundaries of each community and provides a framework for economic development, the provision of public services, and an outstanding quality of life.

PF-2.1 Urban Development Boundaries – Communities

The County shall limit urban development to the area within the designated UDB for each community. Each community's UDB is defined as shown on Figures 2.2-2 thru 2.2-22.

PF-2.2 Modification of Community UDB

1. The County may consider modification to a community UDB under any of, but not limited to the following circumstances:
   a. The location of the UDB shall be evaluated during preparation or update of a community plan.
   b. All community UDBs should be reviewed on a five-year cycle to reflect changes in growth and development patterns.
   c. A request for expansion of the UDB boundary can be applied for as part of a General Plan Amendment to the Land Use Diagram.
   d. At the request of a special district or the community.
   e. A UDB should be considered for expansion at such time as land for infill becomes limited. This condition is considered satisfied when 80 percent of the non-Williamson Act land within the UDB is developed for urban uses.
   f. UDBs should not be expanded onto Prime Farmland if Farmland of Statewide Importance or of lesser quality is available and suitable for expansion.
2. Prior to approval of a UDB boundary expansion, the County shall ensure that infrastructure can be provided to serve the new areas added to the UDB and that sufficient water supplies are also available. This may require preparation of an infrastructure master plan that includes methods of financing of improvements and maintenance, as well as representation/documentation of availability and sufficiency of long-term water supplies.

3. Preservation of productive agricultural lands shall be the highest priority when considering modifications. Expansion of a UDB to include additional agricultural land shall only be allowed when other non-agricultural lands are not reasonably available to the community or are not suitable for expansion.

PF-2.3 UDB and Other Boundaries
The County shall provide notice and opportunity for special districts, school districts, and other service providers to comment when evaluating the expansion of a Community's UDB.

PF-2.4 Community Plans
The County shall ensure that community plans are prepared, updated, and maintained for each of the communities. These plans shall include the entire area within the community's UDB and shall address the community's short and long term ability to provide necessary urban services.

ⓘ *See Table 2.1: Community Plan Content for components of a Community Plan.*

PF-2.5 Collaborative Community Planning Partnerships
The County should encourage establishment of collaborative partnerships for preparation of a community plan updates where one or more applicants are willing to fund the update, regardless of the position of the community on the community plan priority list. Requirements for new town development shall be utilized to guide such private/public joint planning efforts.

PF-2.6 Land Use Consistency
The County shall require all community plans, when updated, to use the same land use designations as used in this Countywide General Plan (See Chapter 4-Land Use). All community plans shall also utilize a similar format and content. The content may change due to the new requirements such as Global Climate Change and Livable Community Concepts, as described on the table provided (Table 2.1: Community Plan Content). Changes to this format may be considered for unique and special circumstances as determined appropriate by the County. Until such time as a Community Plan is adopted for those communities without existing Community Plans, the land use designation shall be Mixed Use, which promotes the integration of a compatible mix of residential types and densities, commercial uses, public facilities, and services and employment opportunities.

PF-2.7 Improvement Standards in Communities
The County shall require development within the designated UDBs to meet an urban standard for improvements. Typical improvements shall include curbs, gutters, sidewalks, and community sewer and water systems.

PF-2.8 Inappropriate Land Use
Areas within UDBs are hereby set aside for those types of urban land uses which benefit from urban services. Permanent uses which do not benefit from such urban services shall be discouraged within the UDBs. This is not intended to apply to agricultural or agricultural supported uses, including the cultivation of land or other uses accessory to the cultivation of land, provided that such accessory uses are time-limited through special use permit procedures.

ⓘ *Also see Policy PF-1.3: Land Uses in UDBs/HDBs.*

PF-2.9 Zoning in Communities
The County shall maintain zoning that is consistent with the adopted Community Plan Land Use Diagram in accordance with California Code § 65103.

PF-2.10 Valley Urban Improvement Areas and Urban Area Boundaries
All UIAs established in the 1974 Urban Boundaries Element, and UABs for valley communities, are hereby converted to UDBs.

Text continues on Page 2-35.

Table 2.1

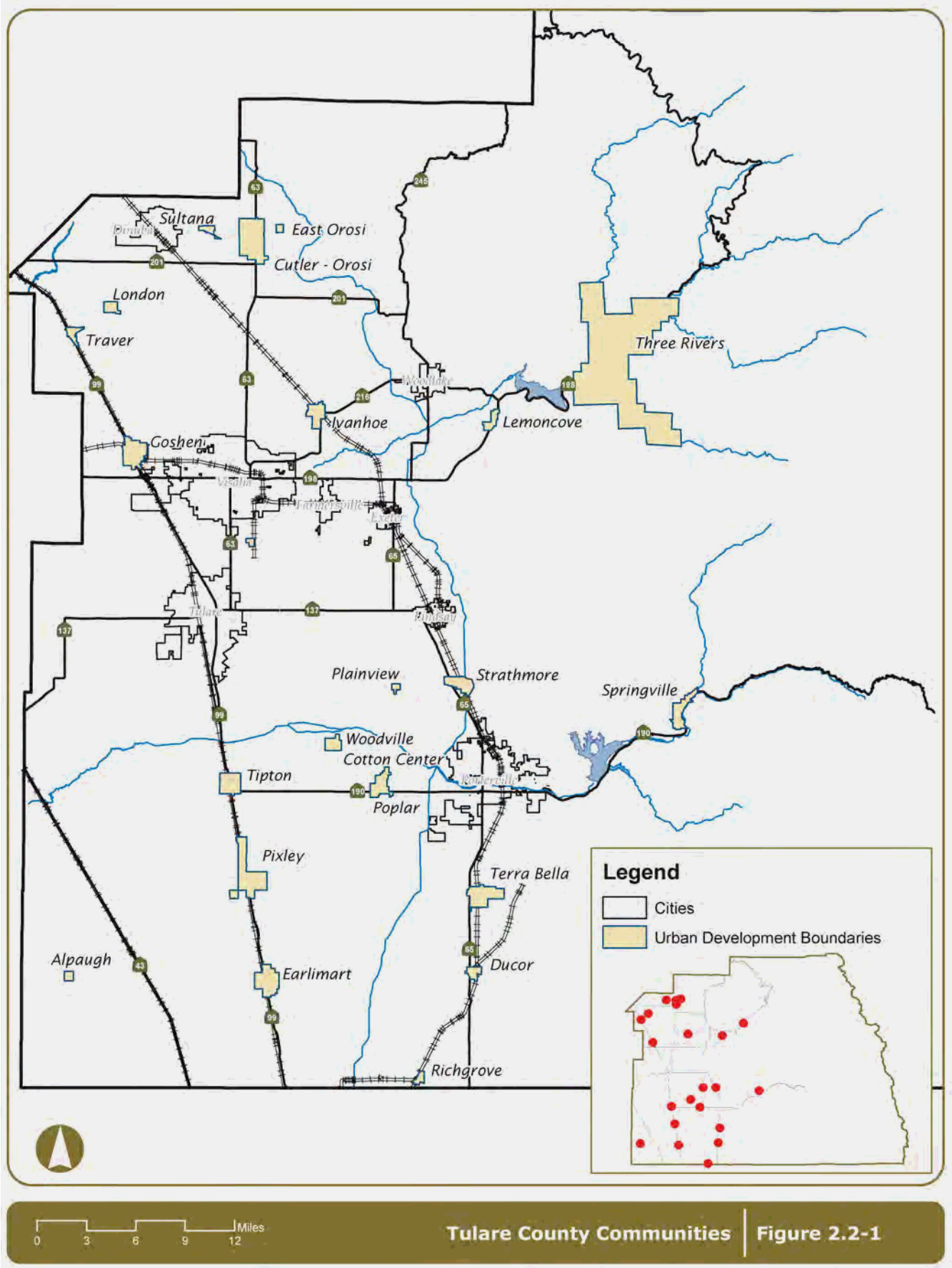
Community Plan Content (Policy PF-2.4: Community Plans)

1. Introduction
   - Introduction
   - Planning Framework
   - The Need for a Community Plan

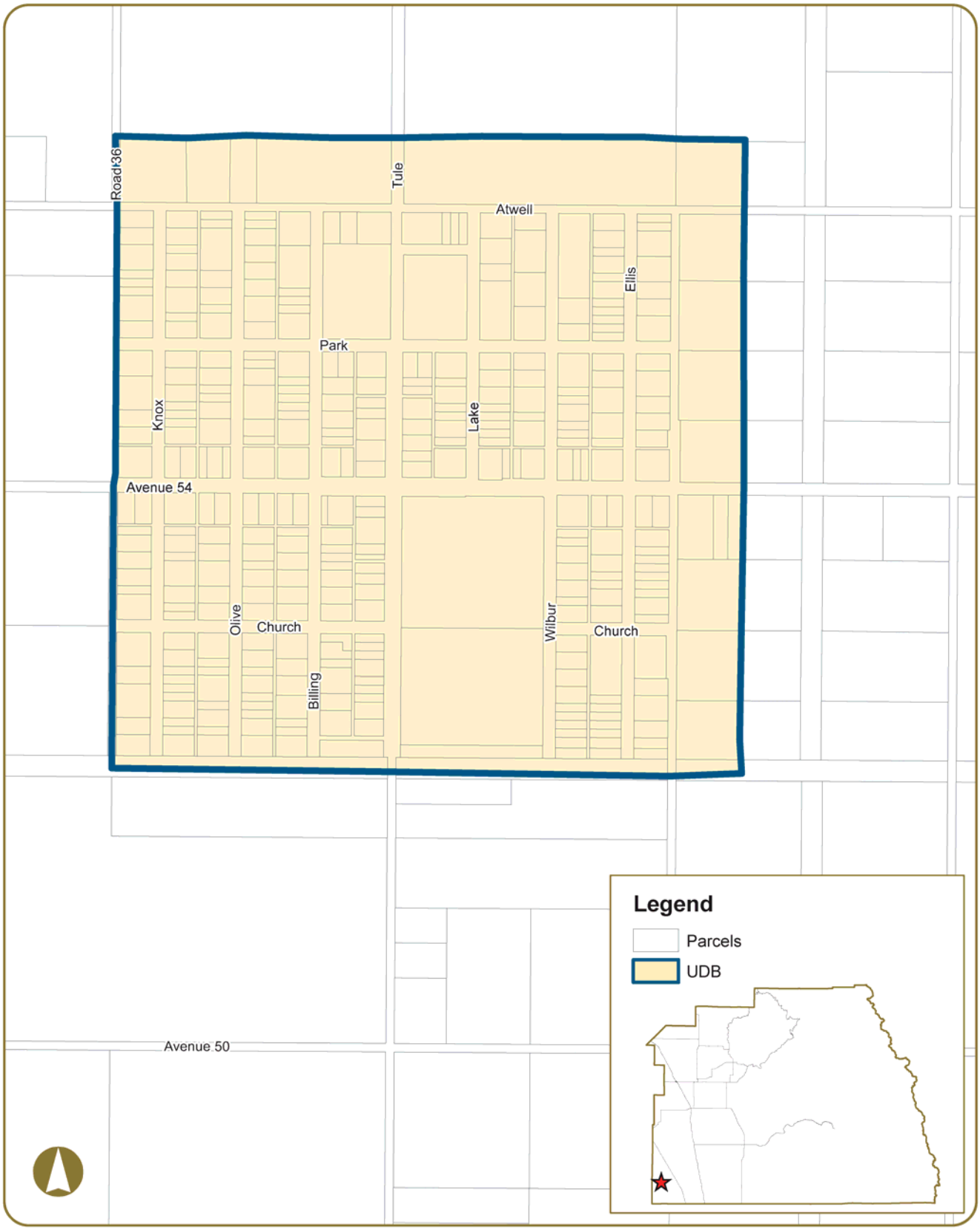
2. Policy Plan
   - Purpose
   - Community Involvement
   - Redevelopment
   - Land Use
   - Circulation (including pedestrian, cyclist and transit facilities)
   - Community Design
   - Housing
   - Commerce
   - Industry
   - Agriculture
   - Schools
   - Libraries
   - Parks and Open Space
   - Fire Protection and Law Enforcement
   - Public Facilities (sewer, water, drainage)
   - Noise
   - General Plan Consistency
   - Infrastructure, Urban Improvement Standards, and Development Standards
   - Financing Plan (including funding mechanisms to cover capital costs as well as long-term operations and maintenance for roadways and all other public infrastructure, services, and facilities)

3. Urban Development Boundary
   - Establishment
   - Methodology
   - Projections
   - County Policy
   - Development Suitability
   - Recommended Boundary

4. Community Profile (Existing Conditions)
   - Planning Area
     - Location
     - Land Use Planning
     - Land Use
     - Existing Zoning
     - Population
     - Projected Population
     - Age of Structures
     - Ethnicity and Other Socioeconomic Characteristics
   - Housing
     - Types
     - Tenure
     - Conditions
     - Overcrowding
     - Infill Opportunities
     - Vacancy
     - Affordability
   - Economy
     - Employment
     - Income
   - Public Services
     - Police
     - Fire
     - Schools
   - Infrastructure
     - Sewer
     - Water
     - Drainage
   - Circulation
   - Cultural and Natural Resources
     - Soils
     - Agriculture
     - Air Quality
     - Water
     - Flooding
     - Drainage
     - Noise
     - Seismic/Geologic Hazards
     - Historic Sites
   - County Policy
5. Plan Performance



Tulare County Communities | Figure 2.2-1



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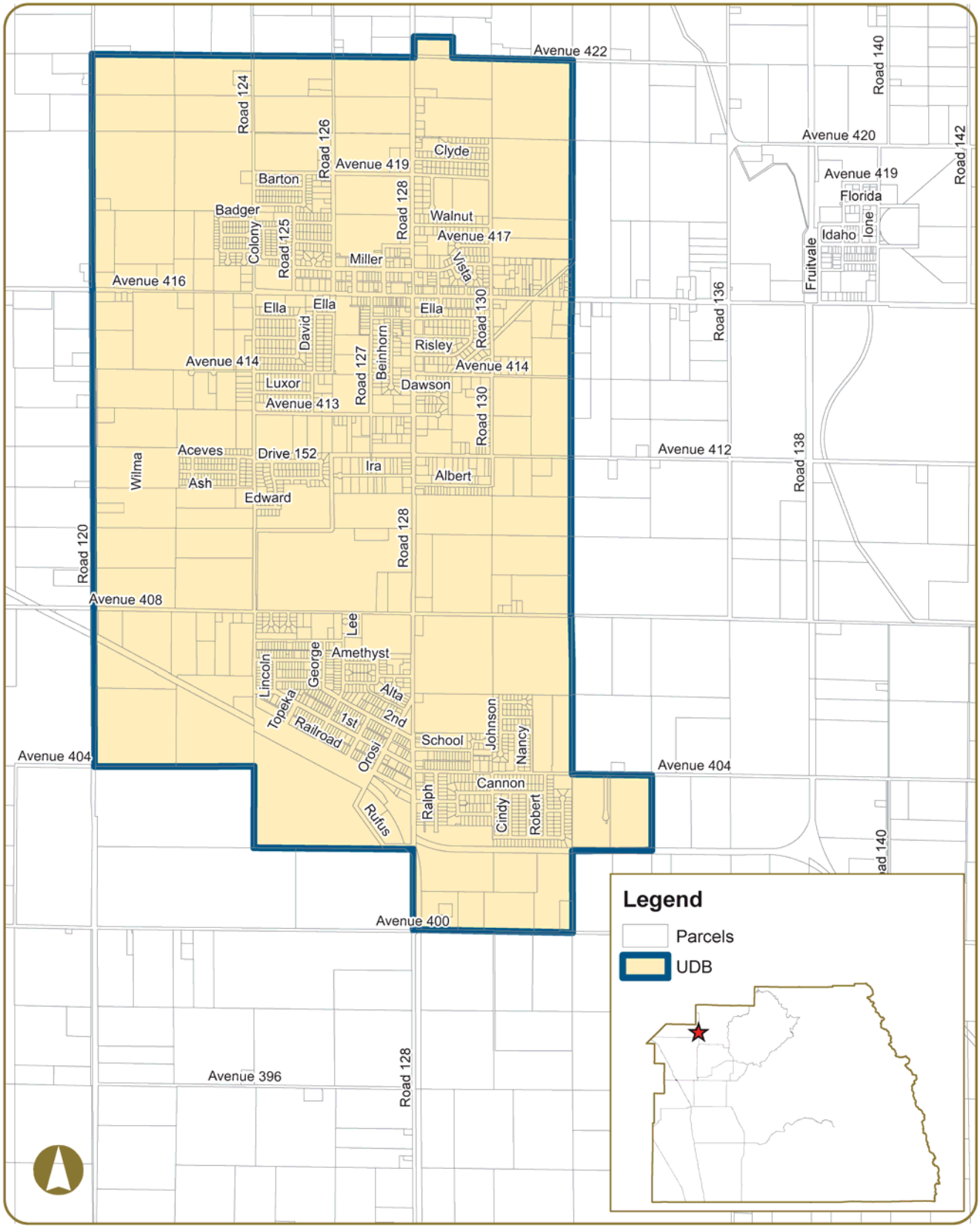
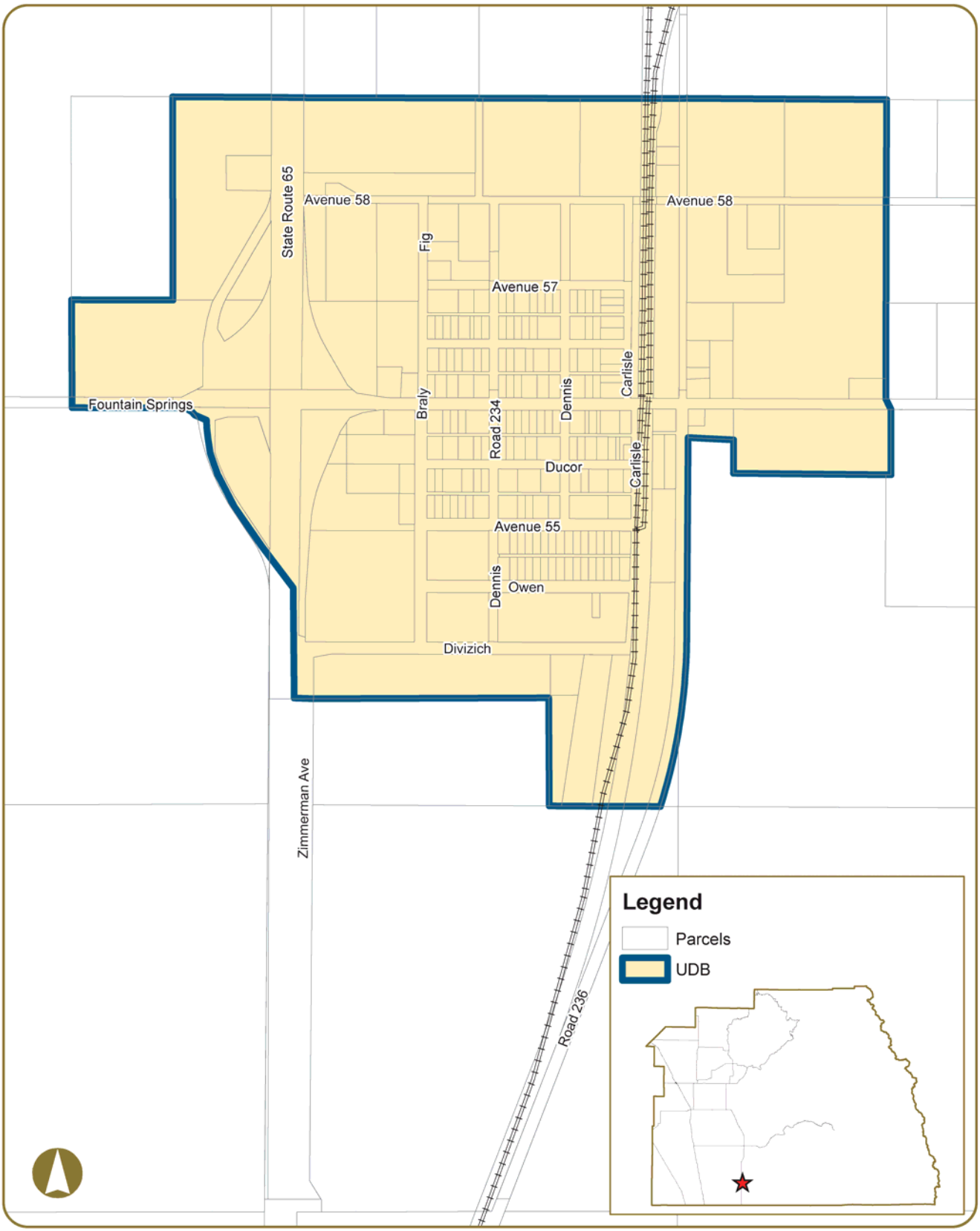
Alpaugh Urban Development Boundary | **Figure 2.2-2**

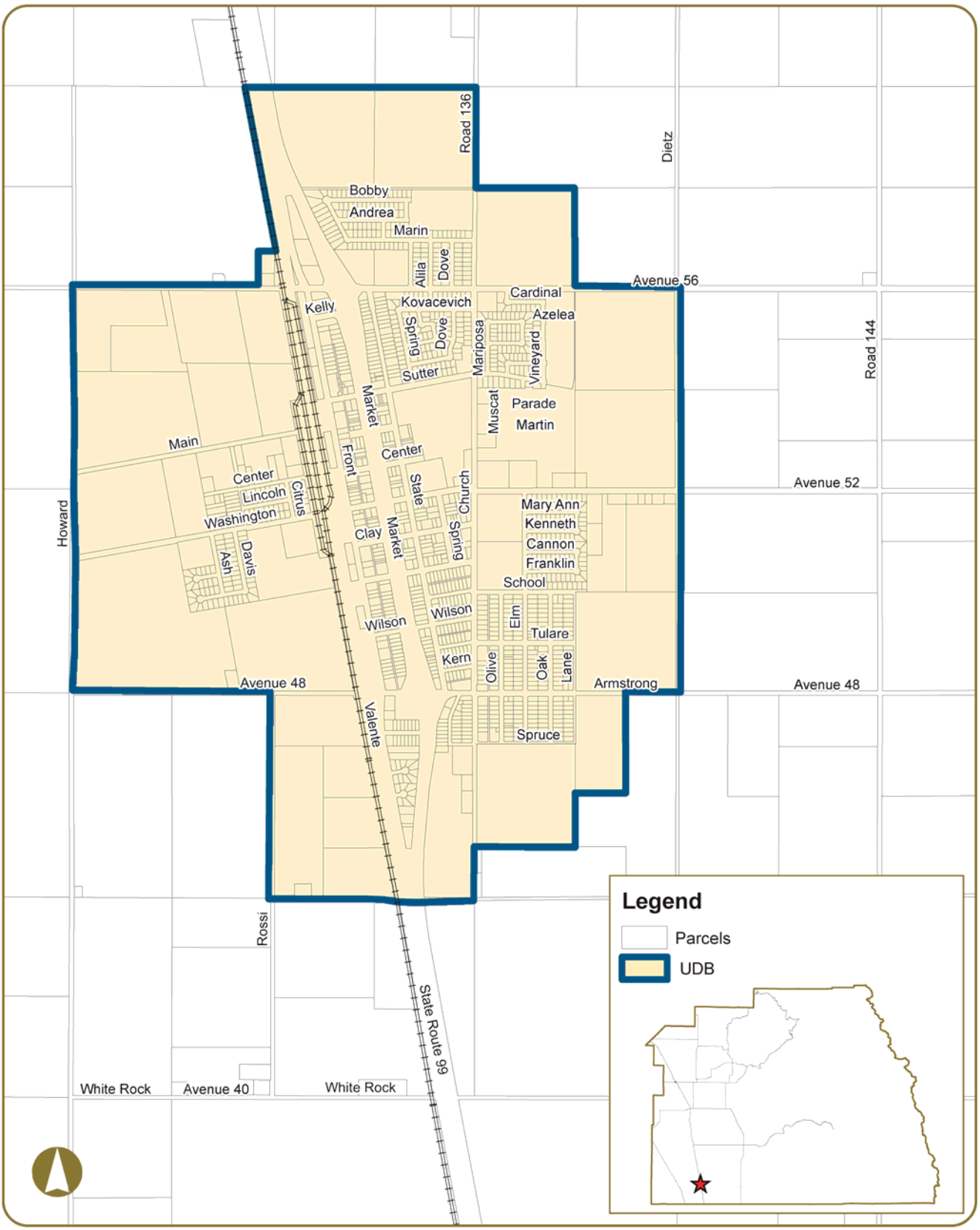


Cutler-Orosi Urban Development Boundary | **Figure 2.2-3**

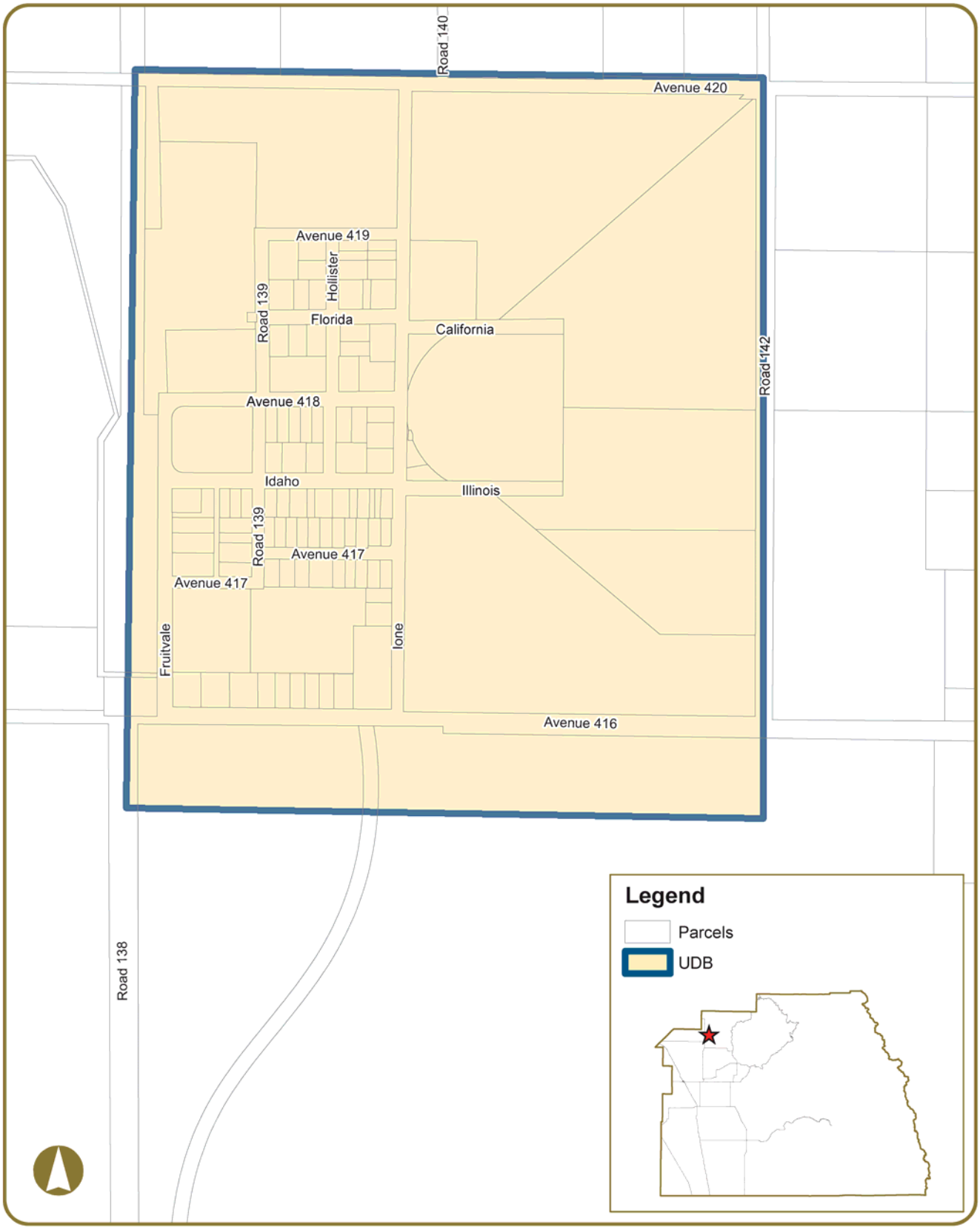


0 500 1,000 1,500 Feet

Ducor Urban Development Boundary | **Figure 2.2-4**



Earlimart Urban Development Boundary | **Figure 2.2-5**



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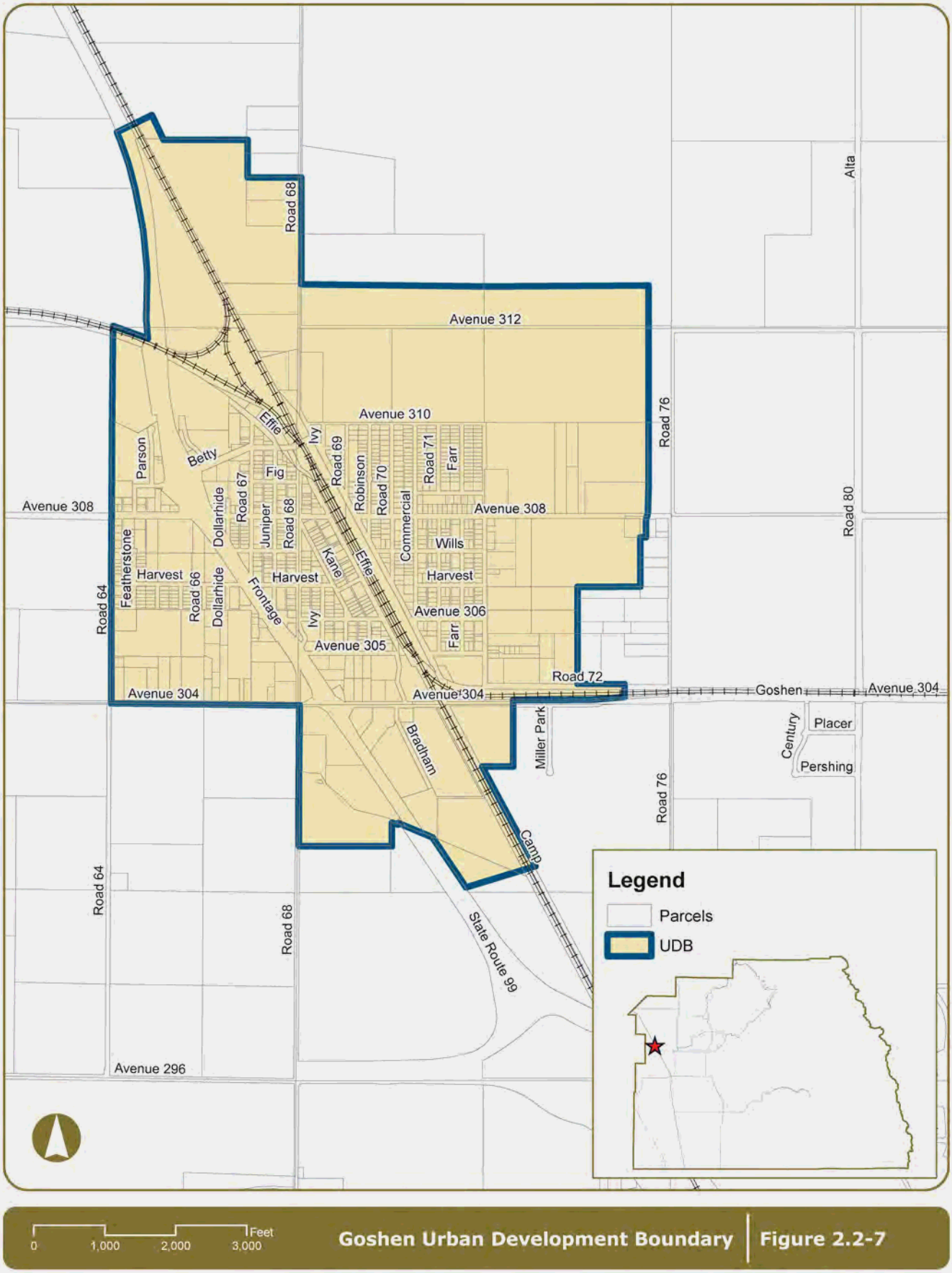
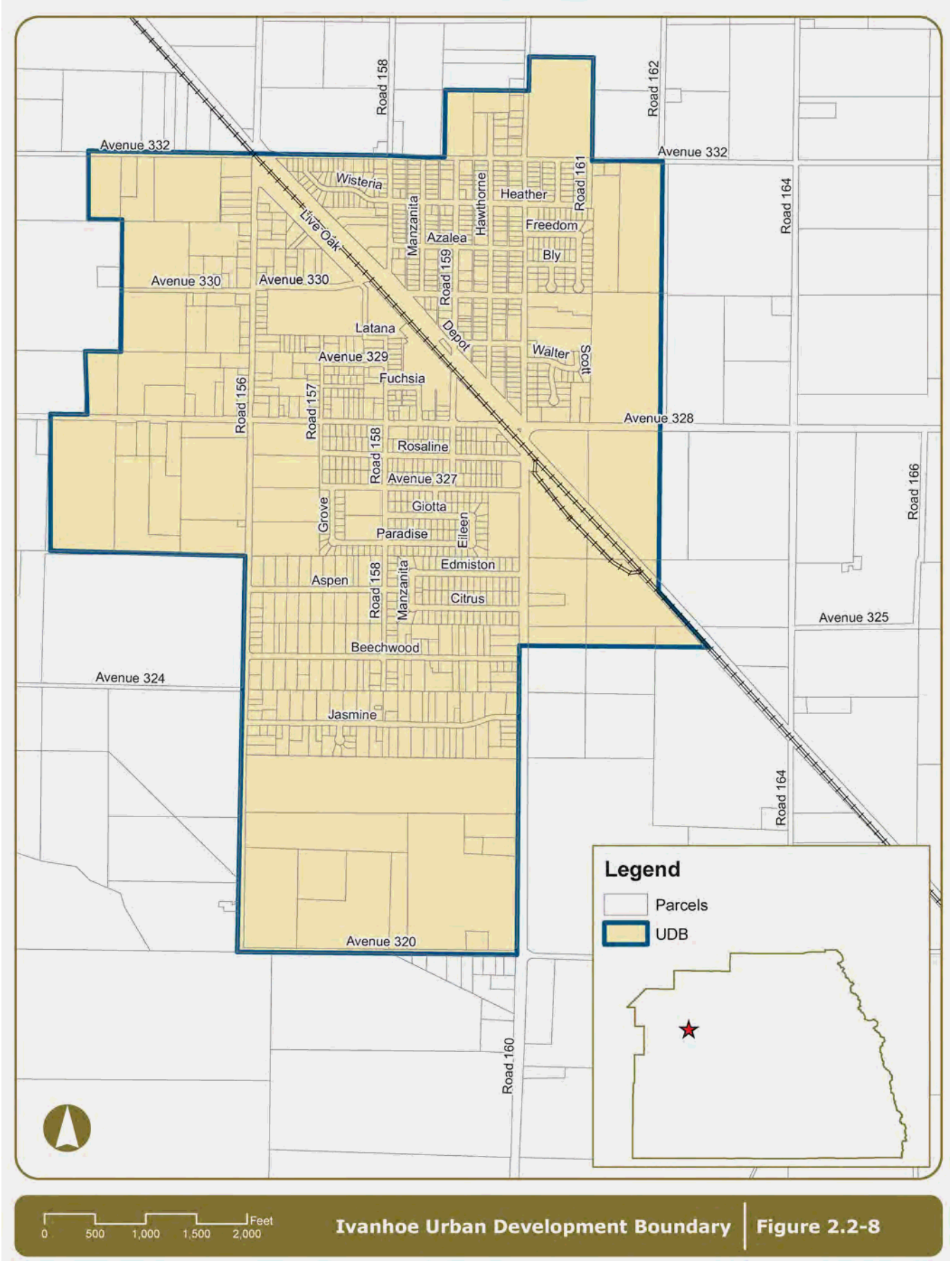
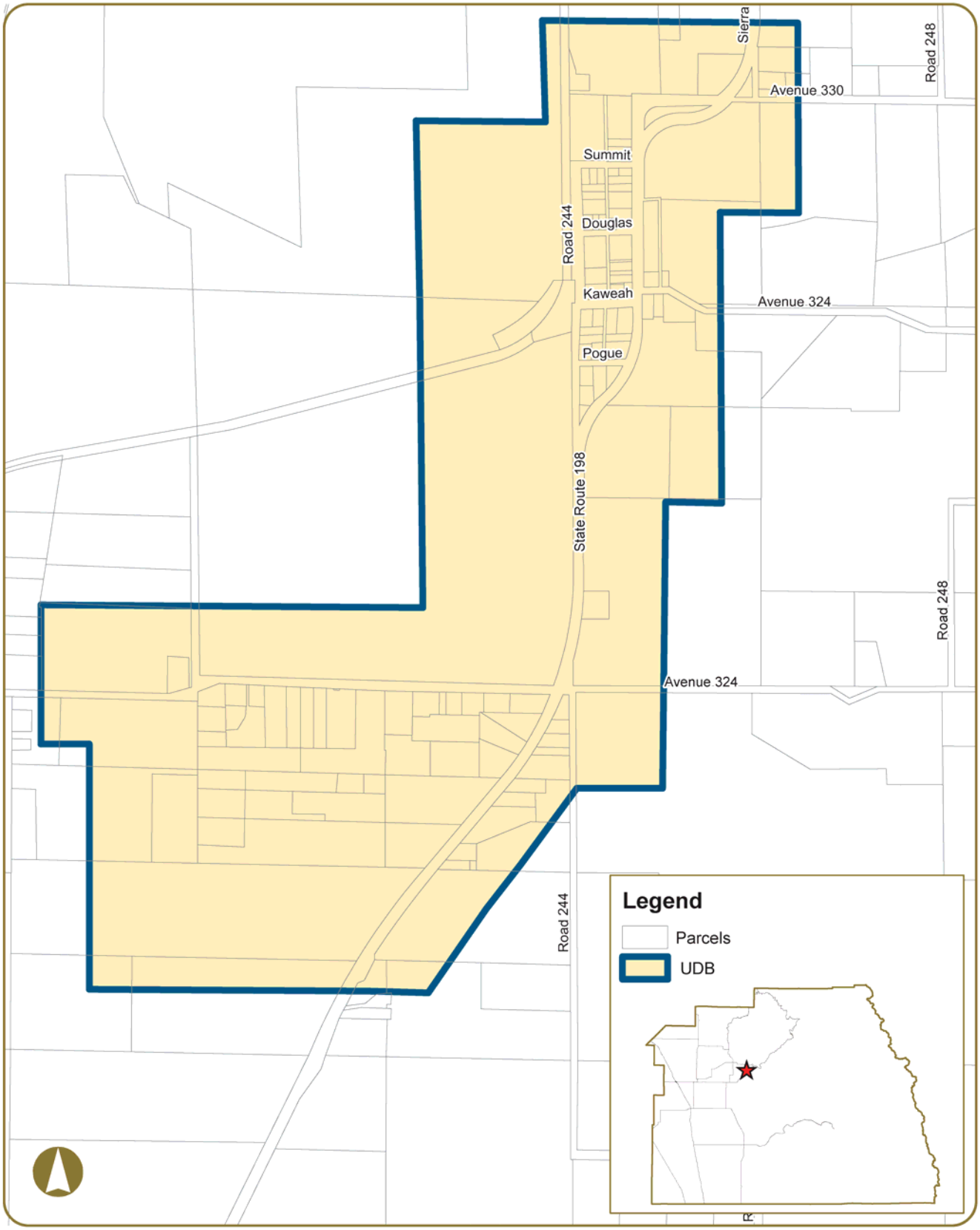
East Orosi Urban Development Boundary | **Figure 2.2-6**



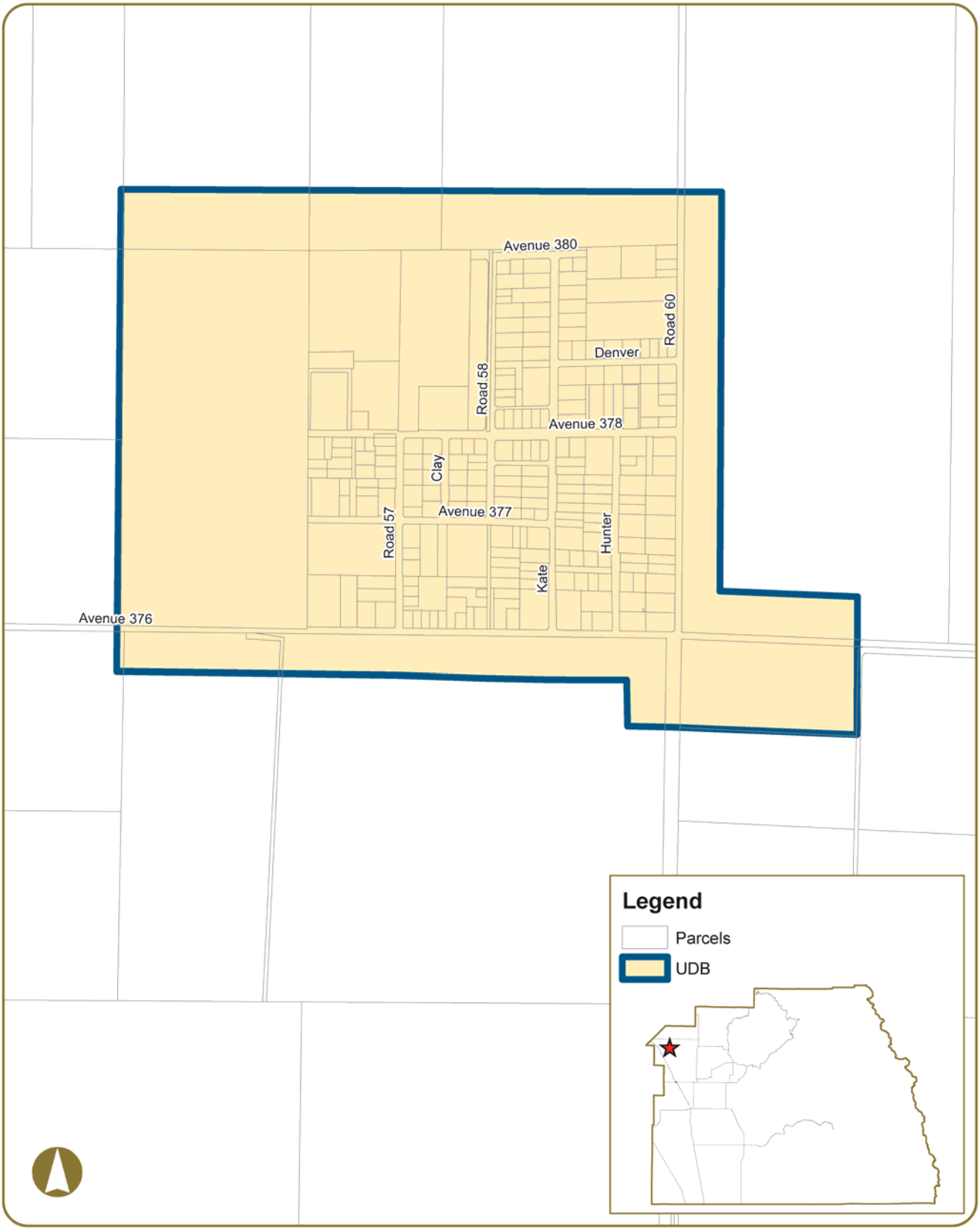
Goshen Urban Development Boundary | Figure 2.2-7



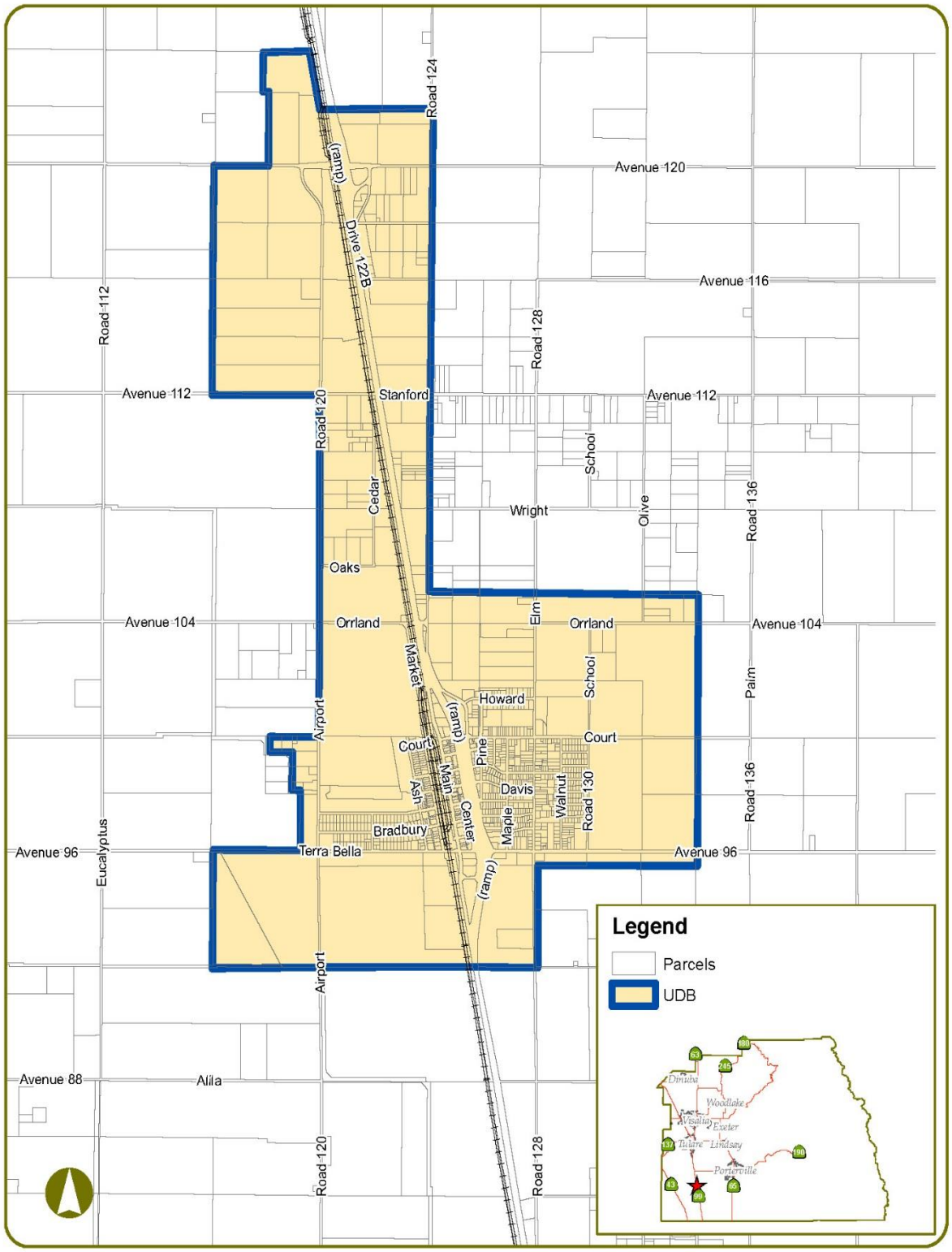
Ivanhoe Urban Development Boundary | Figure 2.2-8



0 400 800 1,200 1,600 Feet **Lemon Cove Urban Development Boundary** | **Figure 2.2-9**

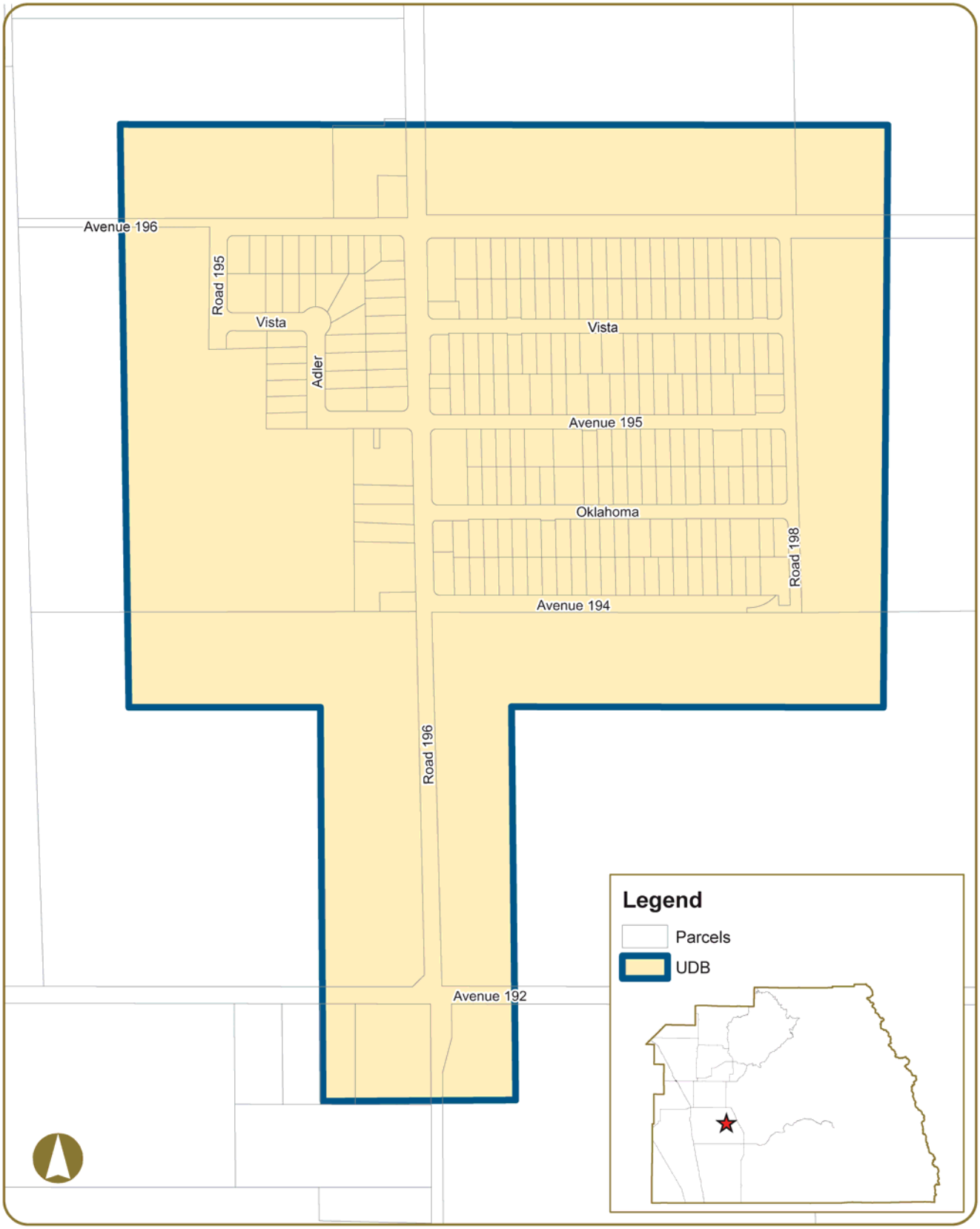


London Urban Development Boundary | **Figure 2.2-10**

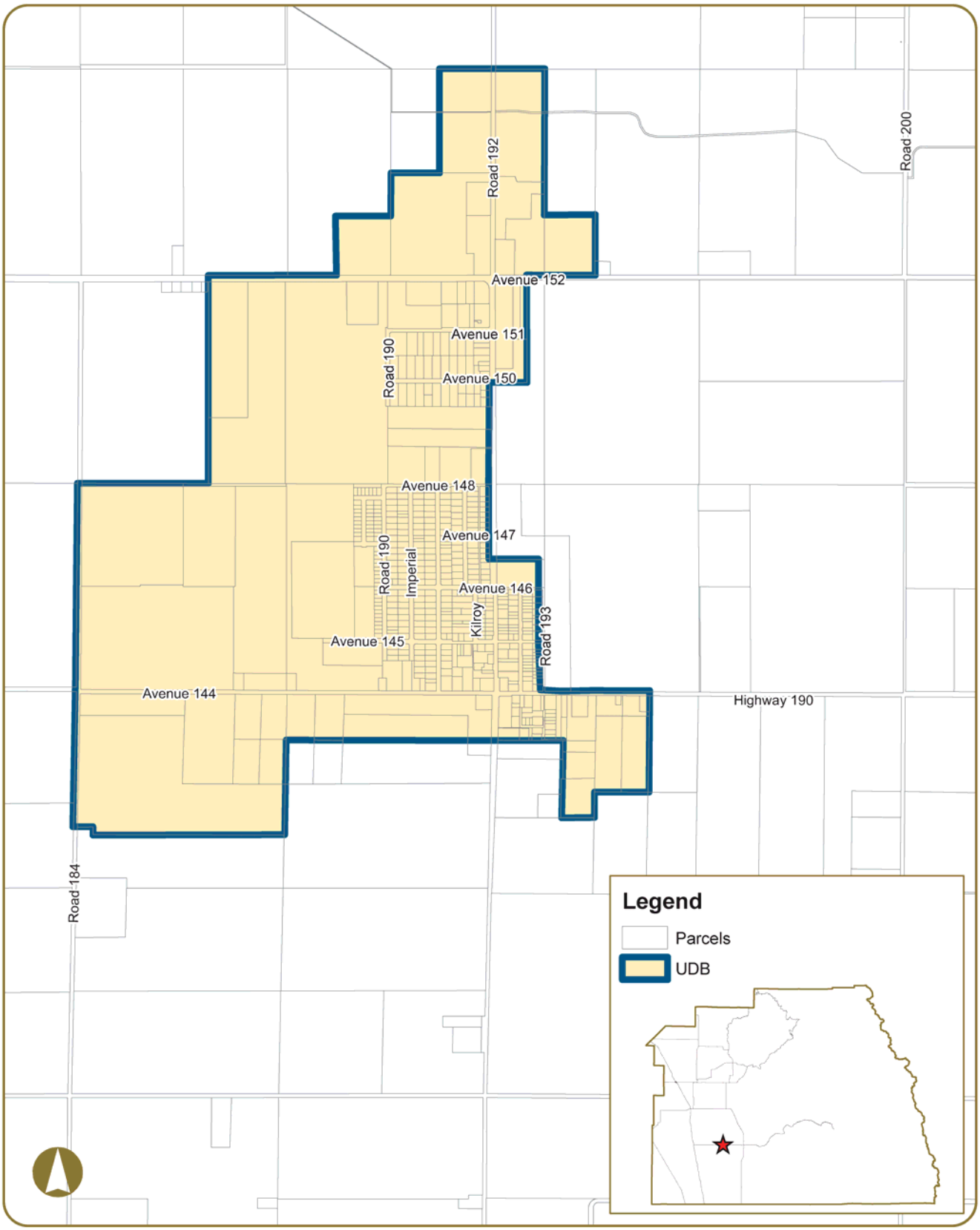


Pixley Urban Development Boundary | **Figure 2.2-11**

Amended GPA 14-002 BOS Resolution #2015-0419 on 6/16/2015



Plainview Urban Development Boundary | **Figure 2.2-12**



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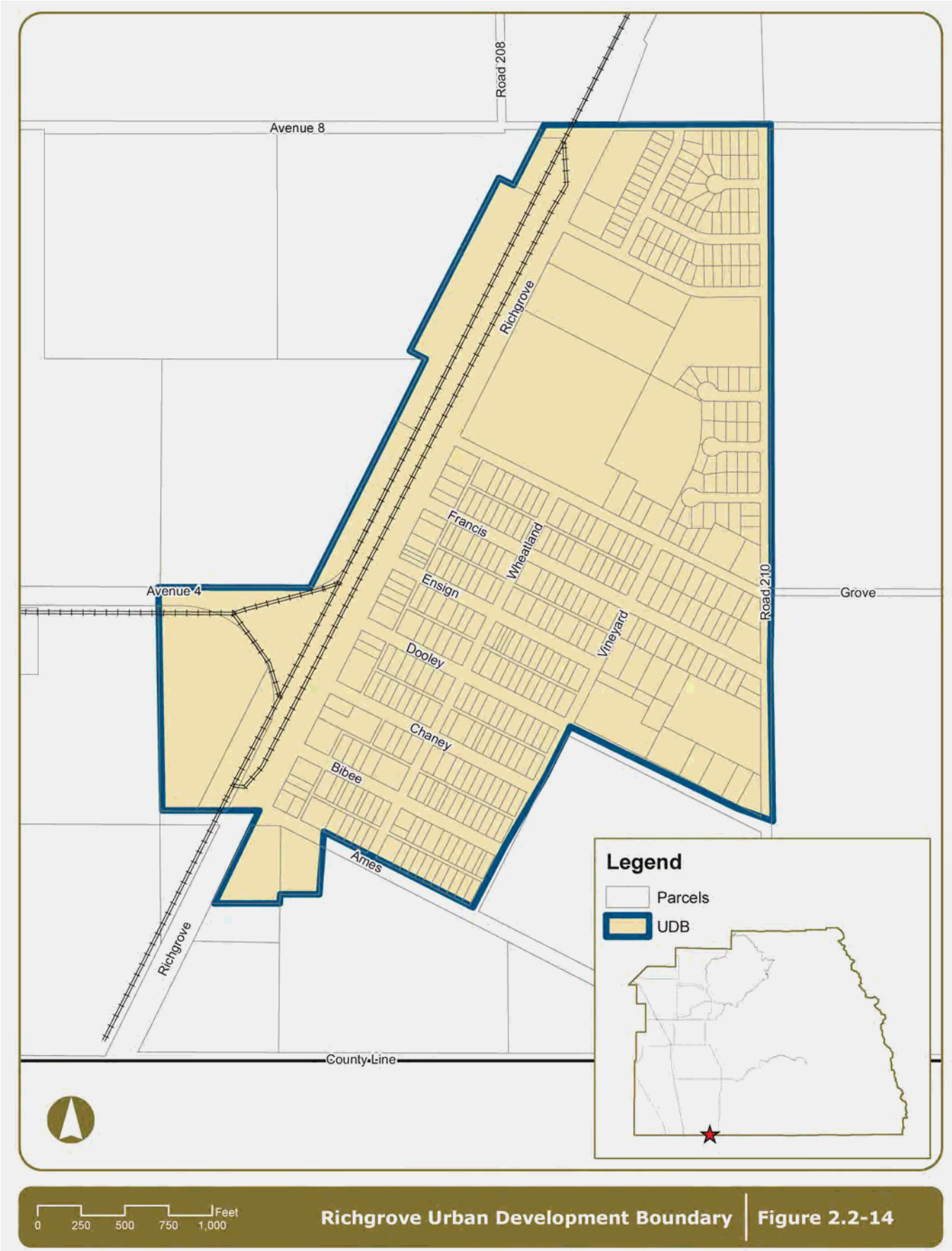
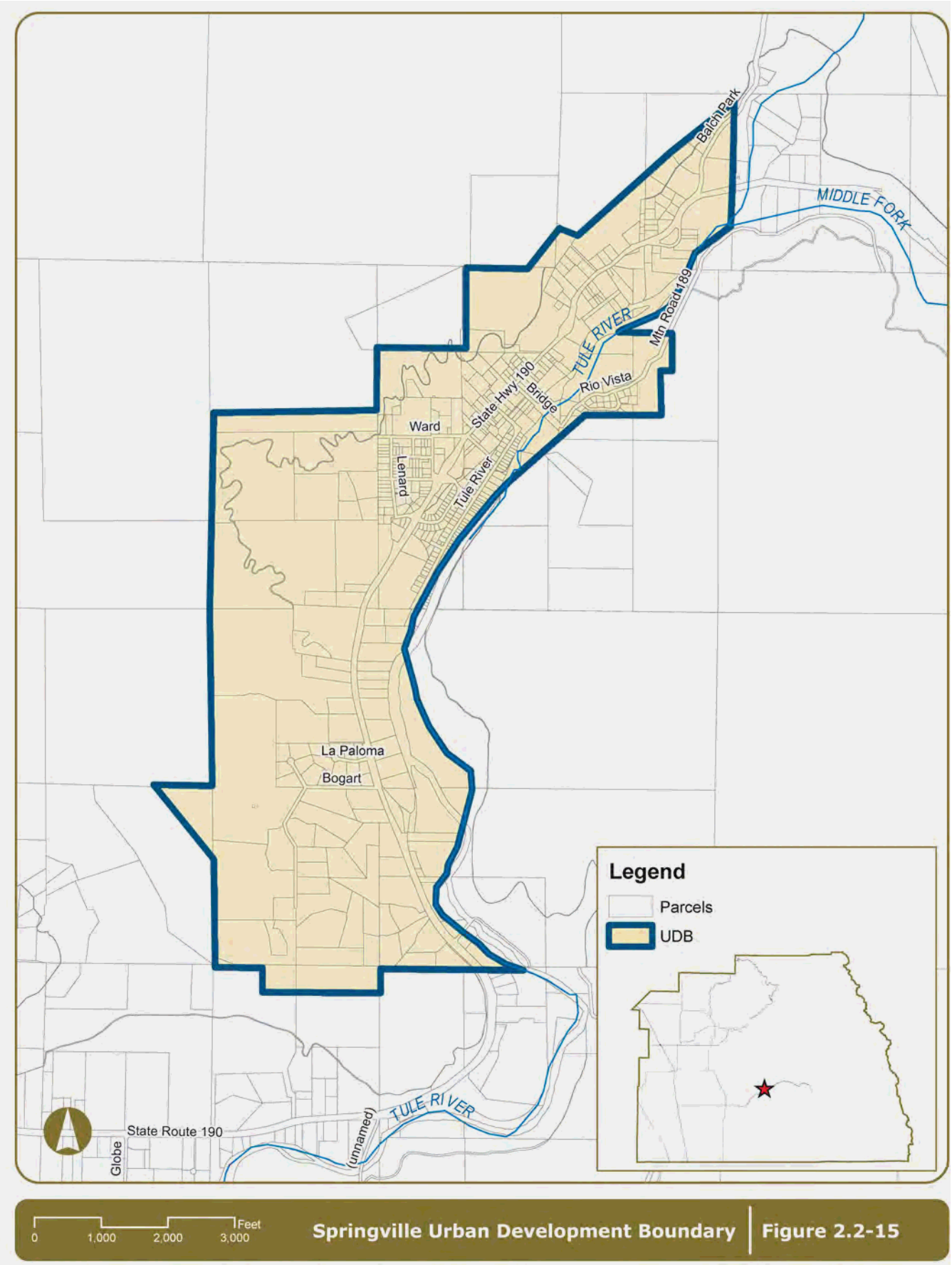
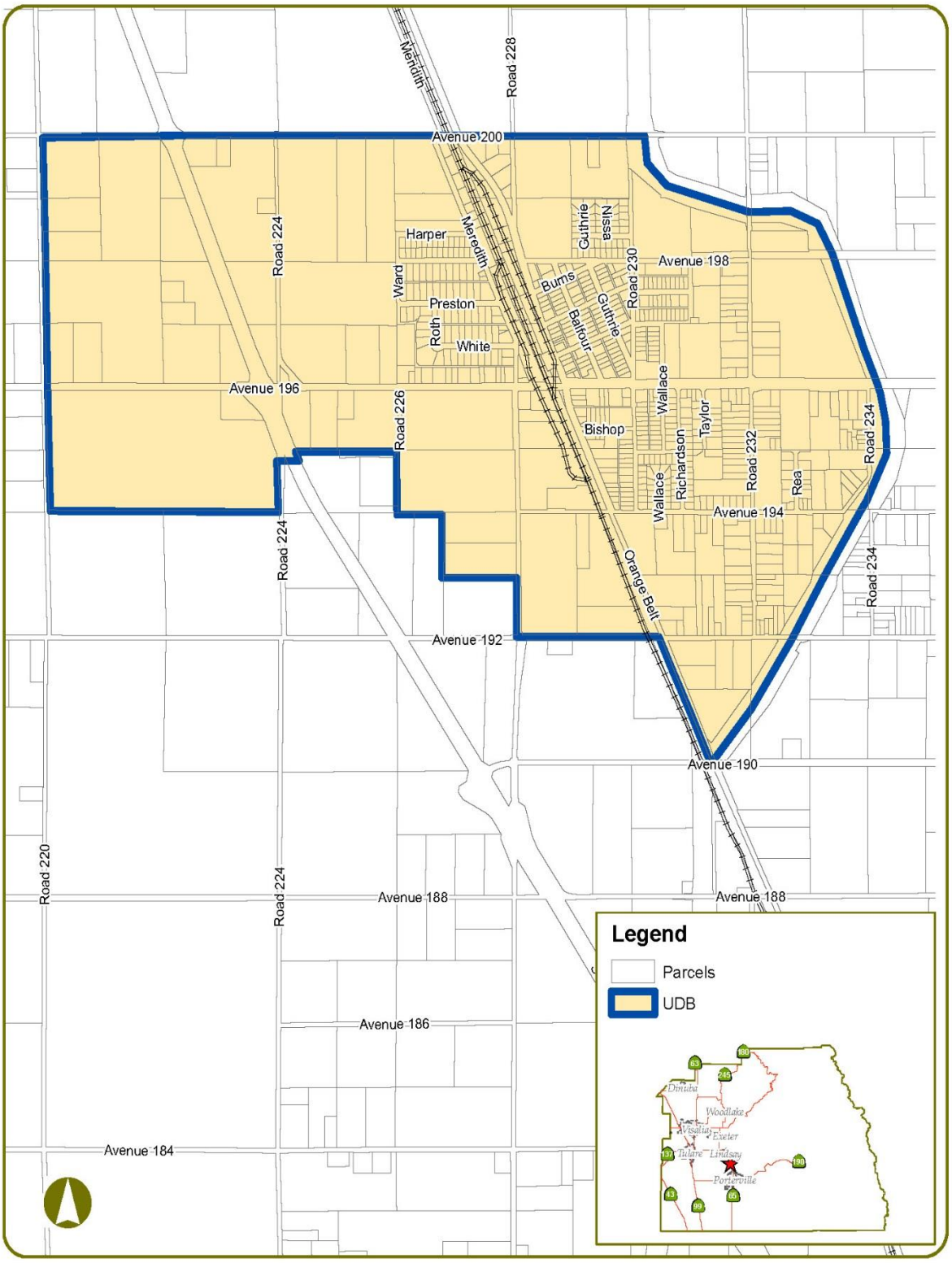
Poplar-Cotton Center Urban Development Boundary | **Figure 2.2-13**



Richgrove Urban Development Boundary | Figure 2.2-14



Springville Urban Development Boundary | Figure 2.2-15



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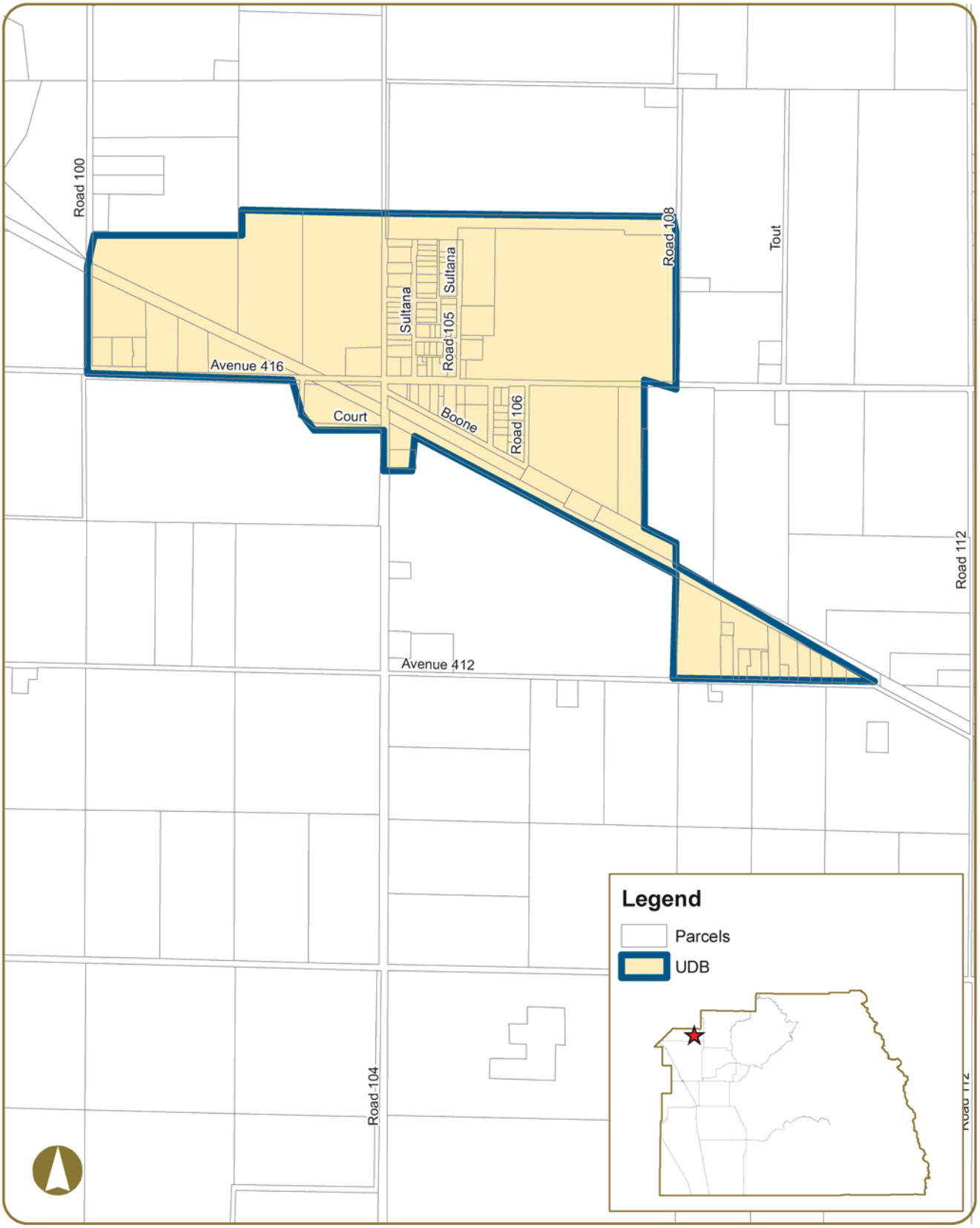
Strathmore Urban Development Boundary | **Figure 2.2-16**

Amended GPA 15-006 BOS Resolution #2015-0419 on 6/16/2015



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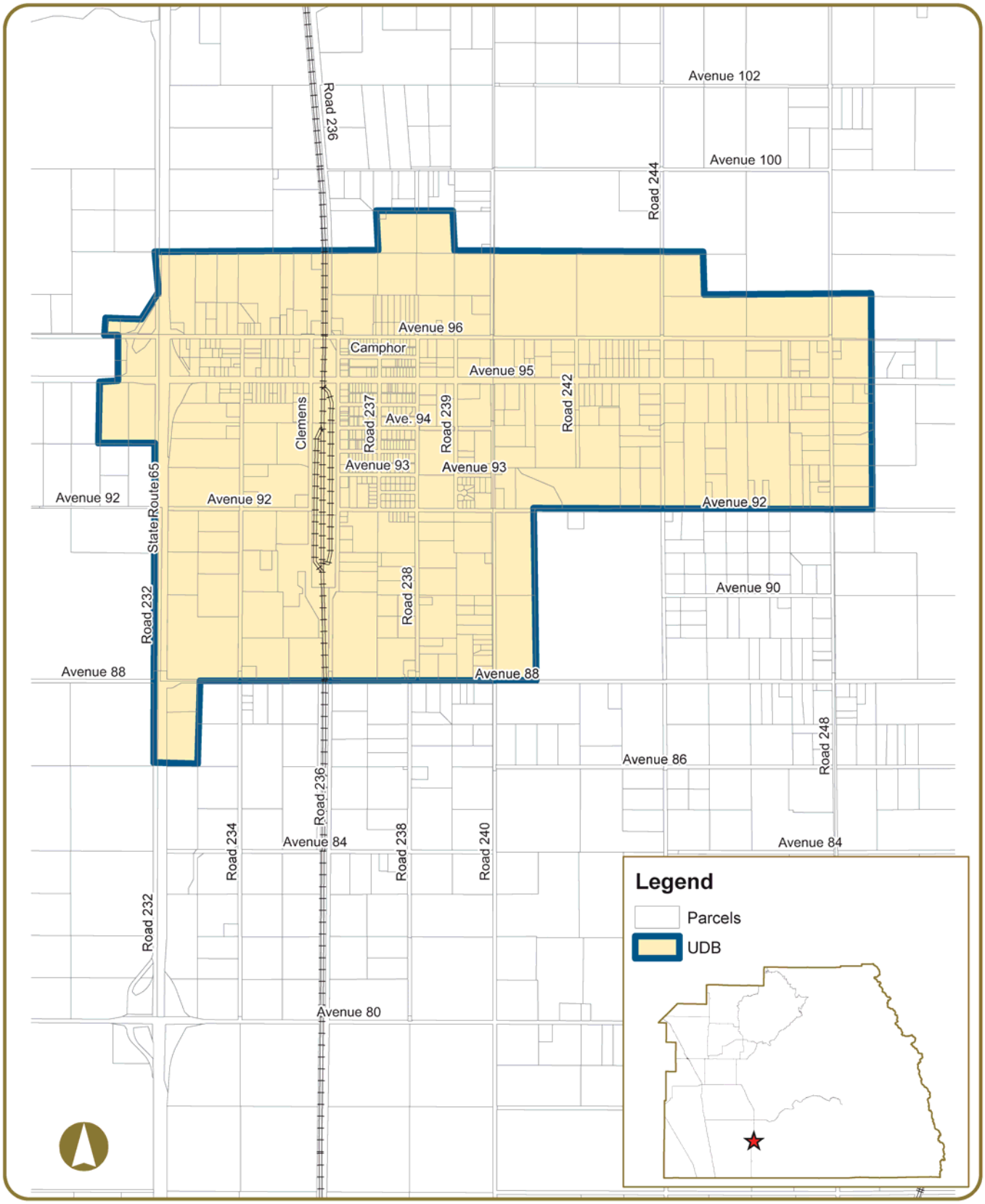
Sultana Urban Development Boundary | **Figure 2.2-17**



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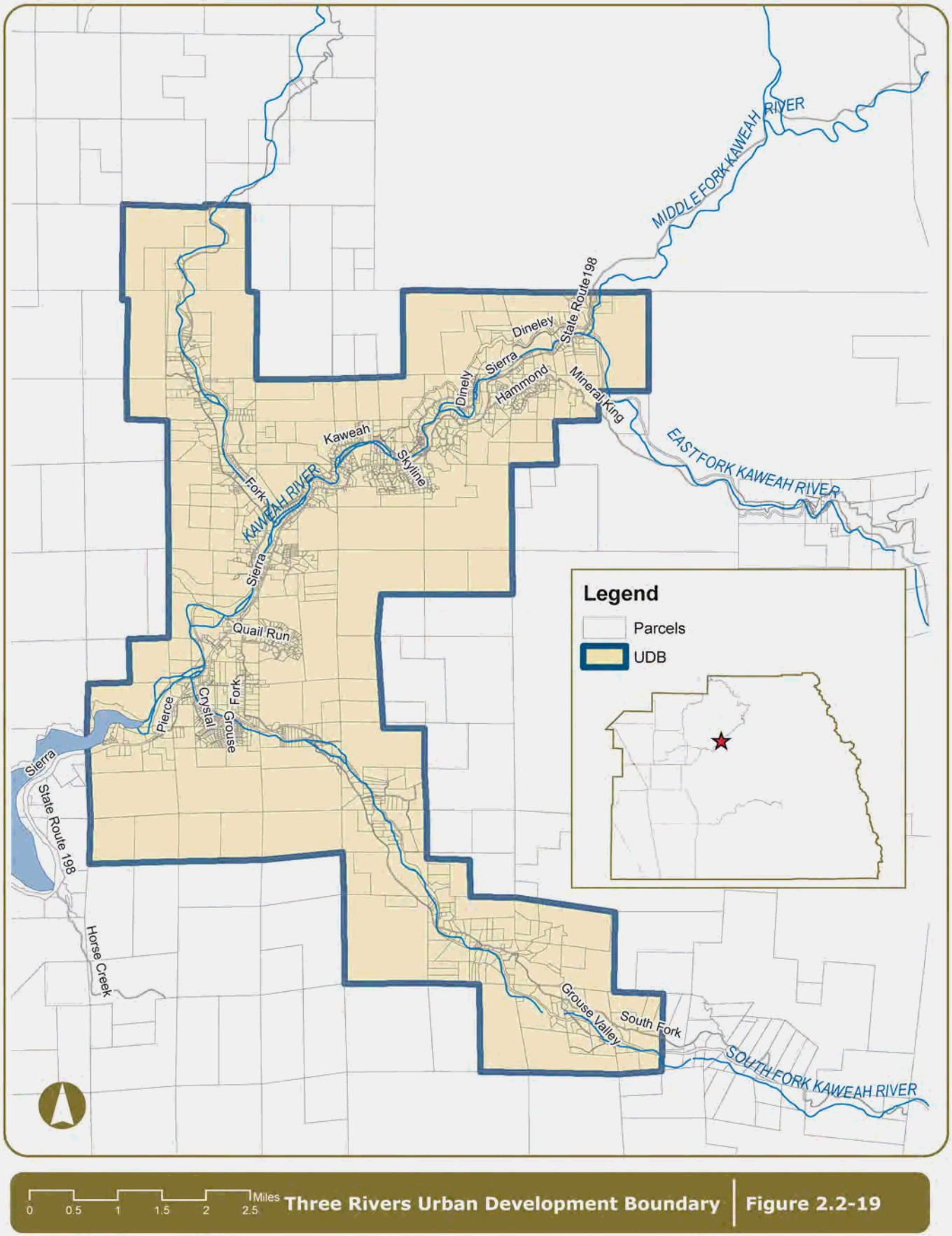
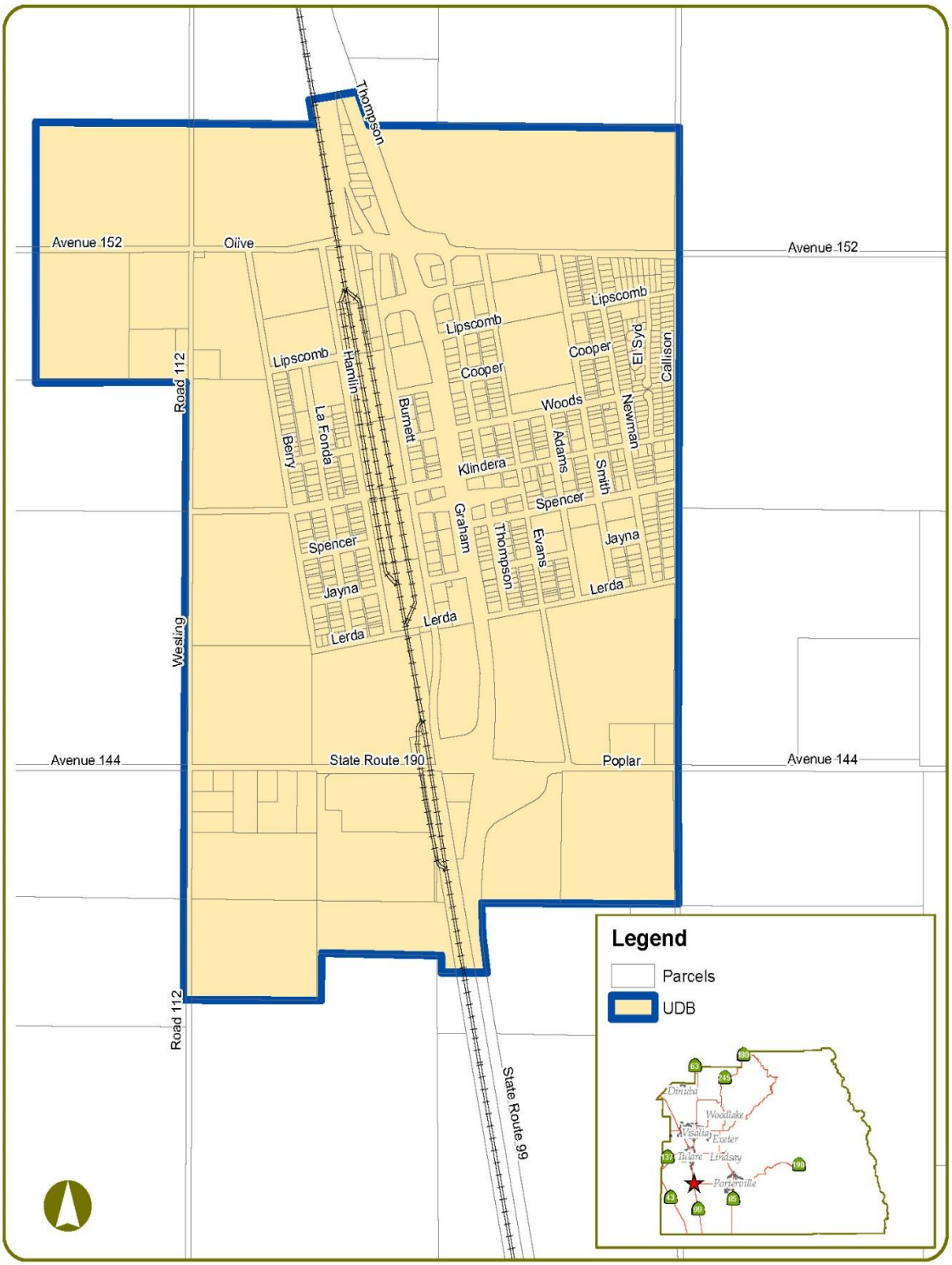
Terra Bella Urban Development Boundary | **Figure 2.2-18**



Three Rivers Urban Development Boundary | Figure 2.2-19



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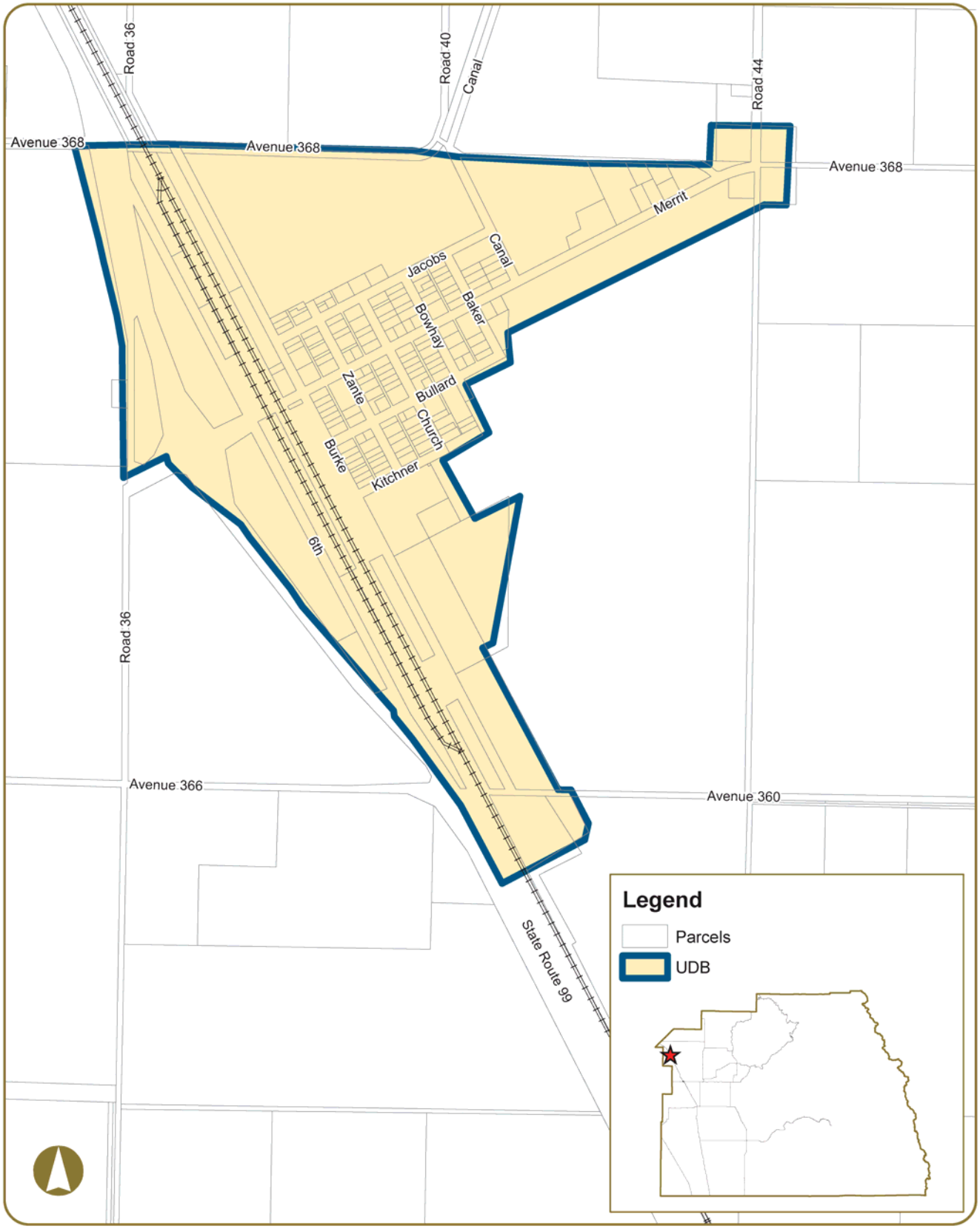
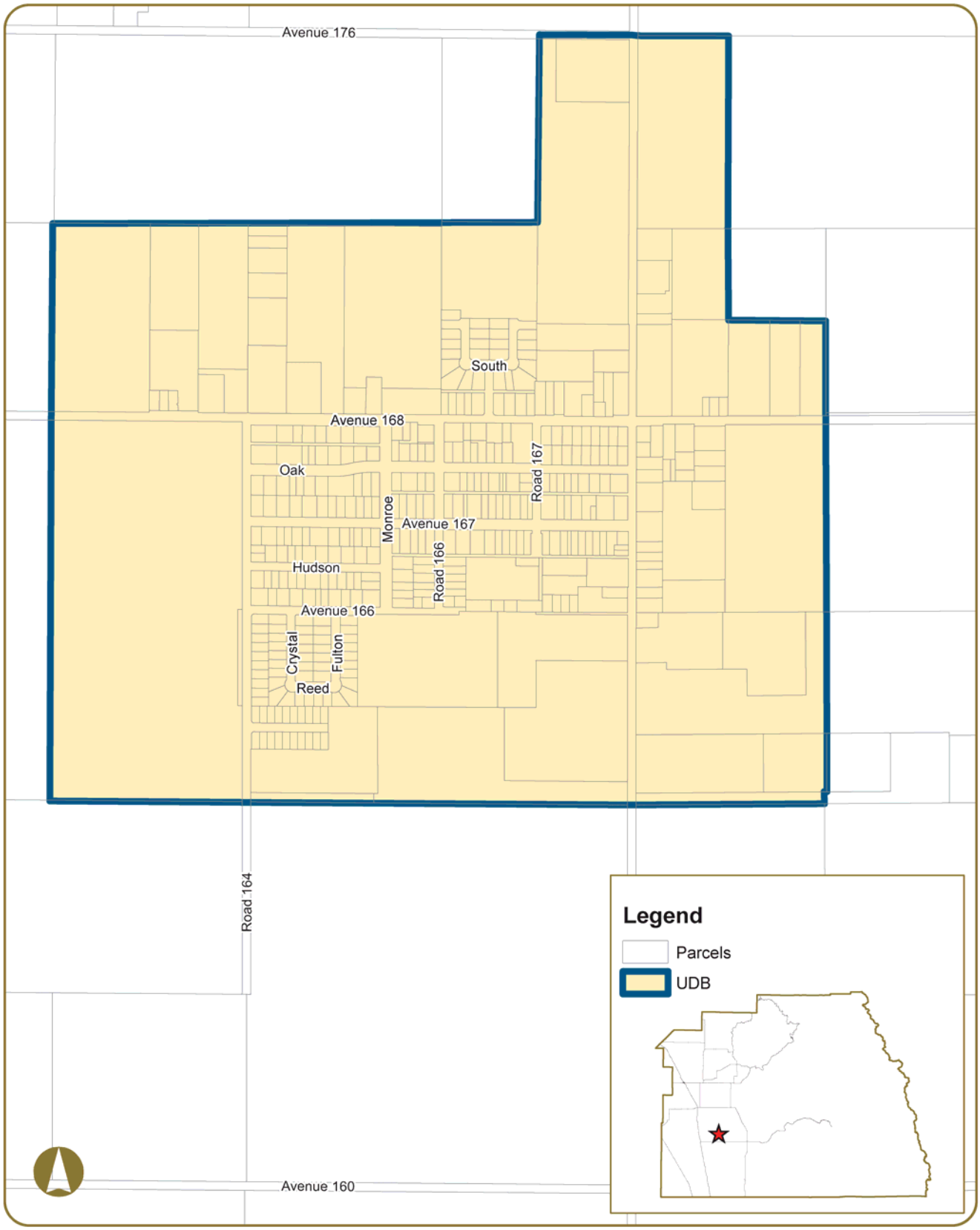
Tipton Urban Development Boundary | **Figure 2.2-20**

Amended GPA 15-007 BOS Resolution #2015-0419 on 6/16/2015



0 500 1,000 1,500 2,000 Feet

Traver Urban Development Boundary | **Figure 2.2-21**



0 500 1,000 1,500 Feet

Woodville Urban Development Boundary | **Figure 2.2-22**

2.3 Hamlets

Figure 2.3-1 shows the locations of all eleven unincorporated Hamlets within Tulare County and Figures 2.3-2 through 2.3-12 show the County's HDBs adopted for each Hamlet:

- Allensworth
- Delft Colony
- East Tulare Villa
- Lindcove
- Monson
- Seville
- Teviston
- Tonyville
- Waukena
- West Goshen
- Yettem

PF-3	To provide a realistic planning area around each unincorporated hamlet to clearly delineate the boundaries of each hamlet, provide a framework for economic development, the provision of public services, and an outstanding quality of life.

PF-3.1 Hamlet Development Boundaries - Hamlets

The County shall limit urban development to the area within the designated HDB for each hamlet. The HDBs for existing hamlets are defined on Figures 2.3-2 thru 2.3-12.

PF-3.2 Modification of HDB - Hamlet

1. The County may consider modification of a HDB under any of the following circumstances:
   a. All HDBs should be reviewed on a five-year cycle to reflect changes in growth and development patterns.
   b. A request for expansion can be applied for as part of a subdivision or specific plan proposal, or at the request of a special district or Hamlet. A request for expansion of the HDB can be applied for as part of a General Plan Amendment to the Land Use Diagram.
   c. An HDB should be considered for expansion at such time as land for infill becomes limited. This condition is considered satisfied when 80 percent of the non-Williamson Act land within the HDB is developed.
   d. HDBs should not be expanded onto Prime Farmland if Farmland of Statewide Importance or of lesser quality is available and suitable for expansion.
2. Prior to approval of a HDB expansion, the County shall ensure that appropriate infrastructure can be provided to serve the new areas added to the HDB and that sufficient water supplies are available. If the expansion pushes the hamlet towards a community classification, an infrastructure master plan for the hamlet should be prepared to plan and finance community water and sewer services, and representation/documentation of availability and sufficiency of long-term water supplies should be provided.
3. Preservation of productive agricultural lands shall be the highest priority when considering modifications. Expansion of a HDB to include additional agricultural land shall only be allowed when other non-agricultural lands are not available to the community for expansion.
4. All changes to a HDB shall require a General Plan amendment.

PF-3.3 Hamlet Plans

The County shall ensure that Hamlet Plans are updated and maintained for each of the identified hamlets. These plans shall include the entire area within the HDB. The plans will provide a Land Use Diagram with a discussion of allowed uses and densities/intensities. A discussion of the hamlet's short and long term ability to provide necessary urban services, including the availability and sufficiency of long-term water supplies will also be provided.

PF-3.4 Mixed Use Opportunities

Unless or until a traditional plan approach is requested by the hamlet and such a plan is adopted, land use designations within the HDB shall be the mixed use land use designations as provided in Chapter 4-Land Use that promotes the integration of a compatible mix of residential types and densities, commercial uses, public facilities and services, and employment opportunities.

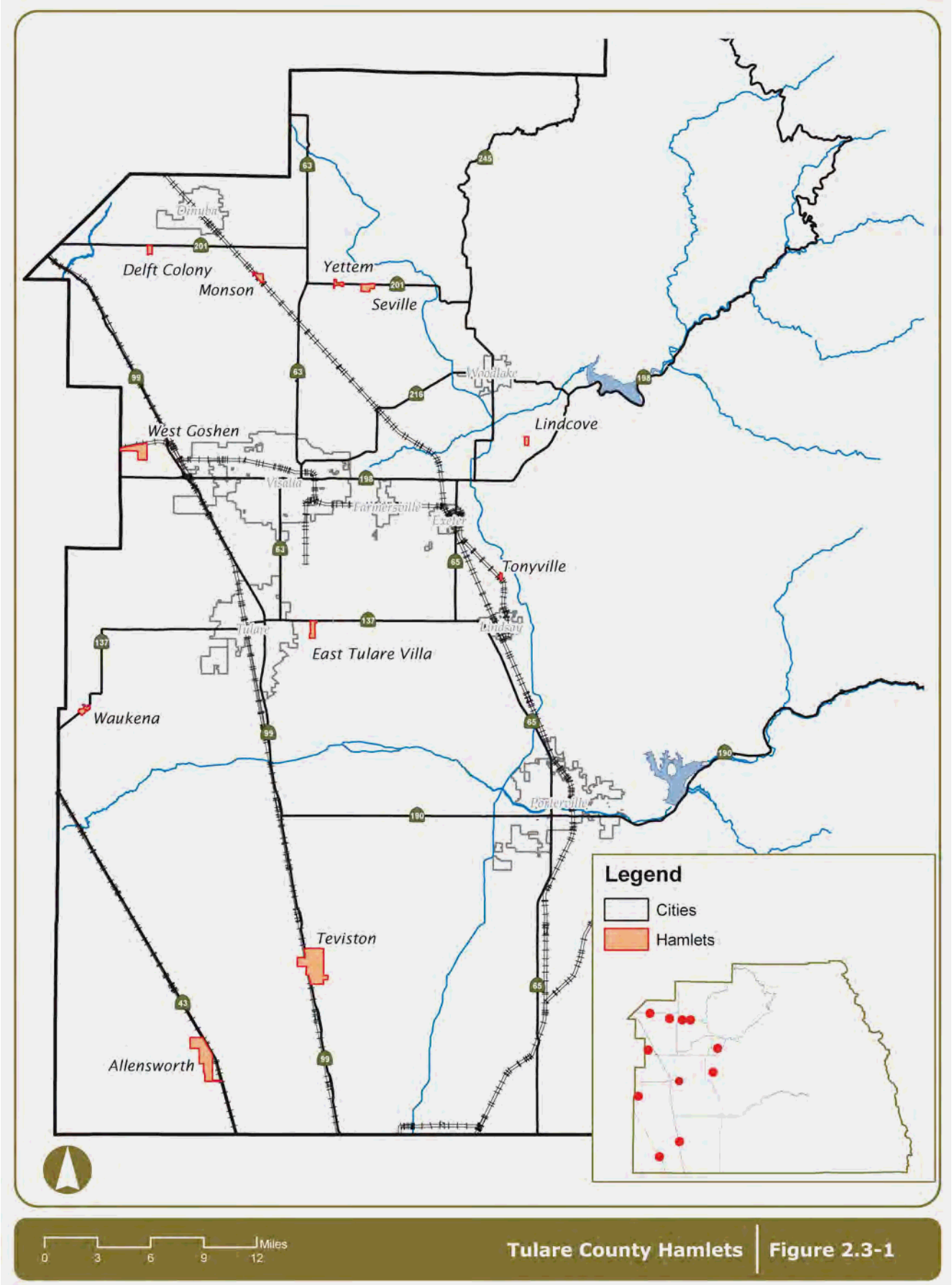
PF-3.5 Improvement Standards in Hamlets

The County shall require development within the designated HDBs to meet context sensitive standards for improvements. Typical improvements could include curbs, gutters, sidewalks, and community sewer and water systems.

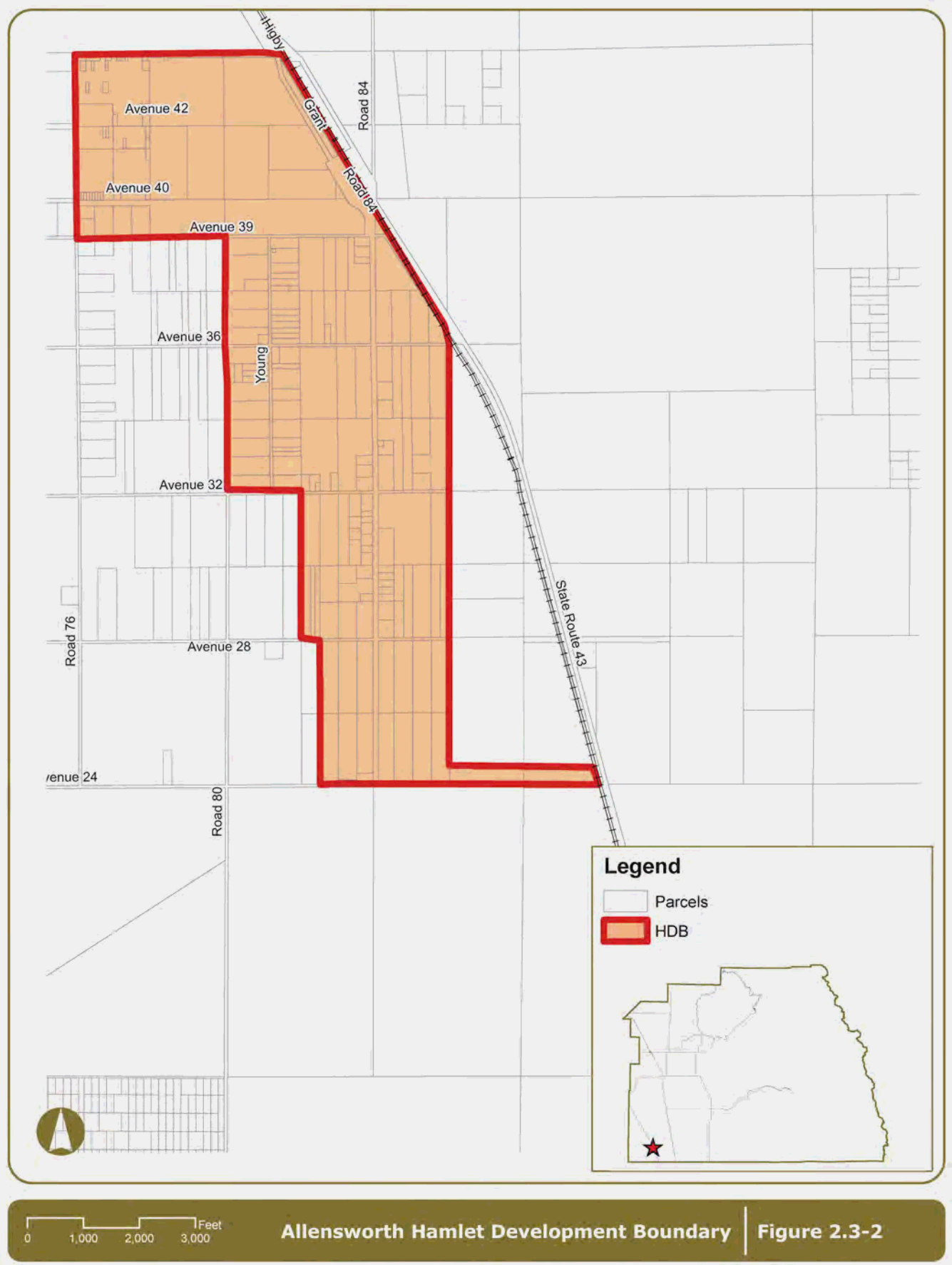
PF-3.6 Becoming a Community

For hamlets meeting the definition of a community, or at the discretion of the Board of Supervisors, a hamlet or other unincorporated place can be designated as a community. Once designated, the new community will be subject to the goals and policies designated for communities, and a Community Plan (consistent with the requirements of PF-2.4: Community Plans) be completed.

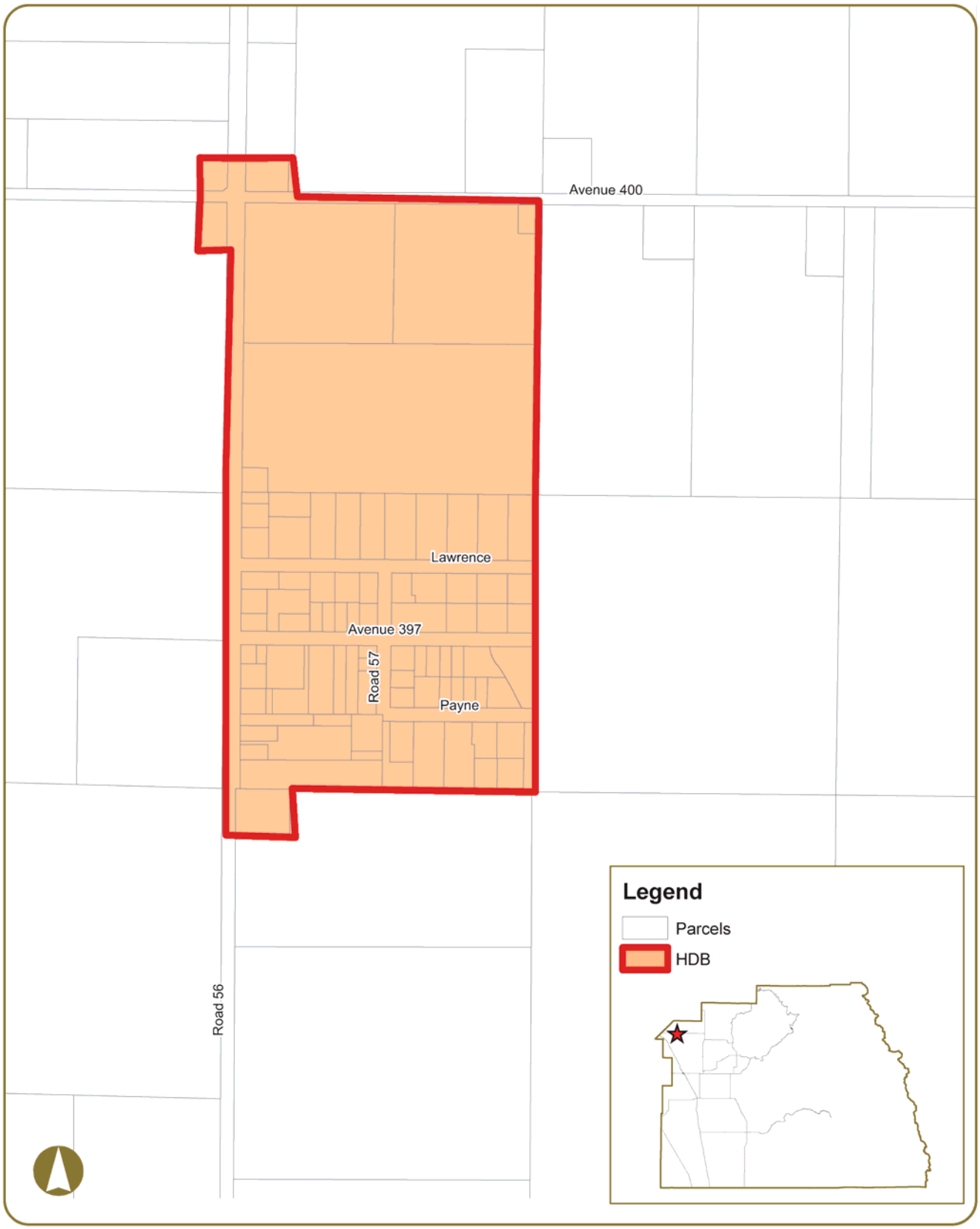
Text continues on Page 2-49.



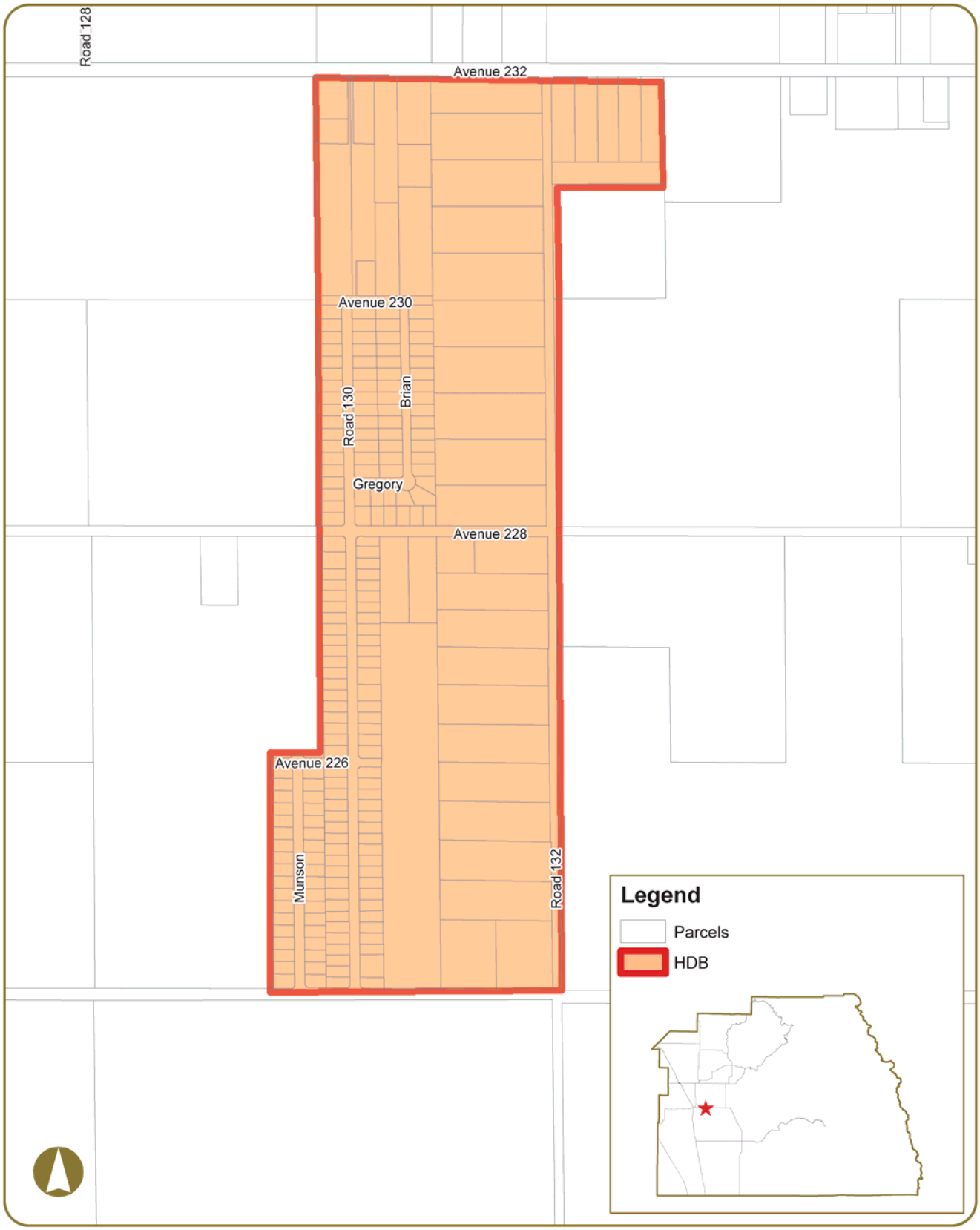
Tulare County Hamlets | Figure 2.3-1



Allensworth Hamlet Development Boundary | Figure 2.3-2

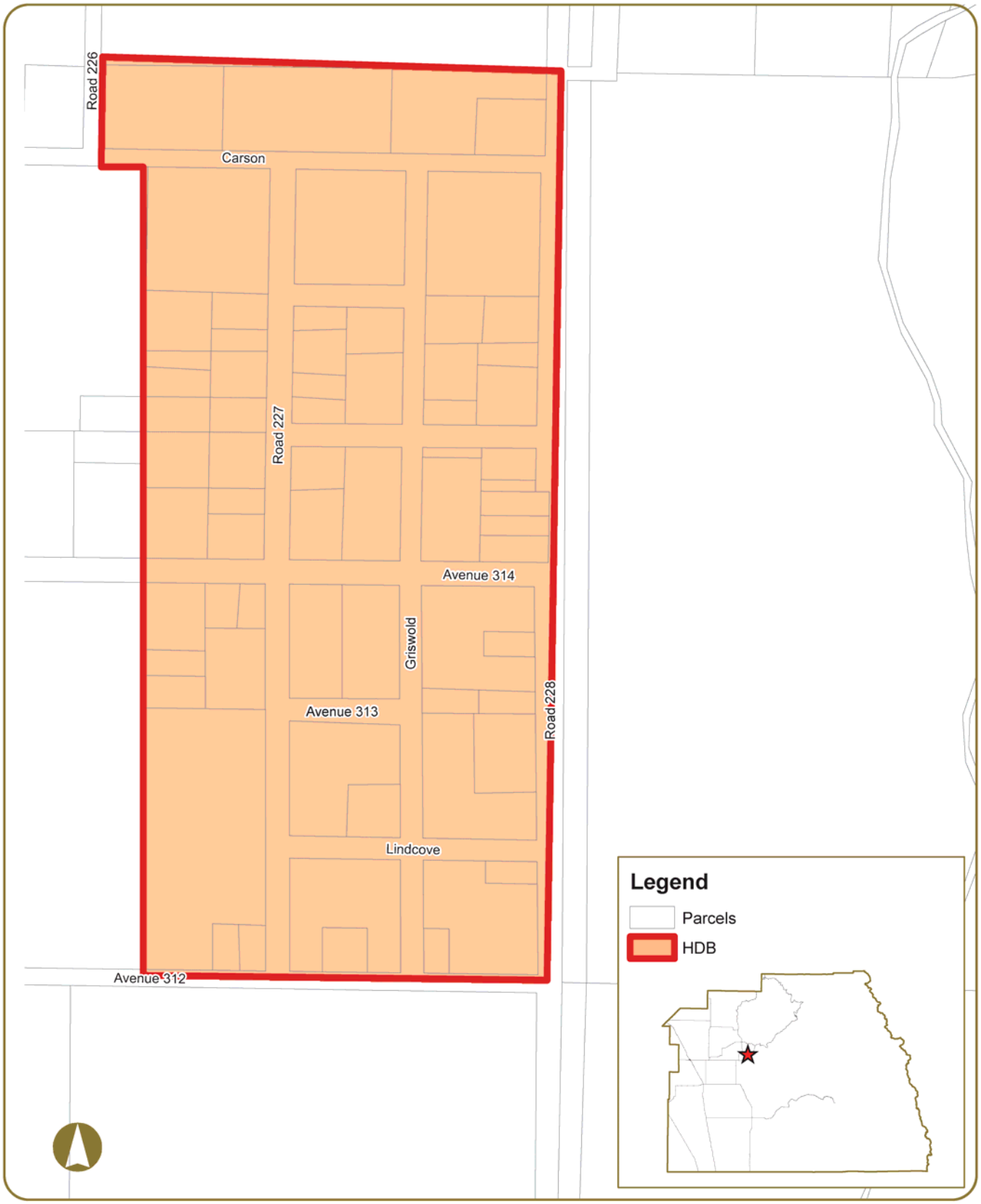


0 250 500 750 1,000 Feet **Delft Colony Hamlet Development Boundary** | **Figure 2.3-3**



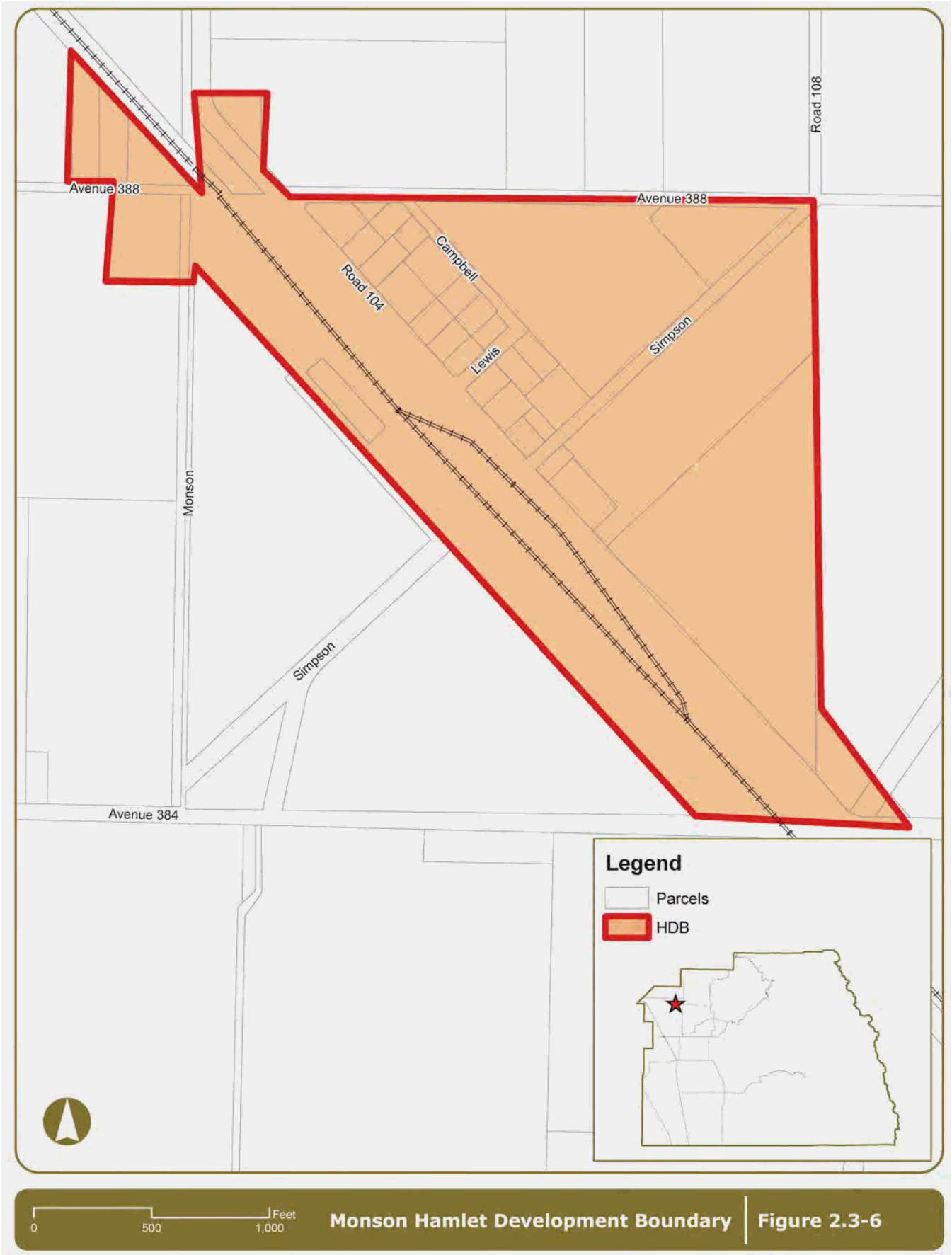
0 500 1,000 Feet

E. Tulare Villa Hamlet Development Boundary | **Figure 2.3-4**

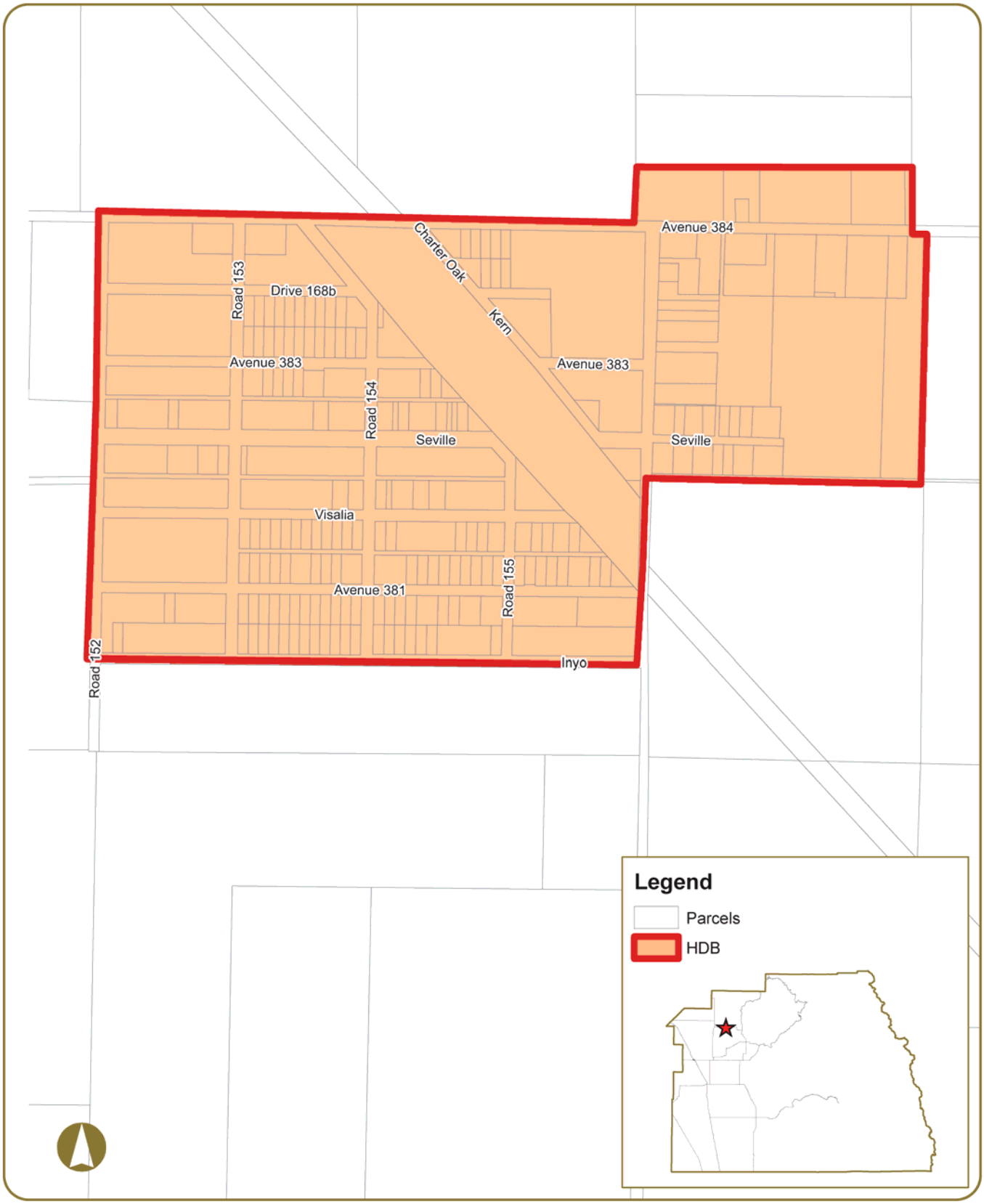


0 250 500 Feet

Lindcove Hamlet Development Boundary | **Figure 2.3-5**

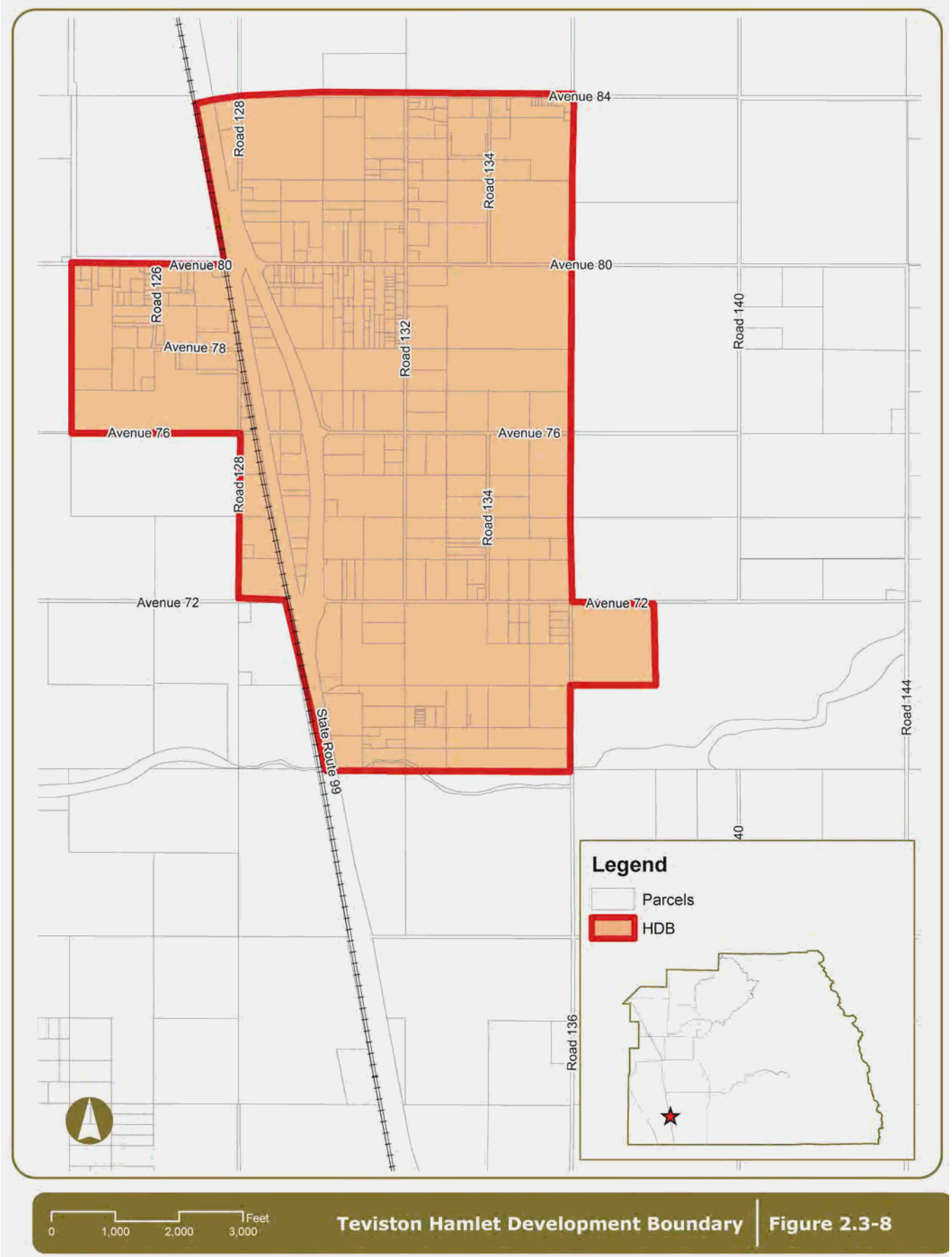


Monson Hamlet Development Boundary | Figure 2.3-6



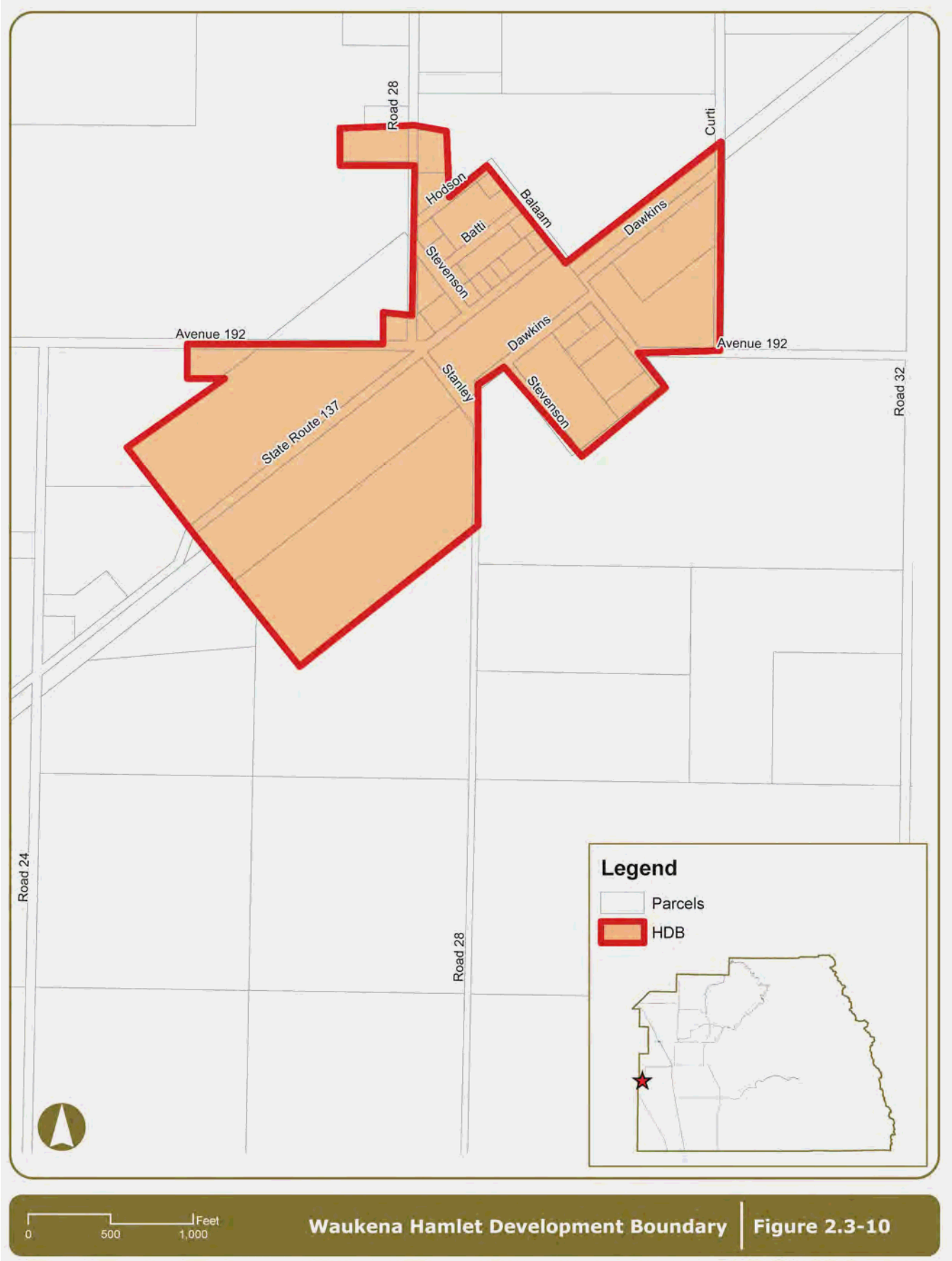
0 500 1,000 Feet

Seville Hamlet Development Boundary | **Figure 2.3-7**

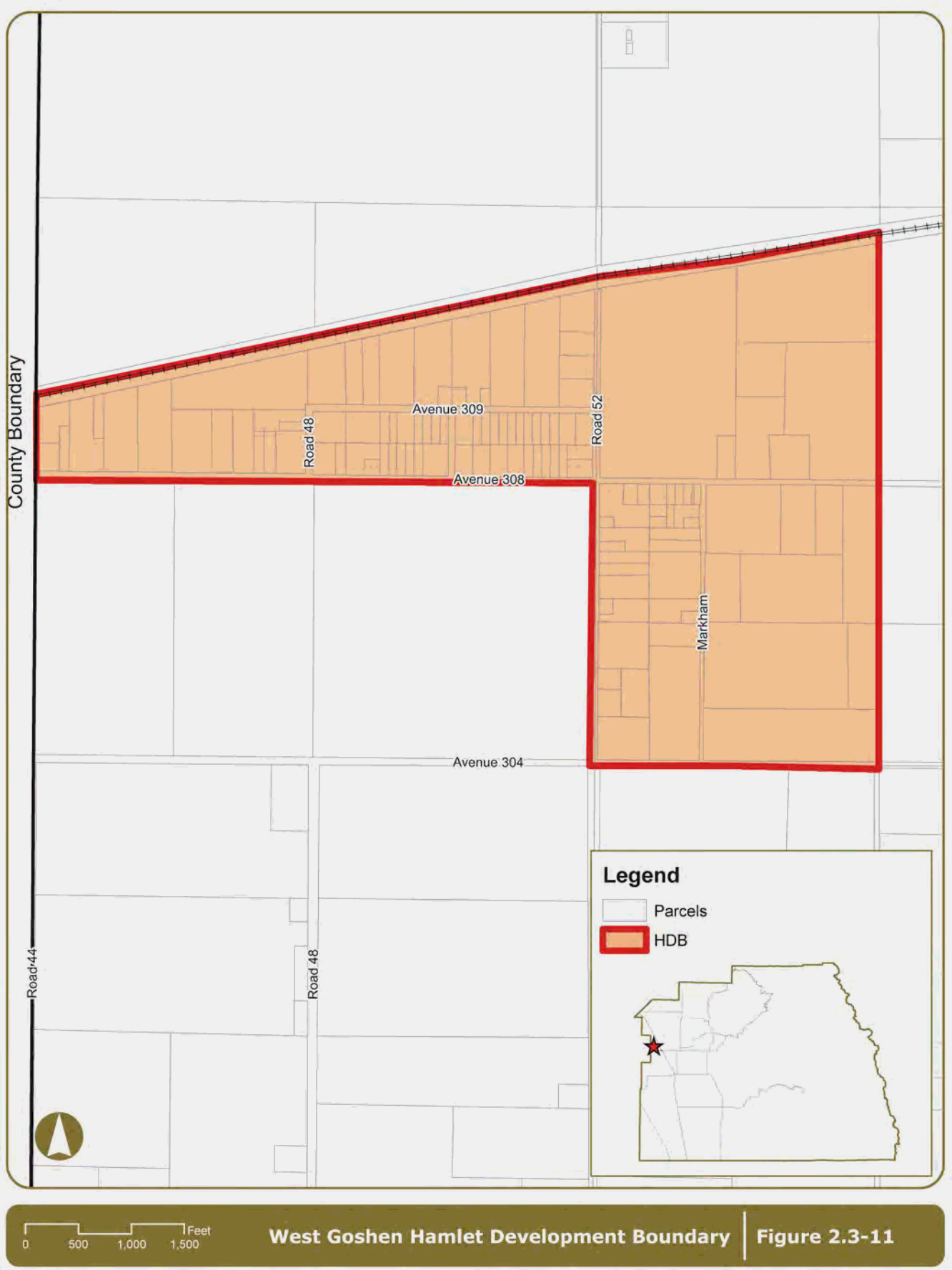


Teviston Hamlet Development Boundary | Figure 2.3-8

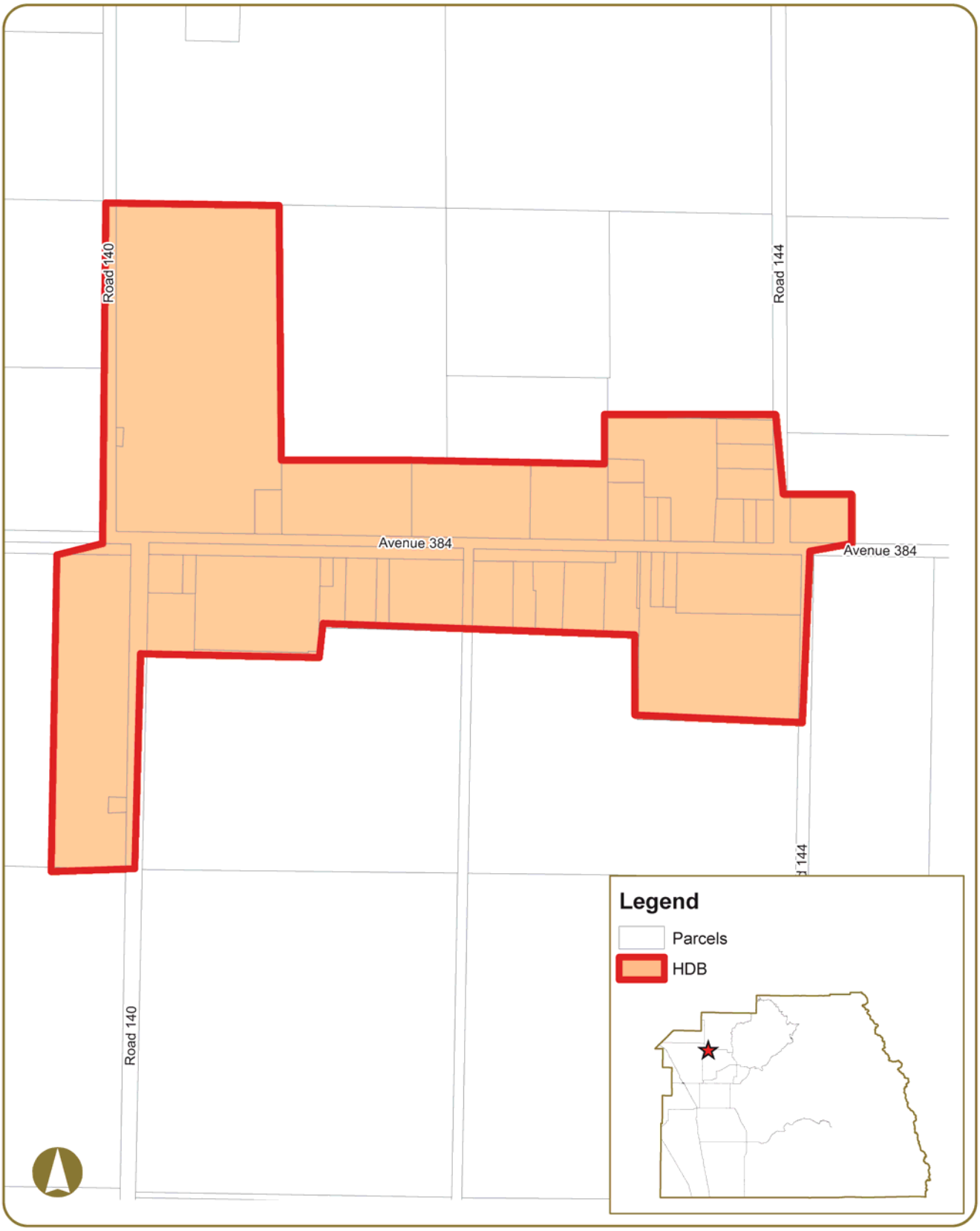
Tonyville Hamlet Development Boundary | **Figure 2.3-9**



Waukena Hamlet Development Boundary | Figure 2.3-10



West Goshen Hamlet Development Boundary | Figure 2.3-11



Yettem Hamlet Development Boundary | **Figure 2.3-12**

2.4 Cities

Figure 2.4-1 shows the locations of all eight incorporated cities within Tulare County and Figures 2.4-2 through 2.4-9 show the County Adopted City Urban Development Boundaries (CACUDBs) and County Adopted City Urban Area Boundaries (CACUABs) for each city:

- Dinuba
- Exeter
- Farmersville
- Lindsay
- Porterville
- Tulare
- Visalia
- Woodlake

In addition, two cities outside of the County share a common border with the County and there has been urban development in adjacent County unincorporated areas. These two cities are Delano and Kingsburg. The County has established UDBs for these cities/areas as shown in Figures 2.4-10 and 2.4-11.

The following goal and policies are designed to foster a cooperative planning environment between the County and each city with respect to development within the fringe areas of the cities.

PF-4	To direct urban development within UDBs of existing incorporated cities and ensure that all development in unincorporated areas adjacent to incorporated cities is well planned and adequately served by necessary infrastructure and other public facilities and furthers countywide economic development goals.

PF-4.1 CACUABs for Cities

The County shall establish CACUABs which define the area where land uses are presumed to have an impact upon the adjacent incorporated city, and within which the cities' concerns may be given consideration as part of the land use review process. The lands within the UAB are considered to be the next logical area in which urban development may occur and the area within which UDBs may ultimately be expanded.

Although it is the policy of the County that this area will at some time become appropriate for urban development, generally no public purpose is served by permitting intensive development therein. As communities grow and expand, it is logical to assume the UDBs may be correspondingly expanded or established until they coincide with the ultimate UAB. The land lying between the Urban Development Boundary and the Urban Area Boundary will generally have an agricultural land use designation or rural residential land use designation in conformity with Land Use Policy LU 3.8: Rural Residential Interface.

PF-4.2 CACUDBs for Cities – Twenty Year Planning Area

The County shall establish CACUDBs which define the anticipated twenty-year planning areas around incorporated cities in which the County and cities may coordinate plans, policies, and standards relating to building construction, subdivision development, land use and zoning regulations, street and highway construction, public utility systems, environmental studies, water supply availability and sufficiency, and other closely related matters affecting the orderly development of areas adjacent to incorporated cities. It is recognized that these boundaries provide an official definition of the interface between future urban and agricultural land uses.

Within this boundary, the County may also establish planning areas representative of shorter time periods in order to assist in more precise implementation of plans and policies.

PF-4.3 Modification of CACUABs and CACUDBs
The County may consider modification of CACUABs and CACUDBs at such time as the land use plan for a city is revised to reflect changing needs and circumstances over an extended time frame. Preservation of productive agricultural lands and operations shall be one consideration when considering such modifications. Cities may examine existing CACUAB and CACUDB lines and recommend changes to the Board of Supervisors, as appropriate.

PF-4.4 Planning in CACUDBs
The County acknowledges that the cities have an interest in planning for growth within a CACUDBs and will in the future become ultimately responsible for urban development and the provision of urban services within those areas upon annexation.

PF-4.5 Spheres of Influence
CACUDBs and the SOI as administered by LAFCo may be consistent insofar as it is feasible and appropriate to do so.

PF-4.6 Orderly Expansion of City Boundaries
When the County is considering outward expansion of CACUDBs, the following criteria shall be encouraged:

1. The city has demonstrated a need for additional territory after documenting a good faith effort to implement programs for infill development and/or increased efficiency of development and minimize conversion of agricultural lands.
2. UDBs should not be expanded onto Prime Farmland if Farmland of Statewide Importance or of lesser quality is available and suitable for expansion.
3. Emphasis shall be placed upon reasonable expectations for the provision of urban services within the next twenty years as reflected in LAFCo's Municipal Service Reviews when determining the location of UDBs.

PF-4.7 Avoiding Isolating Unincorporated Areas
The County may oppose any annexation proposal that creates an island, peninsula, corridor, or irregular boundary. The County will also encourage the inclusion of unincorporated islands or peninsulas adjacent to proposed annexations.

PF-4.8 Updating Land Use Diagram in CACUDBs
Following city adoption of a General Plan update or amendment that reflects the area within a CACUDB, the County shall update Part III (Community Plans, Kings River Plan, Mountain Sub-Area Plans, and CAC General Plans), if applicable, to reflect the city's modified plan. Any unresolved conflicts between the County and city plans shall be identified for the Board of Supervisors. The County shall establish and maintain land use controls on unincorporated lands within the UDB consistent with the policies of the County General Plan.

PF-4.9 Transition to Agricultural Use
The County shall encourage cities to adopt land use policies that minimize potential conflicts with agricultural operations and other agricultural activities at the urban edge through the provision of appropriate buffers or other measures.

PF-4.10 Urban Improvement Areas for Cities
All Urban Improvement Areas established in the 1974 Urban Boundaries Element for cities and adjacent cities in adjacent counties, are hereby converted to Urban Development Boundaries.

PF-4.11 Coordination with Cities in Adjacent Counties
The policies set forth in this Section (PF-4: Cities) shall also apply to planning and development within the UDBs of adjacent cities in adjacent counties (Corcoran, Delano, Kingsburg, Orange Cove, and Reedley), except Policy PF-4.4: Planning in UDBs.

PF-4A	To provide the means to further manage urban development within CACUDBs and CACUABs of existing incorporated cities while ensuring that the limitation on development is in the best interests of the County and its residents in both the incorporated and unincorporated areas and enhances the County's ability to provide adequate County facilities and countywide social, health, safety and welfare services impacted by development in the cities and County.

The following policies will become applicable upon mutually adopted agreement between the County and each city regarding the collection of public facilities impact fees in accordance with policies PF-4.16 and PF-4.27.

PF-4.12 General Plan Designations Within City UDBs
On land that is within a CACUDB, but outside a city's incorporated limits, the County may maintain General Plan land use designations that are compatible with the city's adopted General Plan.

PF-4.13 City Design Standards
Where the Board of Supervisors finds that it is consistent with General Plan objectives to approve development within the UDBs of incorporated cities, the County may require the project to substantiate sufficient water supply and meet the County adopted city development standards of the city in question.

PF-4.14 Compatible Project Design
The County may ensure proposed development within CACUABs is compatible with future sewer and water systems, and circulation networks as shown in city plans.

PF-4.15 Coordination with Cities on Development Proposals
The County shall ensure that urban development only take place in CACUDBs if one of the following has occurred:

1. The adjacent city does not consent to annex the property for development purposes (as evidenced through pre-zoning, development agreements, etc.); it shall be conclusively presumed that a city has not consented if it has not submitted an annexation proposal to LAFCo within six months from the date a request to annex is submitted to the city; or
2. Annexation is not possible under the provisions of State law, but it is determined by the County that development of the site does not constitute incompatible development.

PF-4.16 Revenue Sharing
As an incentive for directing urban growth into cities when applications are proposed within the CACUDBs, the County shall promote revenue sharing as an element of negotiation whenever:

1. A city updates its General Plan and requests the County to update its CAC General Plan.
2. When establishment or amendment to Spheres of Influence are proposed.

3. Annexations are proposed by cities, or joint development or redevelopment projects are proposed by any city and the County.

As an additional incentive for directing urban growth into cities, any city proposing changes to a CAC General Plan or other County land use regulations shall pay to the County its cost in considering and implementing such proposal.

PF-4.17 Cooperation with Individual Cities

The County may use the policies set forth under this goal (PF-4A: Cities: Continued) to work with individual cities to further manage development within that CACUDB or CACUAB to the extent that the financial needs of the County are met and the County's ability to provide facilities and County services used by all of the residents in the County and cities is enhanced. The County and Cities will establish a working committee to facilitate the policies identified in this section 4A.

PF-4.18 Future Land Use Entitlements in a CACUDB

The County may work with an individual city to limit any General Plan amendments to change the land use designations of any parcel or any amendments to the County zoning ordinance to add uses to a current zoning classification or change the zoning district designation of any parcel within a CACUDB except as follows:

1. This policy will not apply to amendments or changes to a County unincorporated UDB, Hamlet Development Boundary (HDB), including where the boundary line may increase an outward expansion of the overlap area with a CACUDB area that is not coterminous to the city's Urban Development Boundary/Sphere of Influence (UDB or SOI), or to any General Plan amendment adopting a new County unincorporated UDB, an HDB, or Planned Community, County Corridor development nodes will not be located inside a city's UDB or SOI unless mutually agreed by the City and County.
2. This policy will not apply where the General Plan land use designation or the zoning district classification of a particular parcel is inconsistent with an existing special use permit, or legal non-conforming use.
3. As determined by the RVLP checklist, the County shall encourage beneficial reuse of existing or vacant agricultural support facilities for new businesses (including non-agricultural uses), and for which the city cannot or will not annex as per PF-4.24.
4. This policy will not apply where the effect of the amendments to the General Plan land use designation or of the rezoning is to designate or zone the parcel to an agricultural designation or zone except where the effect of the amendment creates a less intensive agricultural designation or zone.
5. This policy will not apply where amendments to the General Plan land use designations or the zoning classifications apply only to that portion of a CACUDB that is overlapped (where exterior UDB's are coterminous) by a County unincorporated UDB, Hamlet Development Boundary (HDB), or Corridor Plan area.
6. This policy will not apply where amendment to the General Plan land use designation or the zoning classification is required to bring the County regulations into compliance with more restrictive State or Federal statutes or regulations.
7. This policy will not apply where amendments to the Zoning Ordinance are part of a comprehensive modernization or restructuring of the processes or procedures set out in the Zoning Ordinance or part of a comprehensive update to the text of the zoning classifications to bring the Zoning Ordinance procedures and text into consistency with the General Plan update. [This comprehensive modernization, restructuring or update

would not include any rezonings outside that allowed in this policy. However, revision of processes and procedures and simplification of existing ordinances may occur.]

8. This policy would not apply to a comprehensive update of a CAC General Plan, including rezoning there under, in cooperation with the affected city.
9. This policy would not apply where the County has worked with the city to identify and structure a mutually acceptable alternative General Plan land use designation or zoning classification.

PF-4.19 Future Land Use Entitlements in a CACUAB

As an exception to the County policies that the Rural Valley Lands Plan (RVLP) does not apply within CACUDBs and is only advisory within CACUABs, the County may work with an individual city to provide that no General Plan amendments or rezonings will be considered to change the current land use designation or zoning classification of any parcel within a CACUAB unless appropriate under the requirements of the Rural Valley Lands Plan (RVLP) or similar checklist or unless the County has worked with the city to identify and structure an acceptable alternative General Plan land use designation or zoning classification. This policy will not apply to amendments or changes to a County unincorporated UDB, Hamlet Development Boundary (HDB), or Corridor Plan area boundary line, including where the boundary line may increase an overlap area with a CACUDB area, or to any General Plan amendment adopting a new UDB, an HDB, or Corridor Plan area that may fall within a CACUDB area. This policy shall not apply within a County unincorporated UDB, an HDB, or Corridor Plan area where that area overlaps a CACUAB area. Development of County corridor development nodes in an affected city's UAB would only occur after the County has provided written consultation and has allowed for a reasonable timed response from the affected city prior to decision making and before the adoption of the Corridor Plan. New development in a city's UAB would be subject to adopted plan lines and setback standards. Adopted facility plans and legally adopted General Plans will be considered during the development review process. Small "stand alone," non urban projects which are defined as residential projects of four or fewer lots or non-residential projects smaller than two acres do not need city standards but shall respect city utility and street master plans for setbacks. Large urban-style projects include residential projects of five or more lots averaging less than one acre per lot and non-residential projects two acres or larger will use uniform urban development standards, financing mechanisms, consent to annexation, application of reciprocal development impact fees and city streets/utility setbacks/disclosure requirements unless the County and the city have identified and structured acceptable alternatives that will reasonably ensure that these projects should conform to city development standards upon future annexation.

PF-4.20 Application of the RVLP Checklist to Control Development in a CACUDB

As an exception to the County policies that the Rural Valley Lands Plan does not apply within CACUDBs, the County may work with an individual city to provide that the requirements of the RVLP or similar checklist will apply to applications for special use permits (including special use permits for the expansion of a non-conforming use), variances considered under Government Code § 65906, or to the extent allowed by law, divisions of land within a CACUDB except in those areas that overlap with a County unincorporated UDB, an HDB, or Corridor Plan area. Such a special use permit, variance, or division of land will be reviewed in light of impacts on such regional concerns as water and sewage disposal availability and preservation of transportation and utility corridors as well as compliance with any County adopted urban or city development standards and with the city's General Plan policies as reflected in the CAC General Plan.

PF-4.21 Application of the RVLP Checklist to Control Development in a CACUAB
As an exception to the County policies that the Rural Valley Lands Plan is only advisory within CACUABs, the County may work with an individual city to provide that the requirements of the RVLP will apply to applications for special use permits (including special use permits for the expansion of a non-conforming use), variances considered under Government Code § 65906, or to the extent allowed by law, divisions of land within a CACUAB except in those areas that overlap with a County unincorporated UDB, an HDB, or Corridor Plan area. Such a special use permit, variance, or division of land will be reviewed in light of impacts on such regional concerns as water and sewage disposal availability and preservation of transportation and utility corridors.

Also see Part II-Policy RVLP-1.4: Determination of Agriculture Land and Section 1.3: Rural Valley Lands Plan Criteria and Evaluation Matrix.

PF-4.22 Reuse of Abandoned Improvements in a CACUDB
In accordance with other policies in this General Plan, the County may work with a city to provide that any alternative land uses within a CACUDB not otherwise allowed under a particular zoning classification but which are allowed by County policies due to the existence of abandoned structures or improvements with no other available, viable economic uses on the parcel will be reviewed in light of impacts on such regional concerns as water and sewage disposal availability and preservation of transportation and utility corridors. For agricultural related uses, reoccupation and/or expansion is limited not to exceed 20% of the site and/or building square footage subject to special use permit with city consultation. Conversion to non-agricultural uses requiring a zone change is limited not to exceed 20% of the site and/or building square footage or as mutually agreed upon by the city and County. Any expansions are subject to a special use permit.

PF-4.23 Reuse of Abandoned Improvements in a CACUAB
In accordance with other policies in this General Plan, the County may work with a city to provide that any alternative uses within a CACUAB not otherwise allowed under a particular zoning classification but which are allowed by County policies due to the existence of abandoned structures or improvements with no other available, viable economic uses on the parcel will be reviewed in light of impacts on such regional concerns as water and sewage disposal availability and preservation of transportation and utility corridors expansion or re-occupation will require irrevocable consents to annex, and accommodation for setbacks and other standards for future streets and utilities. The RVLP will be used to determine if non-agricultural use is appropriate.

PF-4.24 Annexations to a City within the CACUDB
In addition to the County's current policies on development within a CACUDB, the County may work with a city to provide that urban development projects within a city's Sphere of Influence (SOI) as set by the Tulare County Local Agency Formation Commission will be referred to the affected city for consideration of annexation in accordance with, but not limited to, the following concepts:

1. Urban development projects, to which the referral policy applies, would be those projects for which a discretionary permit is required. Any urban development project not subject to special use permit requirements would still comply with County adopted city development standards, CAC General Plans and zoning and any County adopted city long-range infrastructure plan.
2. The referral would, at least, be subject to the requirement that the city inform the County within three (3) months that it is or is not able and willing to commence annexation

proceedings to accommodate the project; or the city is willing and able to commence annexation proceedings, the County would not take action to approve the project unless the applicant has submitted a completed application for annexation and city fails to take action on such application within six months;

3. If the affected city is not willing or able to commence annexation proceedings, approval by the County of the project would be conditioned on conformance with County adopted city development standards, County Adopted City General Plans and zoning and any County adopted city long-range infrastructure plan adopted.
4. The County may, as part of this policy, require a consent to future annexation be recorded concurrent with approval of the project special use permit for development within the County.

PF-4.25 Sphere of Influence Criteria

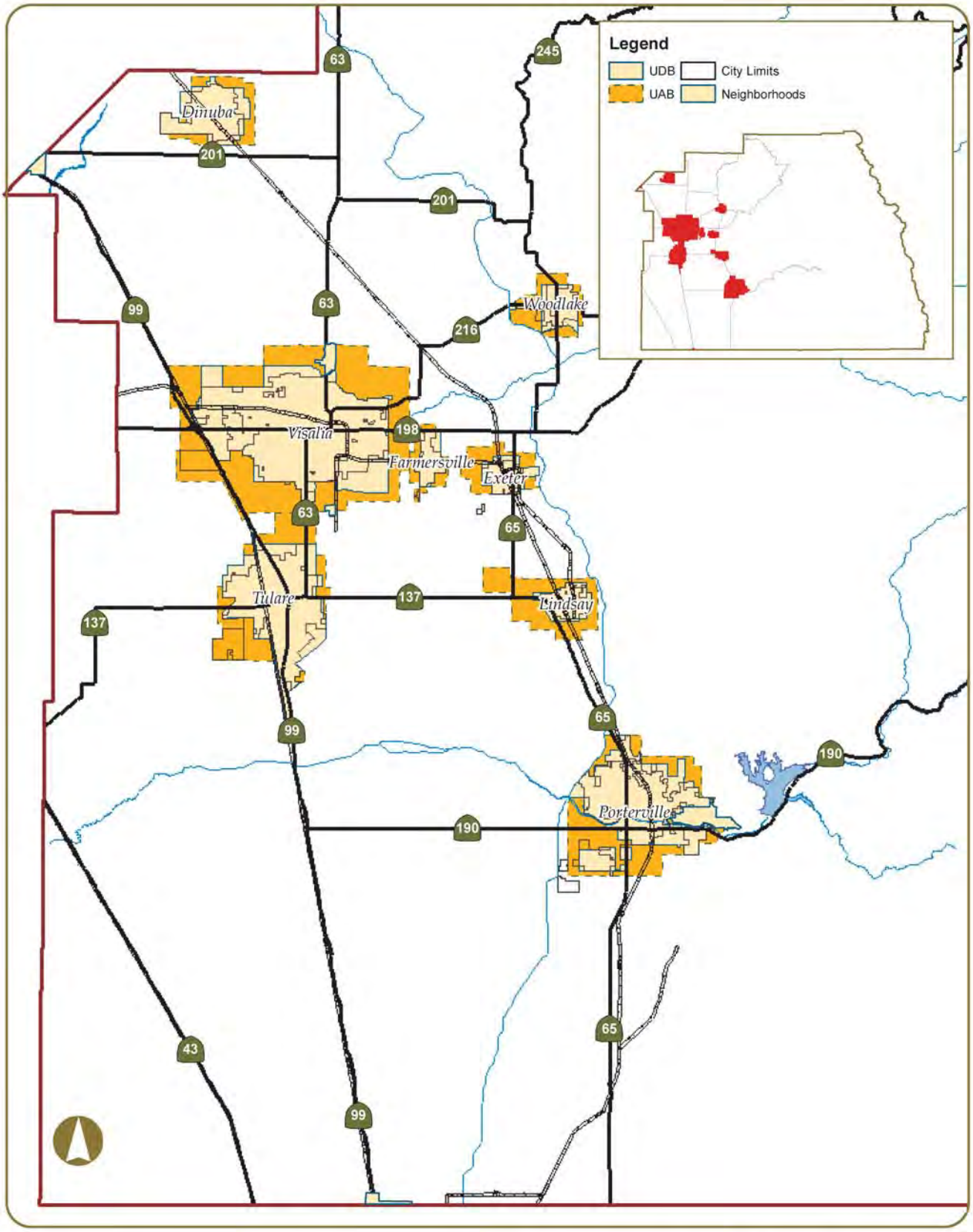
In addition to the County current policies on annexations and city growth lines, the County may work with one or more cities to propose criteria to the Tulare County Local Agency Formation Commission (LAFCo) for use in the adoption of city Sphere of Influence (SOI) lines consistent with the concept that the SOI is a twenty year city growth boundary including the city's "communities of interest" as defined by LAFCo, and that an affected city should seek approval of amendment by LAFCo of its current SOI lines to reflect such criteria. Communities of interest not included within the SOI may be considered and included in a fifty year growth boundary. If such a criteria is adopted, the County, as a city SOI is brought into compliance with such criteria, may consider amendment of it general plan to make the CACUDB identified in the County general plan, to the extent appropriate, consistent or conterminous with the LAFCo adopted SOI.

PF-4.26 City 50 Year Growth Boundaries

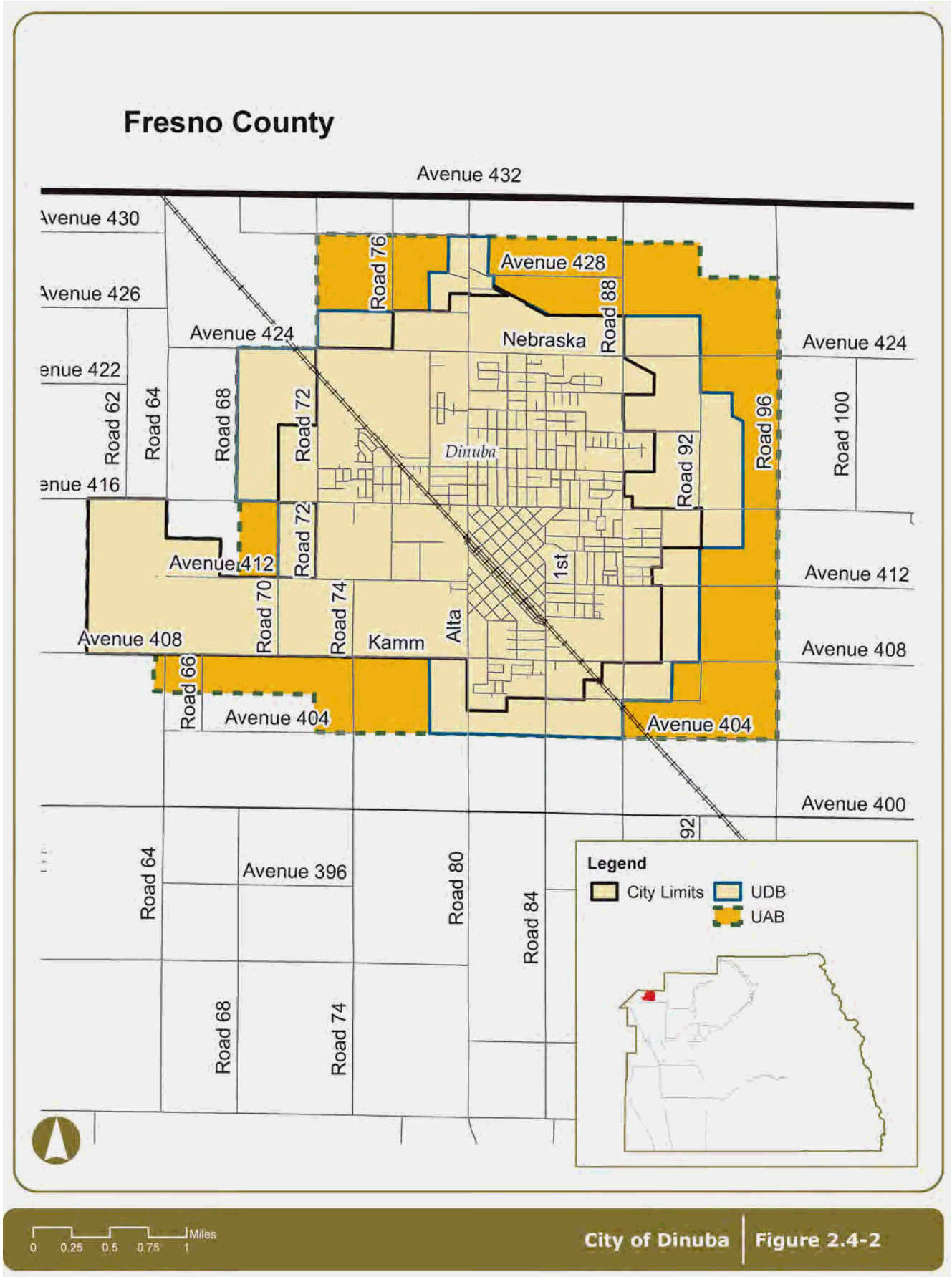
In addition to the County current policies on city boundary lines, the County may work with one or more of the cities to propose that LAFCo consider the adoption of a fifty year growth boundary for each city and to propose criteria to LAFCo for adoption of that boundary. If LAFCo adopts fifty year growth boundaries consistent with such criteria, the County may consider amendments to its general plan to make the CACUAB, to the extent appropriate, consistent or conterminous with the city's LAFCo adopted fifty year growth boundary.

PF-4.27 Impacts of Development within the County on City Facilities and County Facilities

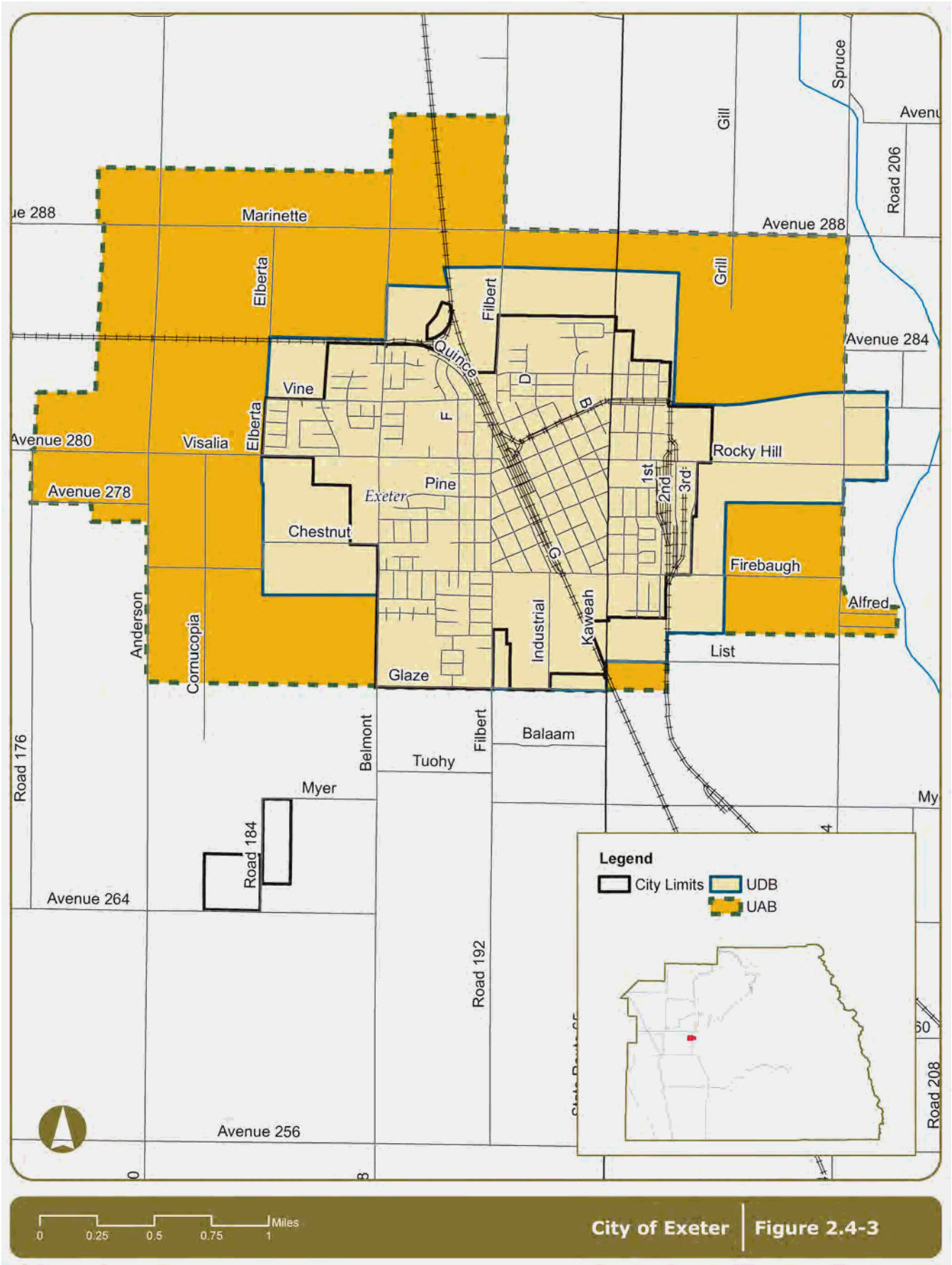
The County may work with a city to consider the adoption, imposition and collection for payment to the city pursuant to agreement Development Impact Fees within the CACUDB, as may be proposed by the city from time to time to offset the impacts of development in the County on city facilities. Reciprocally and under the same conditions, the city will consider the collection of Development Impact Fees within the city to offset the impact of development within the city on County facilities.



Tulare County Cities | Figure 2.4-1



City of Dinuba | Figure 2.4-2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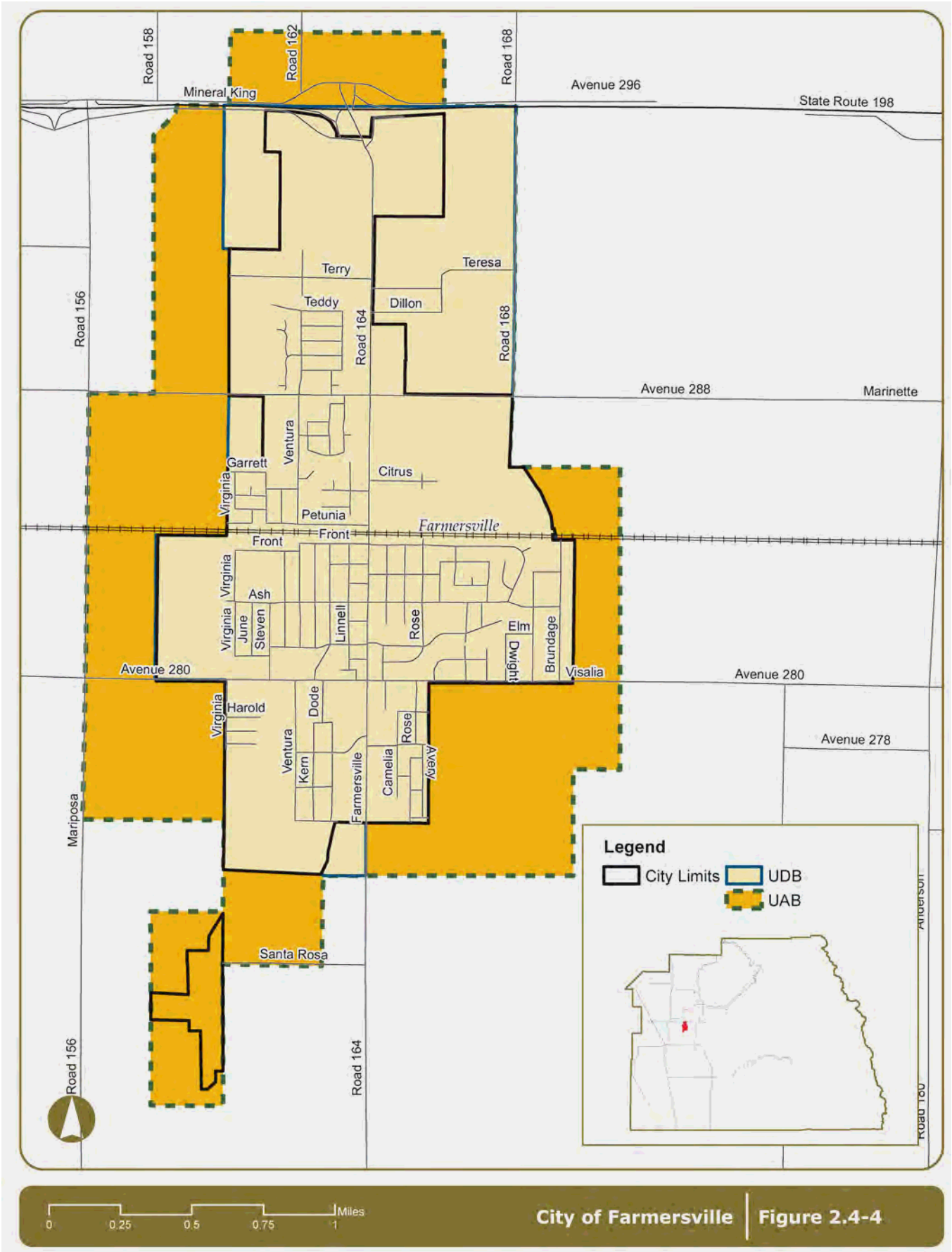
Elberta
Filbert
Quince
Gill
Spruce
Road 206
Avenue 288
Avenue 284
Vine
Visalia
Avenue 280
Avenue 278
Pine
Exeter
Chestnut
Rocky Hill
1st
2nd
3rd
Firebaugh
Alfred
Anderson
Cornucopia
Industrial
Kaweah
List
Glaze
Road 176
Belmont
Tuohy
Balaam
Myer
Road 184
Avenue 264
Road 192
Road 208
Avenue 256
Legend
City Limits
UDB
UAB
Miles
0
0.25
0.5
0.75
1
City of Exeter
Figure 2.4-3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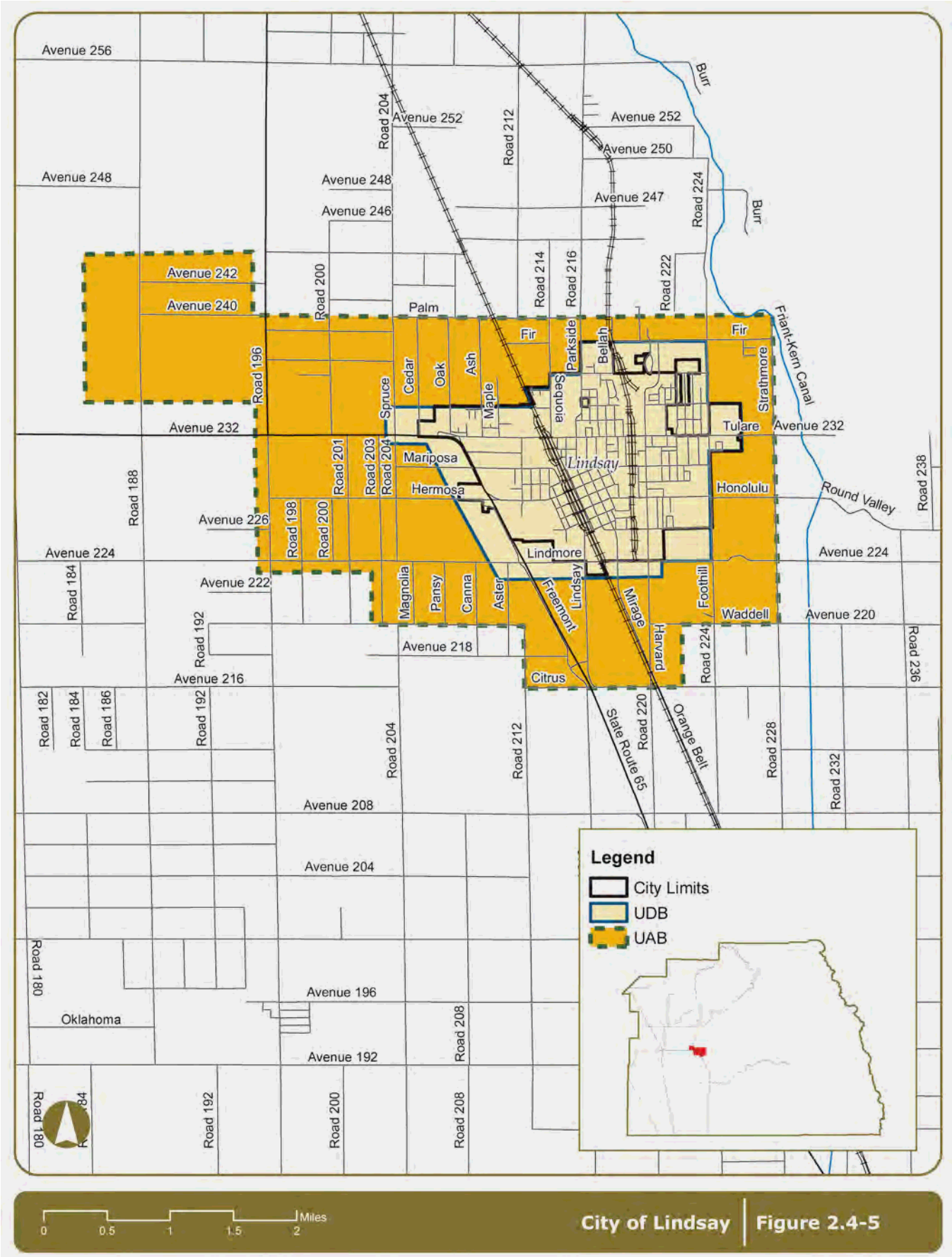
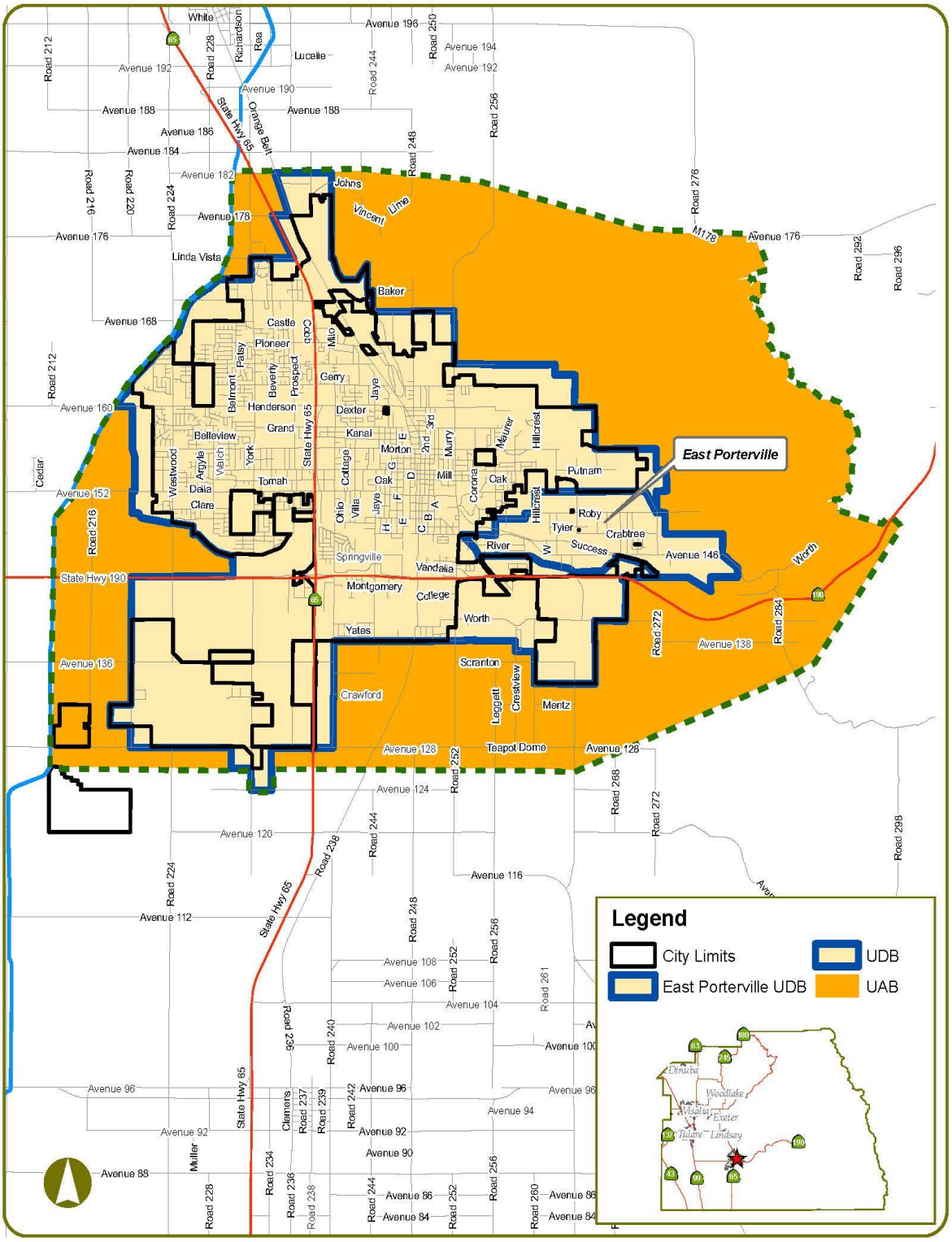
Road 162
Road 168
Mineral King
Avenue 296
State Route 198
Terry
Teresa
Teddy
Dillon
Road 156
Road 164
Road 168
Avenue 288
Marinette
Ventura
Garrett
Citrus
Virginia
Petunia
Farmersville
Front
Front
Virginia
Ash
Virginia
June
Steven
Linnell
Rose
Elm
Dwight
Brundage
Avenue 280
Visalia
Avenue 280
Virginia
Harold
Dode
Ventura
Kern
Farmersville
Camelia
Rose
Avenue
Avenue 278
Mariposa
Legend
City Limits
UDB
UAB
Santa Rosa
Road 156
Road 164
Miles
0
0.25
0.5
0.75
1
City of Farmersville
Figure 2.4-4

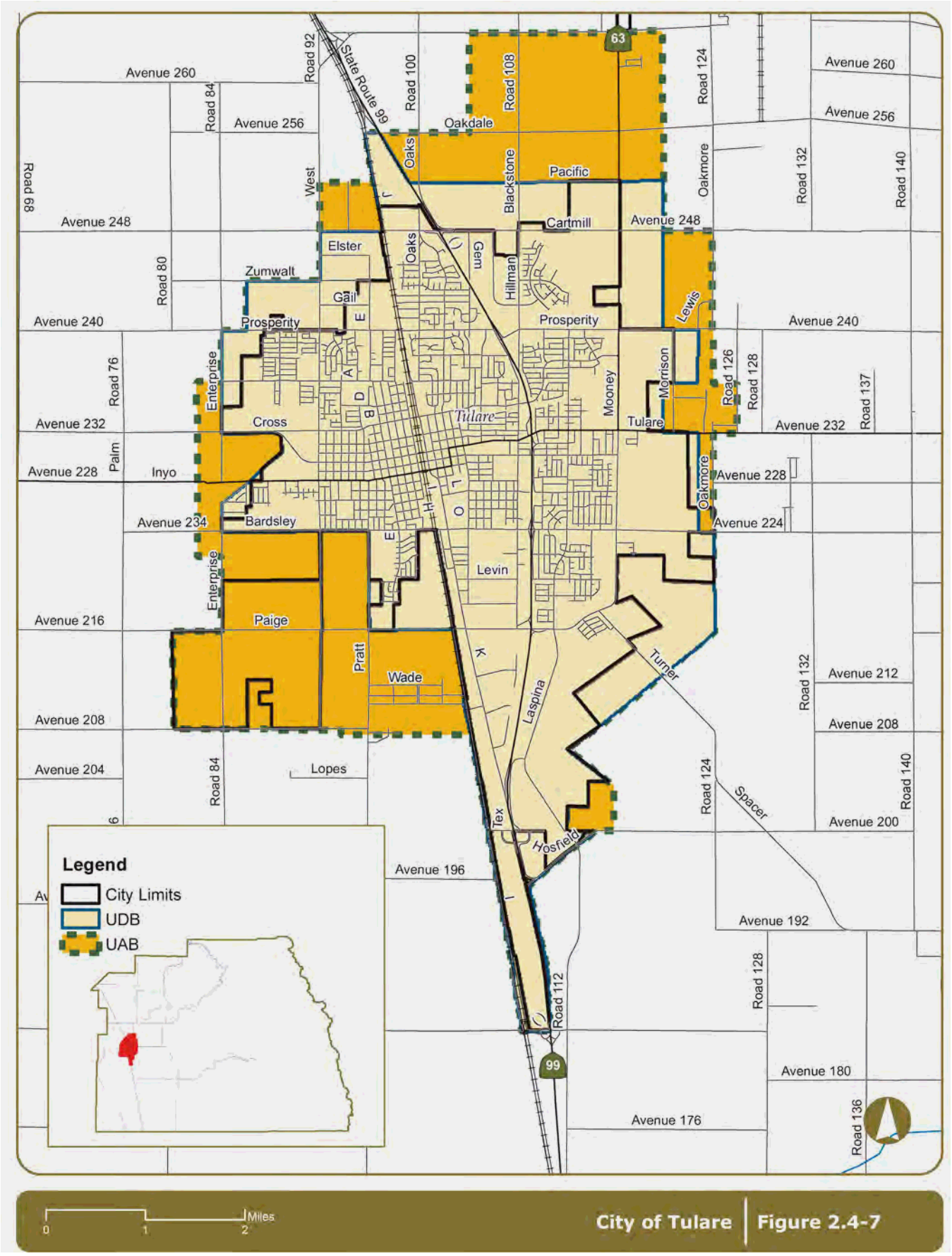


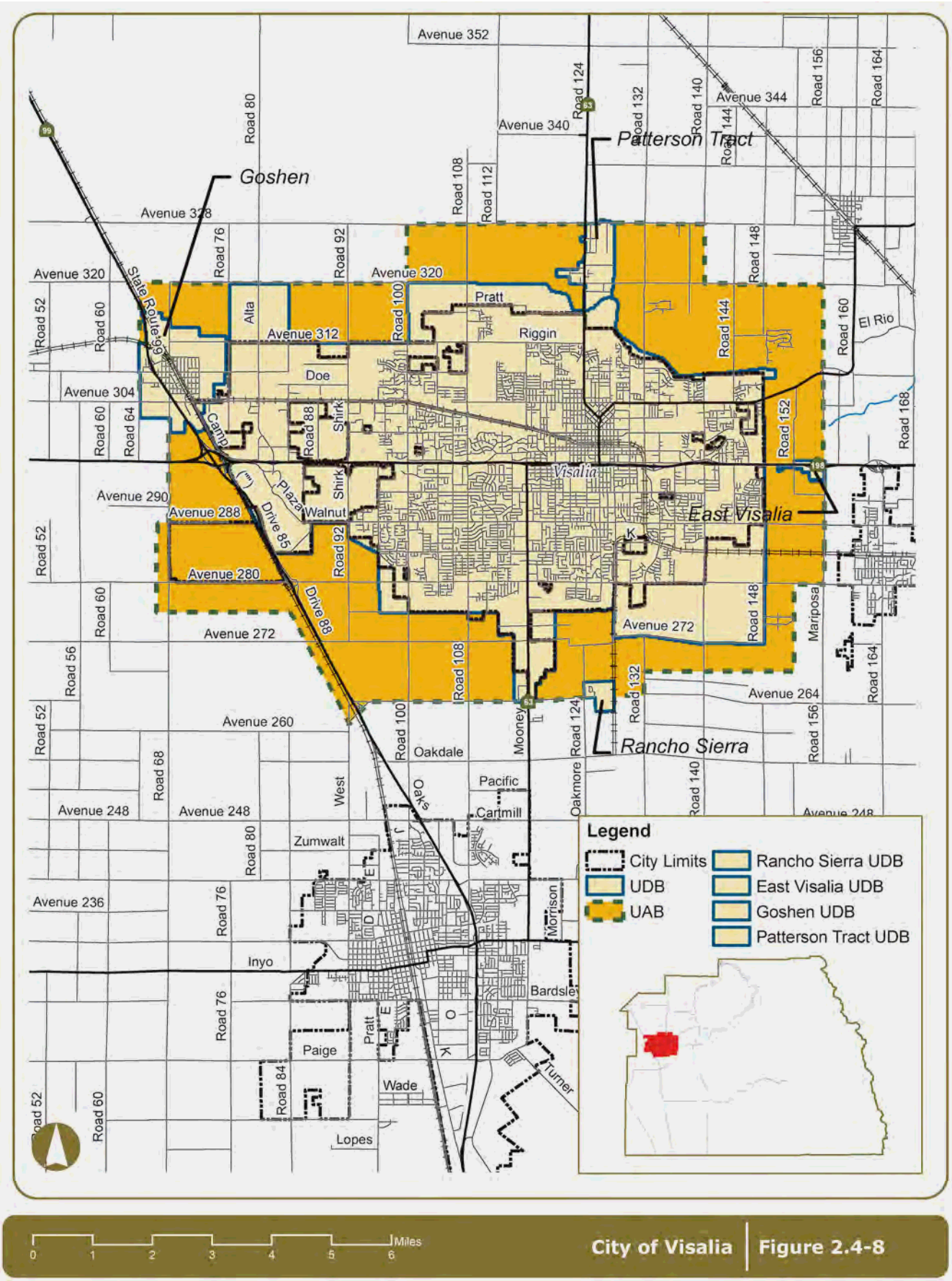
City of Lindsay | Figure 2.4-5



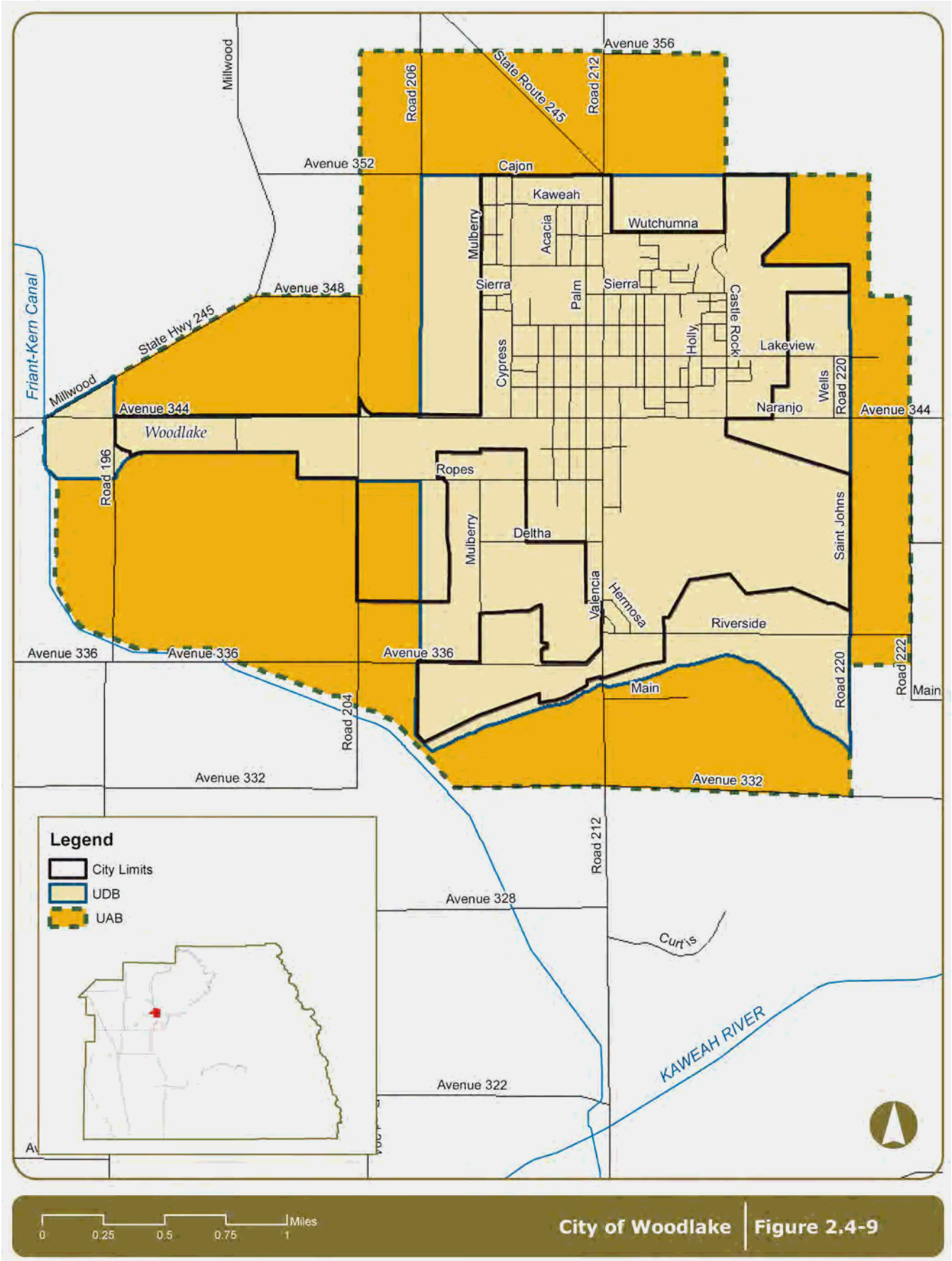
City of Porterville | Figure 2.4-6

Amended GPA 14-008 BOS Resolution #2015-0136 on 2/24/2015


Legend
City Limits
UDB
UAB
Miles
0
1
2
City of Tulare
Figure 2.4-7
Avenue 260
Avenue 256
Avenue 248
Avenue 240
Avenue 232
Avenue 228
Avenue 234
Avenue 216
Avenue 208
Avenue 204
Avenue 196
Avenue 192
Avenue 180
Avenue 176
Avenue 224
Avenue 212
Avenue 200
Road 68
Road 76
Road 80
Road 84
Road 92
Road 100
Road 108
Road 112
Road 124
Road 126
Road 128
Road 132
Road 136
Road 137
Road 140
State Route 99
63
99
Oakdale
Pacific
Cartmill
Elster
Zumwalt
Gail
Prosperity
Enterprise
Cross
Inyo
Bardsley
Paige
Pratt
Wade
Lopes
Levin
Tulare
Mooney
Morrison
Lewis
Oakmore
Turner
Laspina
Spacer
Hosfield
Tex
Blackstone
Hillman
Gem
Oaks
West
Palm



City of Visalia | Figure 2.4-8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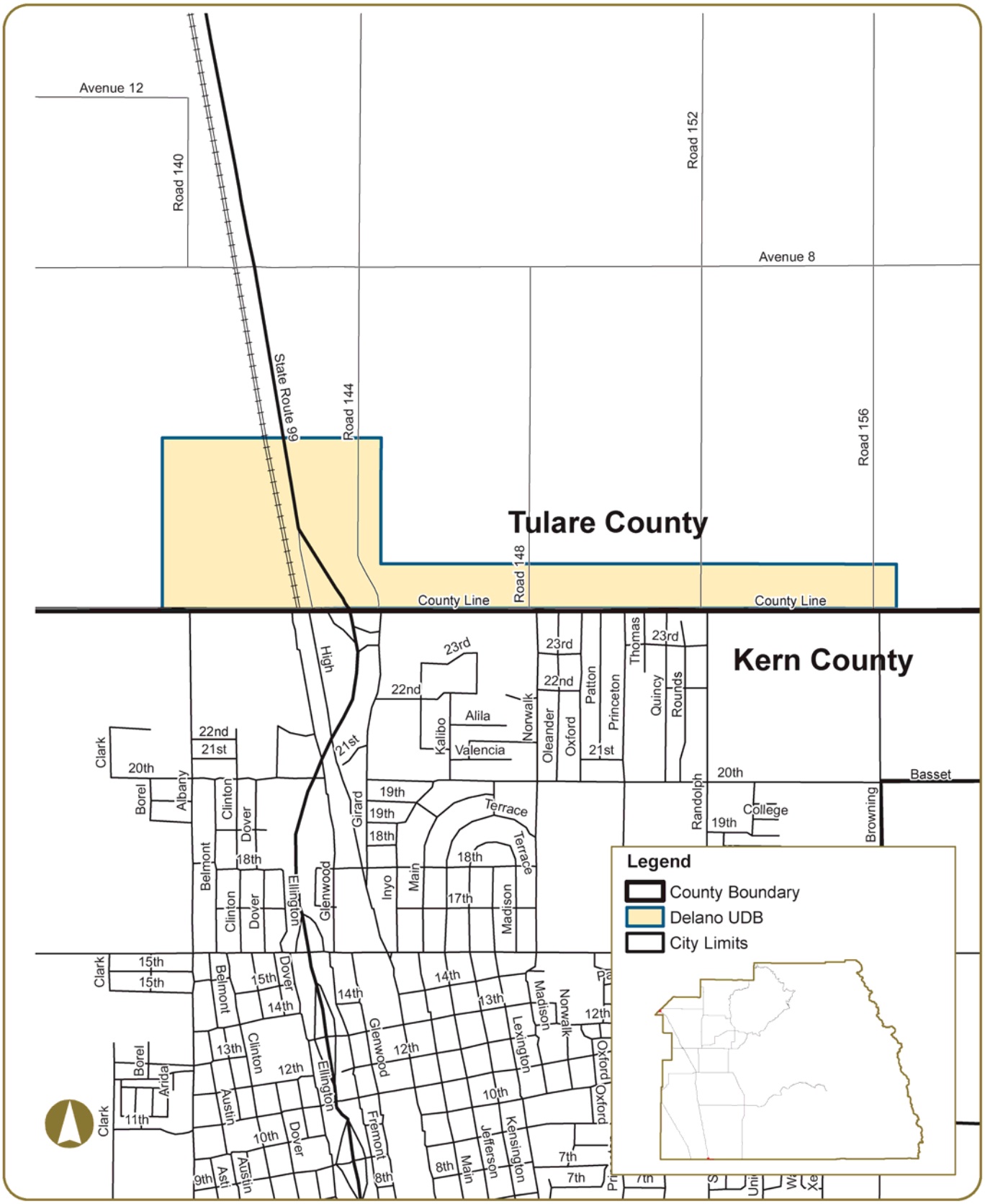
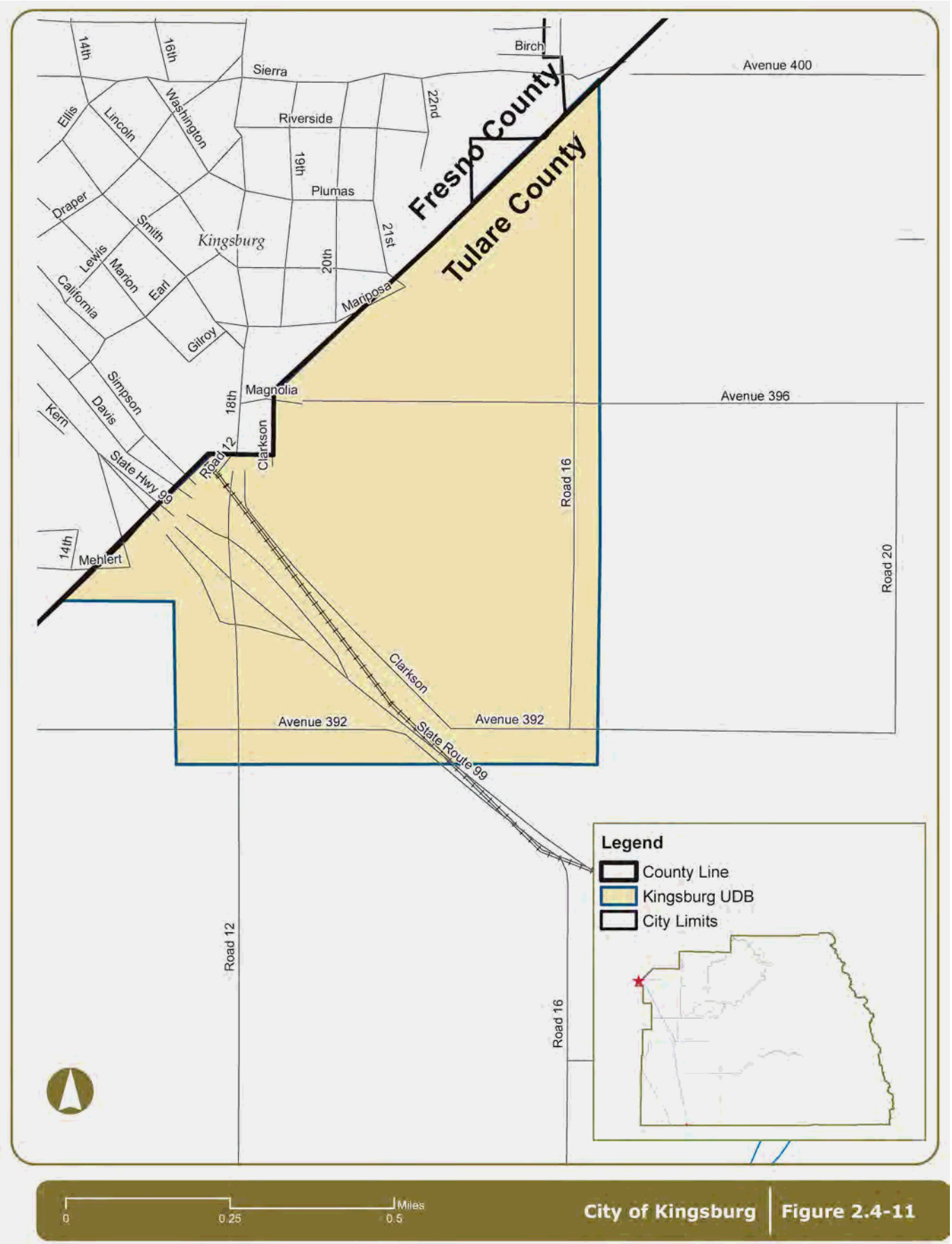
Millwood
Road 206
State Route 245
Road 212
Avenue 352
Cajon
Kaweah
Wutchumna
Mulberry
Acacia
Sierra
Palm
Sierra
Castle Rock
Holly
Lakeview
Cypress
Wells
Road 220
Naranjo
Avenue 344
Avenue 348
State Hwy 245
Friant-Kern Canal
Millwood
Avenue 344
Woodlake
Road 196
Ropes
Mulberry
Deltha
Saint Johns
Valencia
Hermosa
Riverside
Avenue 336
Avenue 336
Avenue 336
Road 220
Road 222
Main
Main
Road 204
Avenue 332
Avenue 332
Legend
City Limits
UDB
UAB
Road 212
Avenue 328
Curtis
KAWEAH RIVER
Avenue 322
0
0.25
0.5
0.75
1
Miles
City of Woodlake
Figure 2.4-9



0 0.5 1 Miles

City of Delano | Figure 2.4-10



City of Kingsburg | Figure 2.4-11

2.5 New Towns

PF-5	To provide for orderly development of new areas within the County when appropriate to meet the social and economic needs of current and future residents, consistent with the goals and policies of the Tulare County General Plan.

PF-5.1 New Towns (Planned Communities)
The haphazard development of communities should be discouraged. However, should circumstances appear to justify development of a new or "planned" community with its own mix of residential, commercial, industrial, public use areas and related facilities, it should be judged on its individual merits and functions as it would affect the area as a whole and other policies and proposals of the General Plan.

PF-5.2 Criteria for New Towns (Planned Communities)
When evaluating proposals for New Town development, the County shall require all of the following:

1. That a New Town be a planned community as defined by the Tulare County Zoning Ordinance. The planned community may take the form of a Specific Plan, Community Plan, or Master Development Plan.
2. That a reimbursement agreement, memorandum of understanding, and investment agreement for the project be established prior to submittal of a planned community proposal.
3. That the applicant demonstrate the project will have a fiscally neutral or positive impact on the County and special districts impacted by the project.
4. That an infrastructure master plan for the installation, operation, management and funding, and ongoing maintenance and replacement of infrastructure required to support growth, including but not limited to: State, local, and private transportation; sewage; water quality and quantity; drainage; parks and open space; and any other infrastructure or public services, appropriate regulations, programs or public works projects, be prepared to ensure that each of the development projects "pay their fair share". That a water assessment be completed to evaluate the availability and sufficiency of water to meet anticipated demands. That funding mechanisms are set up to cover initial capital costs as well as long-term operations and maintenance for the facilities including but not limited to the ones listed above.
5. That an outreach and community involvement process be conducted as will be defined in the work program/memorandum of understanding for the project.
6. That the planning program include joint meetings with all stakeholder agencies involved in infrastructure or services provision for the project by forming an intergovernmental advisory committee, as well as one-on-one consultations, to help guide the process, including preparation of the environmental impact report (EIR), water supply assessment, and infrastructure master plan. Regular participants on this committee should include but not be limited to any: applicable local planning committee established by the Board of Supervisors or Planning Commission; redevelopment project advisory committee; special use district; TCAG; Caltrans District 6; and school districts. Other participants may, from time to time include: Fire Chief; Cal Fire; County Sheriff; water conservation district; Department of Conservation; Fish & Wildlife; Department of Fish & Game; California State Parks; phone company; and utility companies.

7. The applicant shall enter into a reimbursement agreement requiring deposits into a planning trust fund with Tulare County Resource Management Agency. The reimbursement agreement shall insure that the cost of all or an agreed upon portion of General Plan amendment, EIR preparation, infrastructure master plan, peer review, and all other technical studies and reports shall be paid by the developer or otherwise recovered by the County.
8. The preparation and approval of a Community Plan or Master Plan and a Specific Plan for the project.
9. That adequate and sustainable water supplies be documented.
10. That the project strives to provide a balance mix of land uses and densities, including residential, commercial, employment generating, and public facilities.
11. That the project provides a full range of needed infrastructure and public services, including:
    a. Appropriate on-site and off-site circulation and improvements,
    b. Adequate community water and sewer facilities, and
    c. Fire protection, law enforcement, parks, library, community center, and other necessary public facilities.
12. Planned communities should not cause any conversion of Prime Farmland if Farmland of Statewide Importance or of lesser quality is available and suitable for development.
13. That the planned communities be consistent with the policies of the associated Area Plan (Part II).

2.6 Coordination and Cooperation

PF-6	To work with agencies, districts, utilities, and Native American tribes to promote consistency with the County's General Plan.

PF-6.1 Plans for Jurisdictions, Agencies, District, Utilities, and Native American Tribes
The County shall work with Tulare County cities; adjacent counties and cities; Federal, State, and regional agencies; local districts; utility providers; Native American tribes; and the military to ensure that their plans are consistent with Tulare County's General Plan to the greatest extent possible.

PF-6.2 Intergovernmental Coordination
The County shall work with Federal, State, and regional agencies; local districts; utility providers; Native American tribes; and the military to ensure that the County and the public are involved, as appropriate, throughout any planning process and that agency and public input is requested.

ⓘ	*The California Military Land Use Compatibility Analyst is available from the California Governors Office of Planning and Research website.*

PF-6.3 Consultation on Annexation Proposals
The County shall promote consultation early in the planning process between the cities and the County at the staff level when cities are developing proposed annexation boundaries or proposed sphere of influence expansions. The desire is to provide ongoing coordination at a

point earlier than the minimum 30 day notice required by State law and consistent with LAFCo law.

PF-6.4 UDBs and Interagency Coordination
The County shall use UDBs to provide a definition of an urban area for other planning programs, such as:

1. The area within the UDB should be considered as the same area for which water and sewer system planning may be needed and to be a consideration in the determination of an area required to adequately assess the availability and sufficiency of water supplies.
2. UDBs should be used to define traffic analysis zones in the Regional Transportation Plan program.
3. The UDBs shall be used to provide a framework for inventories on growth and development, as well as socio-economic data.

PF-6.5 Regional Planning Coordination
The County shall coordinate with adjacent counties and their cities, regional councils of governments, and State agencies to ensure coordination on infrastructure efforts and funding in the region.

PF-6.6 Coordination of Private Development on Public Land
The County will work cooperatively with State and Federal agencies to coordinate private development on public lands.

PF-6.7 Public Outreach
The County shall continue its practice of effective citizen participation and outreach, using a variety of techniques with activities held at different times and days, and with language interpretation as necessary to involve as many people as possible in the outreach.

2.7 General Plan Maintenance

PF-7	To provide for the ongoing administration and implementation of the Tulare County General Plan.

PF-7.1 Annual Review
The County shall annually review the General Plan Goals and Policies Report, focusing primarily on reporting the actions taken in the previous year to carry out the implementation measures of the General Plan. The Planning Commission shall complete this review and report its findings to the Board of Supervisors as per Government Code §65400. The Planning Commission's report shall include, as the Planning Commission deems appropriate, recommendations for amendments to the General Plan. This annual report may also be used to satisfy the requirements of the Public Resources Code (§21081.6) for a mitigation monitoring program.

PF-7.2 Maintaining a Current General Plan
The County shall periodically (every 5 to 10 years) conduct a major review of the General Plan, including the General Plan Goals and Policies Report and Background Report to ensure the General Plan is addressing the needs of the County. Issues identified will be addressed as part of an amendment or update. The County shall maintain and shall collect a General Plan, Unincorporated Community Plan, and Code Maintenance fees at building

permit issuance as established by the Board of Supervisors, to insure that the resources are available to fund the required updates of the General Plan.

PF-7.3 Maintaining Planning Consistency
The County shall review and revise all applicable County documents to ensure consistency with the General Plan. The County shall maintain and shall collect a General Plan, Unincorporated Community Plan, and Code Maintenance fee at building permit issuance as established by the Board of Supervisors, to insure that the resources are available to fund the required updates of the General Plan.

PF-7.4 Providing Planning Information
The County shall ensure that the public has access to all public records in accordance with provisions of all State laws and conducts multi-lingual programs as required by State law.

Please see next page.

2.8 Work Plan/Implementation Measures

The following table documents the Implementation Measures included with the General Plan to implement the goals and policies included in this Element.

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
1. The County shall minimize potential land use conflicts at the interface between urban developments and existing developed rural-residential areas. Provision for a graduated transition in density/lot size from higher to lower density between the two respective areas shall generally be required unless significant buffers or other measures are determined adequate to protect established rural residential developments. The County, while recognizing the cities' need to optimize use of land within their sphere boundaries, shall encourage cities to require buffering measures when urban development is proposed adjacent to existing developed rural-residential areas within their spheres-of-influence.	PF-1.1 PF-1.2 PF-4.1	County				■
2. A proposal submitted under PF-2.2 (subsection 1) may be submitted in the form of an application for a general plan amendment, specific plan, change of zone, special use permit, tentative subdivision map, or the necessary entitlement for use. The proposal should be subject to appropriate environmental and fiscal review. Before making a decision on the proposal, the County should solicit and consider the input of any affected public entities.	PF-1.1 PF-1.2 PF-2.2	County				■
3. The County shall investigate techniques to provide enhanced local input into land use planning decisions. This may include the expansion of the authorized powers of existing community service districts or the establishment of local advisory committees or planning commissions in unincorporated communities and hamlets.	PF-1.9	County				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
4. Zoning other than A-1 may be applied to legally existing conforming uses established prior to January 11, 1973, regardless of other General Plan policies and designations, if the County finds that such zoning is not adverse to the public health, safety and welfare, or harmful to the environment. The application of zoning pursuant to this policy shall be a legislative action and the County shall not be compelled to arbitrarily grant such zone change requests.	PF-1.10	RMA, Planning				■
5. The County shall delineate and maintain UABs, HDBs, and UDBs on the County's General Plan Land Use Diagram for reference purposes.	PF-2.1 PF-2.3 PF-3.1 PF-4.1 PF-4.2 PF-4.3	RMA, Planning				■
6. The County shall define implementation standards for UDB and HDB expansions to avoid uncertainty, including developing criteria for evaluating when non-agricultural lands are not 'reasonably available' or 'suitable'.	PF-2.2 PF-3.2 PF-4.3	Planning Commission; RMA, Planning		■		
7. The County shall use the Rural Valley Lands Plan Parcel Evaluation Procedure within RVLP areas to evaluate changes to agricultural zoning as per RVLP Policy-1.1. For the establishment or expansion of UDBs, HDBs and PCAs only, the evaluation procedure shall be considered along with other relevant information.	AG-1.7 AG-1.8 AG-1.9 AG-1.10 PF-2.2 PF-3.2 PF-4.3 PF 5.2	RMA, Planning				■
8. The County shall continue to require a General Plan Initiation (GPI) and Rezoning Initiation (PZI) as a pre-application screening requirement for applicant initiated General Plan Amendments (GPA) or Rezoning to assess developer requests to modify community urban development boundaries, change land use designations, or modify the text of the General Plan.	PF-2.2	RMA, Planning				■
9. The County shall prepare a community plan program that	PF-2.3 PF-2.4	RMA, Planning	■			■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
prioritizes the order in which community plan updates and their associated environmental impact reports shall be programmed as part of the budget process. Annually, to address changing conditions, the Planning Commission shall review and recommend priorities for community plan updates to the Board of Supervisors.						
10. When prioritizing community plan updates, the County shall give weight to factors including the following to evaluate and establish the priority order for initiating/funding community plan updates: a. A community plan update has been initiated but the plan and EIR are not yet complete, b. The community plan and EIR are needed to help establish a redevelopment project area, c. The age of the community plan, d. 80% of the land within the existing UDB is developed, e. Existing or new water and wastewater infrastructure capacity is available with an inadequate supply of designated land to efficiently utilize such capacity, and f. A designated community does not yet have a community plan.	PF-2.3 PF-2.4	RMA, Planning	■			■
11. Performance measures shall be included in all community plans to be used to measure and evaluate the success of the plan in achieving its goals. Such measures may derive from Census data (percent ownership of housing, average household income, crime statistics), community service districts (CSD) statistics (average wastewater discharge per household as an indicator of occupancy rates), or land use parameters (acres of parkland or miles of sidewalk within the UDB per resident). Such data can be used in the annual General Plan review, as applicable, and will	PF-2.4	RMA, Planning				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
provide information to help the Board of Supervisors evaluate the effectiveness of the community plan program over the long term.						
12. Uniform Improvement Standards for communities will be developed for use in their community plans. These standards will reflect the level of improvements required for new development upgrades for community plans infrastructure improvements that should be programmed for the community, as funding allows.	PF-2.4 PF-2.7	RMA	■			■
13. The General Plan Initiation (GPI) and Rezoning Initiation (PZI) process shall be utilized for establishing private/public collaborative planning partnerships to update community plans.	PF-2.5	RMA, Planning				■
14. To the extent possible, the County shall require that developers apply city improvement standards, and require irrevocable offers of dedication for roadways, consistent with the city's General Plan Circulation Element, whenever a project within a city's UDB is approved.	PF-4.13 PF-4.14	RMA				■
15. Tulare County subdivision and parcel map regulations shall require that all subdivision and parcel maps within, UDBs, HDBs, PCAs, or MSCs be developed consistent with urban standards and densities.	PF-2.7 PF-3.5 PF-4.13	RMA, Planning				■
16. The conditions of approval of any specific plan, subdivision, or parcel map within a UDB, HDB, PCAs, or MSCs shall include the installation of improvements appropriate for the community, such as curbs, gutters, sidewalks, community sewer systems, community water systems, storm drainage systems, dedication of park and school sites, etc..	PF-2.7 PF-4.4	RMA, Planning				■
17. When implementing urban improvements in those valley communities which previously	PF-2.10	RMA, Planning				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
had a UAB, context sensitive standards may be used to not overly burden existing residents.						
18. The County, led by the Planning Commission, shall conduct a citizen outreach effort in Tulare County hamlets to prepare guidelines for the preparation of hamlet plans, considering such factors as: a. Alternative approaches to hamlet planning including application of mixed use designations and appropriate use of form-based codes, b. Content of hamlet plans, c. Sources of funding for hamlet plans, d. Criteria for preparing an implementation schedule, such as prioritizing plans for hamlets where demonstrated community leadership exists, e. Identification of appropriate means for securing public open space, recreational areas, and other public amenities, f. Coordination with capital improvement plans and identification of options for addressing infrastructure deficiencies, as applicable, g. Defining appropriate context sensitive improvement standards, and h. Determining feasible mechanisms to pay for new public amenities and services. These guidelines will be presented to the Board of Supervisors for their adoption.	PF-3.3	Planning Commission; RMA, Planning		■		
19. Upon adoption of guidelines for preparation of hamlet plans, the Planning Commission shall prepare an implementation schedule and budget that prioritizes the order in which hamlet plans and any associated environmental documents shall be programmed during the budget process. On an annual basis, or as may be needed, the Planning Commission shall review and recommend priorities	PF-3.3	Planning Commission; RMA, Planning		■		

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
for hamlet plan preparation to the Board of Supervisors.						
20. The County shall explore all available options to fund necessary improvements such as: establishment of redevelopment project areas, revenue sharing, formation of assessment districts, development agreements, Community Development Block Grant (CDBG) funds, grants, etc., as part of the plan development process.	PF-1.2 PF-3.3	RMA				■
21. The County shall amend its Zoning Ordinance to add mixed use zones based on smart growth and neo-urban principles.	PF-2.9 PF-3.4	RMA, Planning	■			
22. The County shall minimize potential land use conflicts at the interface between urban development, as well as upgrades that should be planned for the hamlet, as funding allows. The County shall continue to support community and hamlet efforts to secure State and Federal funding and pursue Community Development Block Grants.	PF-3.5	RMA, Planning				■
23. As part of the annual budget process the County shall place a priority on maintaining close consistency between city and County 20 year boundaries, provided boundary updates and materials are submitted to the County in a timely fashion.	PF-4.2	RMA, Planning				■
24. The County shall, when evaluating city General Plans for adoption, consider evidence provided that any proposed boundary expansion minimizes conversion of agricultural land by demonstrating that at least 80% of the non-Williamson Act Land within the existing UDB is developed with urban uses.	PF-4.6	RMA, Planning				■
25. The County shall work with the cities to develop a streamlined process for review of city General Plan updates and amendments.	PF-4.6	RMA, Planning		■		
26. To the extent possible, the	PF-4.7	RMA,				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
County will assist cities in establishing assessment districts as a part of annexing unincorporated residential areas.		Planning				
27. The County will consider exploration of processes for furthering revenue sharing with individual cities. If a revenue sharing agreement is entered into with an affected city, the County may limit development in a CACUDB, consistent with this General Plan.	PF-4.16 PF-7.2 PF-7.3	CAO; RMA				■
28. The County shall send to all land management agencies, districts, utilities, and Native American tribes current copies of the County's General Plan and any subsequent amendments.	PF-6.1 PF-6.2	County	■			
29. The County shall review the plans of land management agencies, districts, utility providers, and Native American tribes for consistency with the General Plan and related planning documents and provide comments and alternative solutions where inconsistencies exist.	PF-6.1 PF-6.2	RMA, Planning				■
30. Due to the extensive State and Federal ownership in the County, it is noted that the management of these areas should include: provisions for continued and improved access through and within the County; continued provision of public recreational facilities and access; multi-use management where applicable; and interconnection or coordination of State, Federal, and local facilities and programs when possible.	PF-6.2 ERM-5.7 ERM-5.11 ERM-5.13	RMA			■	
31. The County shall prepare a resolution to be sent to land management agencies in the County stating the County's desire to be involved in all steps of their planning processes.	PF-6.2	County	■			
32. Coordinate with military agencies as required by SB1462 (2004) to refer actions to branches of the United States Armed Forces before	PF-6.2	RMA				■

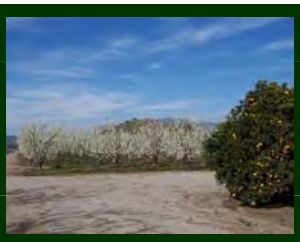
Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
substantially amending or adopting the General Plan.						
33. The County shall exercise its authority over private development on public land as may be provided in MOUs with Federal and State agencies.	PF-6.6	RMA, Planning				■
34. During periodic updates of the General Plan, the County shall ensure that community workshops are conducted throughout Tulare County. In order to ensure that the workshops are accessible to as many Tulare County residents as possible, non-English translation services will be provided as required by State law.	PF-7.2	RMA, Planning				■
35. The County shall periodically evaluate the fee assessed projects to support the maintenance of the General Plan.	PF-7.2 PF-7.3	RMA				■
36. The County shall bring the Zoning and Subdivision Ordinance and other County plans into conformity with the policies of this General Plan.	PF-7.3	RMA, Planning		■		
37. The County shall work with TCAG and other agencies to create a shared planning data base that maintains updated information about planning processes currently underway, as well as land use statistics such as acres of land designated for agriculture, housing, and commercial development.	PF-7.4	RMA				■
38. Standards for the placement of boundaries on diagrams shall adhere to the following rules: a. To the greatest extent possible, boundary lines shall be drawn on parcel lines, b. When a public right-of-way or railroad forms the boundary, the boundary line shall be drawn on the far edge of this right-of-way, so that all of the right-of-way is included on the more urban side of the boundary, c. If a boundary is drawn	PF-1.8 PF-2.2 PF-2.9 PF-3.2 PF-4.3 PF-4.11	RMA, Planning				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
parallel to a public right-of-way, and the source description does not specify "from the center line of the right-of-way", then the boundary shall be drawn at the specified distance from the edge of the right-of-way. If no distance is explicitly specified, then judgment may be used to place the boundary line such that it is an extension of the property line dividing 'near-by' parcels, d. When the Friant-Kern Canal forms the boundary, then the boundary is at the edge of the canal so that the canal is excluded from the smaller/more urban district, e. When a water course forms the boundary, then the boundary is the far edge of the river at the high water mark so that the river is included within the more urban side of the boundary, f. Whenever a UAB, UDB, HDB, or Regional Growth Corridors intersects a municipal services district (incorporated city, community service district, public utilities district, or County zone of benefit), then the planning area boundary shall be revised to include all of the municipal service district within the County boundary, and g. Whenever a County planning boundary intersects an area of developed lots that are smaller than 0.5 acres, the planning boundary shall be adjusted to include such development within the planning district.						
39. The County may work with any individual City to commence a review of the current land use designations and zoning districts applied in the CACUDBs with the goal of identifying, reviewing and possibly restricting, as appropriate and allowed by law,	PF-4.18 PF-4.20	RMA, Planning				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
any non-agricultural uses or non-agricultural supporting uses in the CACUDB. The goal of such work program may be to remove allowed or permitted uses from the current list of special uses within the CACUDB where such uses are more appropriately defined as urban or industrial uses, while still allowing the establishment of, or retaining, uses that are directly related to the agricultural industry and are important to be located in proximity to production agriculture.						
40. The County may work with any individual city to pursue possible adoption of urban development standards in the CACUDB to be applied to projects approved as "agricultural related" allowed or permitted uses within the CACUDB, and coordination of such development with any County adopted long-range urban infrastructure plans of the affected city.	PF-4.13 PF-4.18 PF-4.20	RMA, Planning				■
41. The County and any individual city may commence a review of the current land use designations and zoning districts applied in the CACUAB with the goal of identifying, reviewing and possibly restricting, as appropriate and allowed by law, non-agricultural uses or non-agricultural supporting uses in the CACUAB. The goal of such work program may be to remove, or possibly restricting, allowed or permitted uses in the current list of special uses within the CACUAB where such uses are more appropriately defined as urban or industrial uses, while still allowing the establishment of, or retaining, uses that are directly related to the agricultural industry and are important to be located in proximity to production agriculture.	PF-4.19 PF-4.21	RMA, Planning				■
42. The County may work with an individual city to pursue possible County adoption of any long-	PF-4.14 PF-4.17	RMA, Planning				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
range urban infrastructure plans of the city in order to provide for appropriate transportation and utility corridors in the CACUAB.						
43. If a city proposes, provides evidence to support, pays the County costs of consideration and adoption (including but not limited to staff time, notice and hearing costs) and agrees to hold harmless, defend and indemnify the County in any challenge to, the adoption or implementation of changed County regulations, land use, or boundaries under Policies PF-4.14, the County shall consider such proposals.	PF-4.17 PF-4.18 PF-4.19 PF-4.20 PF-4.21 PF-4.22 PF-4.23 PF-4.24 PF-4.25 PF-4.26 PF-4.27	RMA, Planning				■
44. If a city proposes, provides evidence to support (including the nexus study), pay the County costs of consideration and adoption (including but not limited to staff time, notice and hearing costs), negotiates and enters into a fee participation agreement with the County and agrees to hold harmless, defend and indemnify the County in any challenge to the County adoption and collection of Development Impact Fees within the CACUDB for city facilities, the County will consider such proposal. Under such a program: a. To the extent allowed by law, the impact fees imposed by the city in the city will be equal to or be consistent with the impact fees proposed by the city for collection by the County b. The city must agree to take all steps necessary to comply with, and assist the County in complying with, the Mitigation Fee Act. c. As required by the Mitigation Fee Act, Chapter 5, Government Code sections 66000 et seq., the city will provide a nexus study that identifies the purpose of the fee and identifies the use to which the fee will to be put,	PF-4.16 PF-4.27	RMA, Planning				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
including the public facilities to be financed. d. Reciprocally and under the same conditions, the city will consider the collection of Development Impact Fees within the city to offset the impact of development within the city on County facilities..						



B. Prosperity Component

The Tulare County General Plan, through its Component B-Prosperity, addresses the agricultural, land use, economic, and housing resources of the County. The General Plan uses communities and hamlets to accommodate new County growth while encouraging a majority of growth to occur within incorporated cities. Component B, Prosperity, is a long-range framework for public and private investment that will result in an agriculturally-rich and economically-viable County.

Prosperity Concepts

Concept 1: Agriculture
One of the most identified assets in Tulare County is the rich agricultural land on the Valley floor and in the foothills. The General Plan identifies agriculture not only as an economic asset to the County, but also as a cultural, scenic, and environmental resource to be protected.

Concept 2: Land Use
Tulare County's communities and hamlets will continue to grow and develop while natural resource lands (agriculture and open space) will be preserved. Projected population growth will require a range of housing choices, neighborhood support services, and employment-producing uses that are centrally located in communities. The County will also limit the conversion of agricultural and other natural resource lands to urban uses.

Concept 3: Economic Development
The County's economy will expand and diversify. Agriculture will remain the mainstay of the County's economy, while agriculturally-related industries and non-agricultural industries will play an increasingly larger role in the local economy. Many of the planning principles and policies in the General Plan protect existing agricultural lands and industries while providing support for advancement and diversification of agriculturally-related enterprises.

Concept 4: Housing
The purpose of the Housing Element is to identify the County's housing needs, state the counties goals and objectives with regard to housing production, rehabilitation, and conservation to meet those needs, and to define the policies and programs that the County will implement to achieve the stated goals and objectives.

Guiding Principles

Agriculture

Principle 1: Protect Agriculture
Protect valuable agricultural uses from urban encroachment *[New Principle].*

Principle 2: Maintain Separators
Maintain rural landscape separators between Tulare County's towns and cities *[New Principle].*

Land Use

Principle 1: Enhancing Communities and Hamlets
Promote land uses which improve the economic vitality and livability of Tulare County's communities and hamlets *[Board of Supervisors, November 2005].*

Principle 2: Urban-Rural Interface
Protect valuable agricultural and scenic natural lands from urban encroachment *[Board of Supervisors, November 2005].*

Principle 3: Self-Sustaining Communities
Provide a mix of land uses that promote self-sustaining communities and hamlets *[New Principle].*

Principle 4: Rural Separators
Maintain rural landscape separators between Tulare County's hamlets, communities, and cities *[Board of Supervisors, November 2005].*

Economic Development

Principle 1: Improve Quality of Life
Create and facilitate opportunities to improve the lives of all County residents *[New Principle].*

Principle 2: Private Investment
Create opportunities for private investment that improves the quality of life of County residents *[Board of Supervisors, November 2005].*

Principle 3: Economic Diversification
Diversify economic opportunities in the County's unincorporated communities, hamlets, and incorporated cities *[Board of Supervisors, November 2005].*

Principle 4: Protect Agricultural Economy
Protect, expand, and diversify the County's agricultural economy and diversify employment opportunities *[Board of Supervisors, November 2005].*

Housing

[*Not included in this document. Adopted as a separate document on a schedule designated by the State Legislature*.]

3. Agriculture

The Agriculture Element is divided into the following sections:

- Agriculture Preservation (Section 3.1)
- Agriculture Productivity and Employment (Section 3.2)
- Work Plan/Implementation Measures (Section 3.3)

Key Terms

The following terms are used throughout this Element to describe agriculture issues:

Agricultural Lands. Collective term for farmlands designated as Prime, Unique, Farmlands of Statewide Importance, Farmlands of Local Importance, or Grazing Land under the California Department of Conservation's Farmland Mapping and Monitoring Program.

- **Prime Farmland**. Farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields.
- **Unique Farmland**. Farmland of lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California.
- **Farmland of Statewide Importance**. Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture.
- **Farmland of Local Importance**. Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee. For Tulare County, this is defined as "lands that produce dry-land grains (barley and wheat); lands that have physical characteristics that would quality for 'Prime' or 'Statewide Importance' Farmlands except for the lack of irrigation water; and lands that currently supply confined livestock, poultry and/or aquaculture operations".
- **Grazing Land**. Land on which the existing vegetation is suited for the grazing of livestock. Rangeland used for grazing serves an important function for environmental and habitat protection.

Agricultural Preserve. Designated areas that can be protected for agricultural use by either contract (such as a Williamson Act contract), easement (such as a conservation easement), or other mechanism designed to protect the agricultural use of land for 10 or more years renewed annually.

Agriculturally-Designated Lands. Land designated on the Tulare County General Plan Land Use Diagram for agriculture (Foothill Agriculture and Valley Agriculture).

Agriculturally-Related Uses. Uses that support the production of agricultural commodities (for example: agricultural supplies, commercial processing facilities, animal husbandry, or horticulture services).

California Land Conservation Act (Williamson Act) Contract. A contract between a landowner and a city or county to restrict land within an Agricultural Preserve or Farmland Security Zone to agricultural or open space uses in return for lower than normal property tax assessments. Contracts may only be executed on lands designated as agriculture preserve or farmland security zone by the Board of Supervisors. The minimum term for Williamson Act contracts are 10 years for a regular (Agricultural Preserve) contract and 20 years for a "super" (Farmland Security Zone) contract.

Under a set of specifically defined circumstances, a contract may be cancelled without completing the process of term non-renewal. Contract cancellation, however, involves a comprehensive review and approval process, and the payment of fees by the landowner equal to 12.5 percent of the full market value of the subject property.

Contracts may be terminated in full at the option of the landowner or local government by initiating the process of term non-renewal. Under this process, the remaining contract term (9 years in the case of an original term of 10 years) is allowed to lapse, with the contract null and void at the end of the term. Property tax rates increase during the non-renewal period, starting at approximately year 5 until they reach normal (i.e., non-restricted) levels upon termination of the contract.

A property owner may request a non-renewal of the contract for a portion of the land under Contract. The County must approve the "partial" non-renewal. The part of the Contract subject to the partial non-renewal continues to be in for the balance of the term.

Expired parcels are those parcels that have previously been subject to Williamson Act contract, and have since been removed from the contract through non-renewal, cancellation, or annexation.

An agricultural preserve defines the boundary of an area within which a city or county will enter into contracts with landowners. While the State typically requires that agricultural preserves include a minimum of 100 acres (Government Code (GC) §51230) Tulare County requires that preserves only include a minimum of 20 acres.

A Williamson Act Contract covers an area created within an Agricultural Preserve. To be eligible for a Williamson Act Contract, the land may be either 'prime agricultural land' (10 acre minimum) or 'non-prime agricultural land' (40 acre minimum) (GC §51222). The requirements for prime agricultural lands are included in Williamson Act, Title 5, Division 1, Chapter 7, Government Code §51201(c), and are based on soil type or allowed agricultural land uses. Non-prime land in Tulare County is generally grazing land and is limited to agricultural or agriculture-compatible uses as defined in Tulare Board of Supervisors Resolution 89-1275 (Uniform Rules for Agricultural Preserves). Farmland Security Zones (10 acre minimum) must be prime agricultural land within an eligibility zone (within three miles of the Sphere of Influence of an incorporated city). Tulare County requirements are identical to State requirements for these parcels (GC § 51296-51297.4

Agricultural Conservation Easement. A voluntary agreement between a landowner and public agency or non-profit conservation organization. The agreement legally restricts uses of the land, such as building houses on it that would reduce or destroy its potential for agricultural production. The principal objective of an agricultural conservation easement is to safeguard the productivity of farmland and the integrity of the agricultural operation. Easements may be dedicated by the landowner or purchased by the public agency or conservation organization.

Potentially-Productive Agricultural Land. Soils which within the realm of economic possibility can be altered using certain reclamation or modification practices to make them productive for essential food crops such as grain and vegetables. Included are certain Class IV soils and soils with a Storie Index of 60-80.

Williamson Act-Prime Agricultural Land. In order to be consistent with State statutes, such as California Government Code Sections 51201 and 56064, the following lands shall qualify as prime agricultural lands:

1. All land which qualifies for rating as Class I or Class II in the Natural Resource Conservation Services (NRCS) land use capability classifications.
2. Land which qualifies for rating 80 through 100 in the Storie Index Rating.
3. Land which supports livestock used for the production of food and fiber and which has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture.
4. Land planted with fruit or nut-bearing trees, vines, bushes, or crops which have a non-bearing period of less than five years and which will normally return during the commercial bearing period on an annual basis from the projection of unprocessed agricultural plan production not less than four hundred dollars ($400.00) per acre.
5. Land which has returned from the projection of unprocessed agricultural plant production an annual gross value of no less than four hundred dollars ($400.00) per acre for three of the previous five years.

Ranchette. Parcel typically 1.5 to 10 acres in size used primarily for residential use with small-scale agricultural activities as a secondary use.

Soil Quality. The capacity of a specific kind of soil to function, within natural or managed ecosystem boundaries, to sustain plant and animal productivity, maintain or enhance water and air quality, and support human health and habitation.

Urban Development Boundary (UDB). For cities, the County Adopted City UDB is an officially adopted and mapped County line delineating the area expected for urban growth over a 20-year period. This line may be coterminous to the Local Agency Formation Commissions Sphere of Influence. Land within a County Adopted City UDB may be appropriate for development.

For communities, hamlets, planned communities and other unincorporated areas, the UDB is a County adopted line dividing land to be developed from land to be protected for agricultural, open space, or rural uses. It serves as the official planning area for communities over a 20 year period. Land within an unincorporated UDB is assumed appropriate for development and is not subject to the Rural Valley Lands Plan or Foothill Growth Management Plan *[RVLP Policy 1-1].*

ⓘ *For a definition of UDBs, see Chapter 2-Planning Framework.*

Value-Added Agricultural Uses. Uses or facilities that increase the value of agricultural products over the cost of the raw agricultural inputs, such as canning, drying, freezing, or packaging agricultural produce for ultimate sale to consumers.

Existing Conditions Overview

Agriculture is the most important sector in Tulare County's economy. Agricultural lands (crop and commodity production and grazing) are also the County's most visible source of open space lands. As such, the protection of agricultural lands and continued growth and production of agriculture industries is essential to all County residents.

Tulare County is one of the two most productive agricultural counties in the United States according to the latest recent agriculture report values ($5.01 billion in 2008). The primary agricultural commodities in the County in 2008, based on total/gross value were milk, oranges, cattle, grapes, and alfalfa (source: 2008 Tulare County Annual Crop and Livestock Report prepared by the office of the Tulare County Agricultural Commissioner/Sealer). In 2006, over 1.3 million acres of land in Tulare County were classified as "agricultural land", according to the California Department of Conservation. Of this land, more than 379,762 acres were classified as "Prime Farmland". Due to conversion to other/non-agricultural uses, the amount of prime farmland in Tulare County has been declining since the Department started compiling such information in 1998. Similarly, the amount of land under Williamson Act Contracts has been declining in recent years.

ⓘ	*The Animal Confinement Facilities Plan (ACFP) – Phase I (adopted by the Tulare County Board of Supervisors on April 11, 2000) contains policies and standards that specifically address the location and development of dairies and other bovine animal confinement operations in Tulare County. The adopted element is incorporated by reference into this General Plan Update document as Chapter 12 and is not being amended as part of the General Plan 2030 Update. A copy of the adopted element is available from the Tulare County Resource Management Agency and is also available on the internet at http://generalplan.co.tulare.ca.us/*

3.1 Agriculture Preservation

AG-1	To promote the long-term preservation of productive and potentially-productive agricultural lands and to accommodate agricultural-support services and agriculturally-related activities that supports the viability of agriculture and further the County's economic development goals.

AG-1.1 Primary Land Use
The County shall maintain agriculture as the primary land use in the valley region of the County, not only in recognition of the economic importance of agriculture, but also in terms of agriculture's real contribution to the conservation of open space and natural resources.

AG-1.2 Coordination
The County shall coordinate its agricultural policies and programs with State and federal regulations to preserve agricultural lands.

AG-1.3 Williamson Act
The County should promote the use of the California Land Conservation Act (Williamson Act) on all agricultural lands throughout the County located outside established UDBs and HDBs. However, this policy carries with it a caveat that support for the Williamson Act as a tax reduction component is premised on continued funding of the State subvention program that offsets the loss of property taxes.

AG-1.4 Williamson Act in UDBs and HDBs
The County shall support non-renewal or cancellation processes that meet State law for lands within UDBs and HDBs.

AG-1.5 Substandard Williamson Act Parcels
The County may work to remove parcels that are less than 10 acres in Prime Farmland and less than 40 Acres in Non-Prime Farmland from Williamson Act Contracts (Williamson Act key term for Prime/Non-Prime).

AG-1.6 Conservation Easements
The County shall consider developing an Agricultural Conservation Easement Program (ACEP) to help protect and preserve agricultural lands (including "Important Farmlands"), as defined in this Element. This program may require payment of an in-lieu fee sufficient to purchase a farmland conservation easement, farmland deed restriction, or other farmland conservation mechanism as a condition of approval for conservation of important agricultural land to non-agricultural use. If available, the ACEP shall be used for replacement lands determined to be of statewide significance (Prime or other Important Farmlands), or sensitive and necessary for the preservation of agricultural land, including land that may be a part of a community separator as part of a comprehensive program to establish community separators. The in-lieu fee or other conservation mechanism shall recognize the importance of land value and shall require equivalent mitigation.

AG-1.7 Preservation of Agricultural Lands
The County shall promote the preservation of its agricultural economic base and open space resources through the implementation of resource management programs such as the Williamson Act, Rural Valley Lands Plan, Foothill Growth Management Plan or similar types of strategies and the identification of growth boundaries for all urban areas located in the County.

AG-1.8 Agriculture within Urban Boundaries
The County shall not approve applications for preserves or regular Williamson Act contracts on lands located within a UDB and/or HDB unless it is demonstrated that the restriction of such land will not detrimentally affect the growth of the community involved for the succeeding 10 years, that the property in question has special public values for open space, conservation, other comparable uses, or that the contract is consistent with the publicly desirable future use and control of the land in question. If proposed within a UDB of an incorporated city, the County shall give written notice to the affected city pursuant to Government Code §51233.

AG-1.9 Agricultural Preserves Outside Urban Boundaries
The County shall grant approval of individual applications for agricultural preserves located outside a UDB provided that the property involved meets the requirements of the Williamson Act and the regulations of Tulare County.

AG-1.10 Extension of Infrastructure into Agricultural Areas
The County shall oppose extension of urban services, such as sewer lines, water lines, or other urban infrastructure, into areas designated for agriculture use unless necessary to resolve a public health situation. Where necessary to address a public health issue, services should be located in public rights-of-way in order to prevent interference with agricultural operations and to provide ease of access for operation and maintenance. Service capacity and length of lines should be designed to prevent the conversion of agricultural lands into urban/suburban uses.

AG-1.11 Agricultural Buffers
The County shall examine the feasibility of employing agricultural buffers between agricultural and non-agricultural uses, and along the edges of UDBs and HDBs. Considering factors include the type of operation and chemicals used for spraying, building orientation, planting of trees for screening, location of existing and future rights-of-way (roads, railroads, canals, power lines, etc.), and unique site conditions.

AG-1.12 Ranchettes
The County shall discourage the creation of ranchettes in areas designated Valley Agriculture and Foothill Agriculture.

ⓘ *Also see Chapter 4-Land Use, Policy LU-3.5: Rural Residential Designations.*

AG-1.13 Agricultural Related Uses
The County shall allow agriculturally-related uses, including value-added processing facilities by discretionary approvals in areas designated Valley or Foothill Agriculture, subject to the following criteria:

1. The use shall provide a needed service to the surrounding agricultural area which cannot be provided more efficiently within urban areas or which requires location in a non-urban area because of unusual site requirements or operational characteristics;
2. The use shall not be sited on productive agricultural lands if less productive land is available in the vicinity;
3. The operational or physical characteristics of the use shall not have a significant adverse impact on water resources or the use or management of surrounding agricultural properties within at least one-quarter (1/4) mile radius;
4. A probable workforce should be located nearby or be readily available; and
5. For proposed value-added agricultural processing facilities, the evaluation under criterion “1” above shall consider the service requirements of the use and the capability and capacity of cities and unincorporated communities to provide the required services.

ⓘ *Also see Chapter 4-Land Use, Policy LU-2.5: Agricultural Support Facilities.*

AG-1.14 Right-to-Farm Noticing
The County shall condition discretionary permits for special uses and residential development within or adjacent to agricultural areas upon the recording of a Right-to-Farm Notice (Ordinance Code of Tulare County, Part VII, Chapter 29, Section 07-29-1000 and following) which is an acknowledgment that residents in the area should be prepared to accept the inconveniences and discomfort associated with normal farming activities and that an established agricultural operation shall not be considered a nuisance due to changes in the surrounding area.

ⓘ *Tulare County Ordinance No. 2931, commonly known as the Right-to-Farm Ordinance, was adopted to promote a good neighbor policy between agriculturalists and other residents by making clear what rights each has when they live near one another. The ordinance is designed to protect agricultural land uses from conflicts with non-agricultural uses, as well as to help purchasers and residents understand the inconveniences that may occur as the natural result of living in or near agricultural areas.*

AG-1.15 Soil Productivity
The County shall encourage landowners to participate in voluntary programs that reduce soil erosion and increase soil productivity. To this end, the County shall promote coordination between the Natural Resources Conservation Service, Resource Conservation Districts, University of California (UC) Cooperative Extension, and other similar agencies and organizations.

AG-1.16 Schools in Agricultural Zones
The County shall discourage the location of new schools in areas designated for agriculture, unless the School District agrees to the construction and maintenance of all necessary infrastructure impacted by the project.

ⓘ *The County's authority regarding the location of schools is limited by Government Code §53094.*

AG-1.17 Agricultural Water Resources
The County shall seek to protect and enhance surface water and groundwater resources critical to agriculture.

ⓘ *For further information about water, see Chapter 11-Water Resources.*

AG-1.18 Farmland Trust and Funding Sources
The in-lieu fees collected by the County may be transferred to the Central Valley Farmland Trust or other qualifying entity, which will arrange the purchase of conservation easements. The County shall encourage the Trust or other qualifying entity to pursue a variety of funding sources (grants, donations, taxes, or other funds) to fund implementation of the ACEP.

3.2 Agriculture Productivity and Employment

AG-2 To support increased viability of agriculture production and promote high-value, employment-intensive, and diverse agricultural production and processing in Tulare County.

AG-2.1 Diversified Agriculture
The County shall support and encourage trends in agricultural production that shift suitable land into a variety of crops that can support a more diverse agricultural sector.

AG-2.2 Market Research
The County shall encourage agricultural agencies and marketing cooperatives to research global and domestic markets for high-value crops capable of being produced in Tulare County.

AG-2.3 Technical Assistance
The County shall support efforts of the UC Cooperative Extension, the Agricultural Commissioner/Sealer, and other entities to provide technical assistance to farmers attempting to shift to higher-value crops.

AG-2.4 Crop Care Education
The County shall encourage regional workforce training programs in crop care and other related agricultural support fields.

AG-2.5 High-Value-Added Food Processing
The County shall support accelerated development of high-value-added food processing industries.

AG-2.6 Biotechnology and Biofuels
The County shall encourage the location of industrial and research oriented businesses specializing in biotechnologies and biofuels that can enhance agricultural productivity, enhance food processing activities in the County, provide for new agriculturally-related products and markets, or otherwise enhance the agricultural sector in the County.

AG-2.7 Tourist-Related Agricultural Uses
The County shall support the expansion of agricultural tourism that helps maintain sites in agricultural production, provided these activities do not negatively impact on-going agricultural operations on adjacent lands.

ⓘ *Also see tourism policies included in Chapter 5-Economic Development.*

AG-2.8 Agricultural Education Programs
The County shall support and participate in on-going public education programs conducted by organizations such as the County Agricultural Commissioner/Sealer's Office, College of the Sequoias, UC Cooperative Extension, Farm Bureau, and industry organizations to help the public better understand the importance of the agricultural industry.

AG-2.9 Global Marketing
The County shall support and participate in appropriate efforts to market Tulare County as a premier location for the production of globally-distributed food, fiber, and energy products.

AG-2.10 Regional Transportation
The County shall work to improve regional transportation systems to support the movement of agricultural products locally, nationally, and globally.

ⓘ *Also see Chapter 13-Transportation and Circulation and Corridor Framework Policy C-1.5: Agricultural Enterprises.*

AG-2.11 Energy Production
The County shall encourage and support the development of new agricultural related industries featuring alternative energy, utilization of agricultural waste, and solar or wind farms.

3.3 Work Plan/Implementation Measures

The following table documents the Implementation Measures included with the General Plan to implement the goals and policies included in this Element.

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
1. The County shall take the lead to work with cities and Tulare County Association of Governments (TCAG) to establish a comprehensive agricultural land mitigation program to offset impacts of agricultural land conversion to urban uses.	AG-1.1 AG-1.6 AG-1.7	RMA, Planning				■
2. The County shall review agricultural land preservation programs and assess their effectiveness in furthering the County's agricultural goals and policies as part of an annual report.	AG-1.3 AG-1.4 AG-1.5	RMA, Planning				■
3. The County shall maintain a comprehensive database of contracted agricultural preserves located within UDBs of unincorporated communities and review these preserves at regular intervals. The purpose of the review is to determine whether any unincorporated community in the County is unduly constrained or confined by land contracted under the Williamson Act. If this has occurred, the County shall encourage the land owner to file a notice of non-renewal so that the contract on the property could be terminated nine years from that date. The Williamson Act review shall be closely coordinated with the review of UDBs.	AG-1.3 AG-1.4 AG-1.5 AG-1.8	RMA, Planning				■
4. The County of Tulare shall serve Notices of Non-Renewal of Land Conservation Contracts in conformance with California Government Code § 51245 through 51246, for properties that do not meet the minimum parcels sizes set forth under § 51222 of the California Government Code, i.e. at least 10 acres in size in the case of prime agricultural land or at least	AG-1.5	RMA, Planning			■	

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
40 acres in size in the case of non prime agricultural land						
5. The County shall work with TCAG and the cities to establish criteria for the locations for agricultural conservation easements.	AG-1.6	RMA, Planning	■			■
6. The County shall continue to use the Rural Valley Lands Plan Parcel Evaluation Procedure to evaluate changes to agricultural zoning as per RVLP Policy-1.1: Development Intensity. The point total shall be considered along with other relevant information to determine the establishment and expansion of UDBs only.	AG-1.7 AG-1.8 AG-1.9 AG-1.10 PF-2.2 PF-3.2 PF-4-3	RMA, Planning				■
7. The County shall coordinate with Local Area Formation Commission (LAFCo) and TCAG to closely monitor the amount of agriculture lands converted annually to urban and other non-agricultural uses. This data will be reported as a feature of the Annual Report prepared pursuant to Policy PF-7.1: Annual Review, and shall be a comparative assessment of development efficiency, such as population per acre, for each community and hamlet.	AG-1.7 PF-7.1	RMA, Planning				■
8. The County shall request LAFCo to adopt rules which discourage extension of sewer and water services into agricultural areas.	AG-1.10	RMA, Planning		■		
9. The County shall consider implementing an Agricultural Buffer Program which will help stabilize edge conditions, protect agricultural operations, and moderate the untimely conversion of farmland to urban development. To do so, the County shall identify interested stakeholder groups, including the Tulare County Farm Bureau, the Building Industry Association, the Department of Pesticide Regulation, and others to conduct workshops to resolve the following types of implementation issues: a. Distance: to be determined, b. Stabilization of edge	AG-1.11	RMA, Planning; Agricultural Commissioner/Sealer	■			■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
condition, c. Types of operation, d. Types of land uses (i.e. schools, etc.) e. Building orientation, f. Planting of trees for screening, g. Location of existing and future rights-of-way, h. Types of uses allowed inside the buffer-zone, i. Unique site conditions, j. Responsibility for maintenance, k. Scale of development, l. Mechanism for exemptions, and m. Implementation targeted for 2010-2015. When implemented, all new discretionary development shall be required to provide an agricultural buffer transition area.						
10. Whenever new or updated community, hamlet, sub-area or redevelopment plans are contemplated, existing non-conforming uses shall be identified as a part of the planning effort.	AG-1.13 PF-1.10	RMA, Planning				■
11. The County shall compile and provide information to the local real estate industry to help make the public aware of the right-to-farm provisions in the County.	AG-1.14	RMA, Planning				■
12. During the General Plan referral (GPR) and California Environmental Quality Act (CEQA) processes for new schools in agricultural areas, the County shall indicate to the School District which roadways and other public facilities and services require further analysis and cost considerations.	AG-1.15	RMA: Planning, Roads, and Engineering				■
13. The County shall amend the Zoning Ordinance to provide for agriculturally related energy production industries.	AG-2.11	RMA, Planning				■
14. The County shall continue to use an Agricultural Advisory Committee as the formal advisory body for issues relating to agricultural zones and agriculture in Tulare County.	Chapter 3	Agricultural Advisory Committee				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
15. The County shall consider the implementation of an Agricultural Conservation Easement Program (ACEP) to help protect and preserve agricultural lands (including "Important Farmlands"), as defined in Policy AG-1.6.	AG 1.6	RMA, Planning		■		

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4. Land Use

The Land Use Element is divided into two major sections. The first major section describes the County's Land Use Diagram, the land use designations that are shown on the diagram, and related standards for development. The second major section sets out Goals, Policies, and Work Plan/ Implementation Measures organized under the following eight headings:

- Growth and Development (Section 4.1)
- Resource Uses (Section 4.2)
- Residential Uses (Section 4.3)
- Commercial Development (Section 4.4)
- Industrial Development (Section 4.5)
- Public/Institutional Development (Section 4.6)
- Community Design (Section 4.7)
- Work Plan/Implementation Measures (Section 4.8)

Key Terms

The following terms are used throughout this element to describe land use issues:

Agricultural Uses. The growing of food and fiber and the raising of livestock and poultry.

Agriculturally-Related Uses. Uses that support agricultural production or processing (e.g., agricultural supply firm, commercial processing facilities that serve the agricultural community, etc.).

Big Box Retail. Any large store format that is larger than a specified threshold of square footage in size and is an anchor for the smaller retail or services. Generally, this threshold ranges from as low as 60,000 square feet to 200,000 square feet. Big box retail stores may include discount department stores, grocery stores, warehouse clubs, outlet stores, or niche market stores offering a large selection of items in a particular category or any combination of retail or services.

Determination of Land Use Designation. When there is a need for interpretation of a land use designation due to multiple land use designations on a property as shown on the Land Use Diagram, the Planning Commission shall have interpretative authority. Where there is a disagreement over interpretation, the Board of Supervisors shall have final authority over interpretation of a land use designation.

Employee Housing. Any portion of any housing accommodation, or property upon which a housing accommodation is located, as defined in the California Health and Safety Code §17008.

Farmworker Housing. Any housing or living accommodation or camping facilities maintained in connection with any work or place where farm work is being performed, providing for the housing of five or more agricultural employees.

General Plan Amendments. State law limits amendments to the General Plan to four (4) times per calendar year, with certain exceptions as provided by State Law. The County has established an amendment schedule and process that is in compliance with State Law. The Resource Management Agency (RMA) – Planning Branch shall be responsible for the administration of this process.

Land Use Diagrams. A variety of diagrams that are a graphic expression of a general plan's goals and policies concerning the distribution of land uses, urban design, infrastructure, etc. A diagram must be consistent with the general plan text (§65300.5) and should have the same long-term planning perspective as the rest of the general plan. It is generally detailed enough so that various users of the general plan and its diagrams can come to the same general conclusion but also allow a degree of flexibility in decision-making as times change.

Land Use Designation. An applied policy on the General Plan Land Use Diagrams that defines allowable uses and development standards for agricultural, residential, commercial, industrial development, and other basic categories of land use.

Leadership in Energy and Environmental Design (LEED) Certification or Rating System. LEED certification is the recognized standard for measuring building sustainability, and provides developers with a way to demonstrate that a building project has achieved its environmental goals and the building is performing as designed. The LEED green building rating system, developed and administered by the U.S. Green Building Council (USGBC), is intended to promote design and construction practices that increase profitability while reducing the negative environmental impacts of buildings and improving occupant health and well-being. Getting certified allows developers to take advantage of a growing number of State and local government incentives.

The LEED rating system offers four certification levels for new construction that correspond to the number of credits accrued in five green design categories: sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality.

Leadership in Energy and Environmental Design for Neighborhood Development (LEED-ND). The U.S. Green Building Council, the Congress for the New Urbanism, and the Natural Resources Defense Council (NRDC) have developed a LEED-ND rating system. The LEED-ND rating system combines smart growth, new urbanism, and green building principles into the first national standard for neighborhood design.

Major Waterway. Any navigable body of water.

Mixed Use. Any combination of retail/commercial, service, office, residential, hotel, or other use in the same building or on the same site typically configured in one (1) of the following ways:

- **Vertical Mixed Use**. A single structure with the above floors used for residential or office use and a portion of the ground floor for retail/commercial or service uses.
- **Horizontal Mixed Use – Attached**. A single structure which provides retail/commercial or service use in the portion fronting the public or private street with attached residential or office uses behind.
- **Horizontal Mixed Use – Detached**. Two (2) or more structures on one (1) site which provide retail/commercial or service uses in the structure(s) fronting the public or private street, and residential or office uses in separate structure(s) behind or to the side.

Natural Resource Lands. Lands generally designated and devoted to agriculture, grazing, resource extraction, and other open space uses.

Parcel (Lot). A lot, or continuous group of lots, in single ownership or under single control, usually considered a unit for purposes of development.

River-bank/River-edge. The lateral confines (channel margins) during all but flood stage of a river.

Shallow Soils. Soils which are 10 to 20 inches in depth, with a limited water holding capacity.

Slope. The rate of rise or fall of the natural terrain, expressed as a percentage, of an area with a single direction of slope. Simple slope is measured by the following formula: simple slope = (V/H) X 100 where V = vertical distance between the highest elevation and lowest elevation of a straight line drawn perpendicular to the sloping surface; H = horizontal distance of a straight line drawn perpendicular to the sloping surface.

Sprawl. An inefficient pattern of land use conversion in which the growth rate of urbanized land significantly exceeds the rate of population growth over a specified time period. Typically sprawl is an auto-dependent, single use, often discontinuous, low-density development pattern.

Supercenter. Supercenters typically average about 250,000 square feet in size and are considerably larger than big box outlets. Supercenters contain a full sized grocery store and full size discount retail store under the same roof. The average supercenter is approximately six acres with required parking spaces four to seven times larger.

Unstable Soils. Soils which have a greater potential for sediment yield.

Value-Added Agricultural Uses (Processing Facilities). Uses or facilities that increase the value of agricultural produce over the cost of raw produce, such as canning, drying, freezing, or packaging agricultural produce for ultimate sale to consumers.

Existing Conditions Overview

As of 2006, Tulare County encompasses over 4,839 square miles of land. Federal lands including wilderness, national forests, monuments, and parks make up approximately 52.2 percent, the largest percentage found in the County. Agricultural uses, which include row crops, orchards, dairies, and grazing lands on the valley floor and in the foothills total over 2,080.7 square miles or approximately 43 percent of the entire County. Other uses such as County parks, urban uses in incorporated cities, communities, hamlets, and infrastructure rights-of-way, etc. make up the remaining land in the County.

Land Use Diagram and Standards

The Tulare County Land Use Diagram consists of several diagrams. The diagram that is broadest in scope is the Countywide Land Use Diagram, which depicts designations for resource lands primarily on the San Joaquin Valley floor, in the western foothills and mountains (see Figure 4-1: Tulare County Planning Areas). The remainder of the County is covered by Land Use Diagrams for Community Plan Areas, the Kings River Plan, Mountain Sub-areas, and County Adopted City General Plan areas. The final component of the Land Use Diagrams consists of Land Use Designations. See Table 4-1: Land Use Designation Matrix and Table 4.2: Countywide Land Use Designation Matrix.

When there is a need for interpretation to the General Plan Land Use Designation and/or goals and policies of the General Plan, the Planning Commission will have interpretative authority. If there is a disagreement over interpretation, the Board of Supervisors will have final authority over interpretation. The various Land Use Diagrams in the Land Use Element, area plans, and Community Plans have generally employed a similar set of land use designations although not every Land Use Diagram uses every designation. Since the General Plan was originally adopted (1964), several regional and

Community Plans have been adopted, each with its own set of land use and development standards. The result is that by 2005 Tulare County was using over 60 separate land use designations. It is the intent of this Land Use Element to establish a common set of land use designations that will be utilized in all future County plans and future updates of existing plans. This uniform set of land use and development standards will be used in all updates and new planning efforts including the General Plan, Area Plans, Community Plans, Hamlet Plans, Corridor Plans, Sub-area Plans, Planned Community Areas, and County Adopted City General Plans.

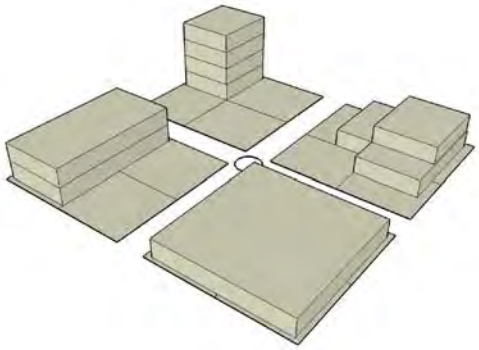
State planning law requires General Plans to establish "standards of population density and building intensity" for the various land use designations in the plan (Government Code § 65302(a)). To satisfy this requirement, the General Plan includes such standards for each land use designation appearing on the Land Use Diagram. Table 4-1 provides the land use designations and standards used in Tulare County. Following are explanations of how these standards operate.

- **Residential Development**
  Standards of development density for residential uses are stated as the allowable range of dwelling units per gross acre. The term acre refers to gross acre and includes all land (including streets and rights-of-way), streams, rivers, canals, and other geographical features, designated for a particular residential use, while net acreage excludes streets and rights-of-way and geographical features. In urban areas, net acreage is normally 20 to 25 percent less for a given area than gross acreage. In rural areas and open space areas, the difference between net and gross can be as low as five percent. Net acreage is the standard typically used in zoning, while gross acreage is more commonly used in General Plan designations.

  Standards of population density for residential uses can be derived by multiplying the maximum allowable number of dwelling units per gross acre by the average number of persons per dwelling unit assumed for the applicable residential designation. According to the California Department of Finance the average household size in Tulare County in 2006 was 3.27 persons per household.

- **Non-Residential Development**
  Standards of building intensity for non-residential uses such as commercial and industrial development are stated as maximum floor-area ratios (FARs). A floor-area ratio is the ratio of the gross building square footage on a lot to the net square footage of the lot (or parcel).

  For example, on a lot with 10,000 net square feet of land area, an FAR of 1.00 will allow 10,000 square feet of gross building floor area to be built, regardless of the number of stories in the building (e.g., 5,000 square feet per floor on two floors or 10,000 square feet on one floor). On the same 10,000-square-foot lot, an FAR of 0.50 would allow 5,000 square feet of floor area, and an FAR of 0.25 would allow 2,500 square feet. The diagram below shows graphically how various building configurations representing an FAR of 1.00 could cover a lot.



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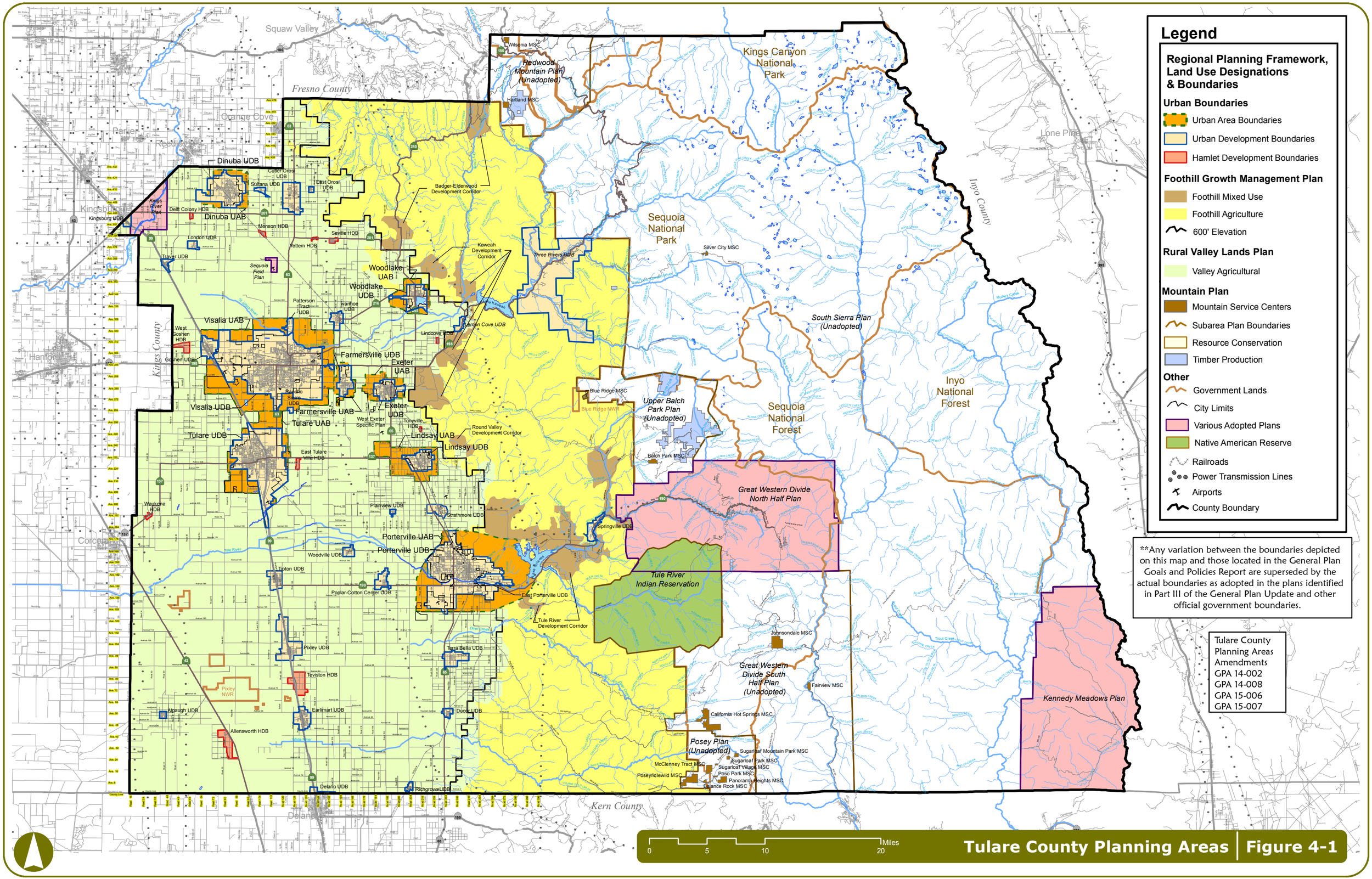

Tulare County Planning Areas | Figure 4-1

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Table 4.1 Land Use Designations

Land Use Designations	Land Use Label	Minimum Lot Size	Dwelling Units Per Acre (DU/Acre)[1]	Maximum Floor Area Ratio (FAR)[1]	Where Allowed			
					CAC UDB[2]	Community[3]	Hamlet[4]	Other Unincorporated
Resource[5]								
Valley Agricultural[6]	VA	10-80 Acres	1 Unit/10 Acres Max.	0.02				F/K/R/UABs
Foothill Agricultural	FA	160 Acres	1 Unit/80 Acres Max.	0.02[7]		Three Rivers		F/R
Resource Conservation	RC	160 Acres	1 Unit/40 Acres Max.	0.02	■	■	■[8]	All
Timber Production	TP	160 Acres	--	0.02				M
Native American Reserve	NAR	--	--	--				TRIR
Urban Reserve	UR	--	1 Unit/10 Acres Max.	0.02	■	■	■[8]	
Residential[9]								
Rural Residential[10]	RR	--	1 Unit/1 to 10 Acres	--	■	■		K/M
Mountain Residential[10]	MR	--	1 Unit/20,000 sq.ft. plus 1 Additional Unit for every 40 Acres	--				M
Low Density Residential[10]	LDR	--	1 – 4	--	■	■		
Low-Medium Density Residential	LMDR	--	1 – 8	--	■	■	■[8]	K
Medium Density Residential	MDR	--	4 – 14	--	■	■	■[8]	M
Medium-High Density Residential	MHDR	--	10 – 20	--		■		
High Density Residential	HDR	--	14 – 30	--	■	■	■[8]	

Table 4.1 Land Use Designations Continued

Land Use Designations	Land Use Label	Minimum Lot Size	Dwelling Units Per Acre (DU/Acre)[1]	Maximum Floor Area Ratio (FAR)[1]	Where Allowed			
					CAC UDB[2]	Community[3]	Hamlet[4]	Other Unincorporated
Commercial								
Neighborhood Commercial	NC	--	--	0.50		■		K/M
General Commercial	GC	--	--	0.50	■	■	■[8]	M
Community Commercial	CC	--	--	0.50		■		
Highway Commercial	HC	--	--	0.50	■	■	■[8]	C
Town Center	TC	--	10 – 30	2.00		■		
Service Commercial	SC	--	--	0.50	■	■	■[8]	
Office Commercial	OC	--	--	0.50		■		
Commercial Recreation	CR	--	--	0.50	■	■	■[8]	C/K/M
Mixed Use								
Mixed Use[4]	MU	--	1 – 30	0.50		■	■	C/M
Foothill Mixed Use[7]	FMU	--	--[7]	--[7]				F
Planned Community Area	PCA	TBD	1-30	2.00		■		C/F/R/M
Industrial								
Light Industrial	LI		--	0.50	■	■	■[8]	C/M
Heavy Industrial	HI		--	0.50	■	■	■	C/M
Public								
Public/Quasi-Public	P/QP	--	--	--	■	■	■	C/K/P[11]/M
Public Recreation	PR	--	--	--	■	■	■	K/M

C=Regional Corridor, F=Foothill Growth Management Plan, K=Kings River, M=Mountain Sub-area Plans, P= Sequoia Field Land Use and Public Buildings Element, R=Rural Valley Lands Plan, TRIR=Tule River Indian Reservation

1) *Increased density or intensity above that specified may be permitted pursuant to an adopted community plan, master development plan, or specific plan to achieve planning goals as set forth in this General Plan.*

2) *Urbanized uses under the Urban Reserve (UR), Rural Residential (RR), Low-Medium Density Residential (LMDR), Medium Density Residential (MDR), High Density Residential(HDR), Highway Commercial (HC), Service Commercial (SC), Commercial Recreation (CR), Light Industrial (LI), Heavy Industrial (HI), Public/Quasi-Public (P/QP), and Public Recreation (PR) designations inside County Adopted City Urban Development Boundary (UDBs) are only allowed as provided for in Chapter 2-Planning Framework.*

   Minimum lot sizes for residential uses: public water and onsite septic 12,500 square feet; onsite water and septic 1 acre; and well and sewer 8,000 square feet or 20,000 square feet of lot coverage, whichever is greater.

3) *Table 4.2: Countywide Land Use Designation Matrix, cross-references existing community plan land uses with the land uses defined in this table, however, these uses will not be in effect until a community plan is updated or prepared.*

4) *Mixed Use (MU) developments may include residential uses, as allowed by the designation, and commercial services that do not impact the provision of services to existing development.*

5) *For Resource designations, FAR is intended to represent the building intensity for the area so designated and not on a per parcel FAR basis. FAR does not apply to facilities necessary for resource production.*

6) *Except as Exempt by the RVLP Checklist.*

7) *Please see Part II, Area Plans, Foothill Growth Management Plan for allowed uses and development standards in the foothill development corridors. Maximum density and intensity are determined based on site capacity analyses conducted in accordance with the procedures and standards set forth in Part II, Chapter 3 (FGMP).*

8) *These uses may be used if a hamlet chooses a traditional plan approach in accordance with Policy PF-3.4: Mixed use Opportunities.*

9) *Increased density or intensity above that specified may be permitted pursuant to an adopted community plan or specific plan to achieve planning goals as set forth in this General Plan.*

10) *Exception for number of dwelling units on slopes greater than 30% (see written description of Land Use type).*

11) *In accordance with the PC Zone, not less than 200 contiguous acres.*

12) *Only as defined by the Sequoia Field Land Use and Public Buildings Element.*

Table 4.2 Countywide Land Use Designation Matrix

GP Update Land Use Designation	Framework Area	Existing Plan and Land Use Designation
Resource		
Valley Agriculture	KRP/ RVLP/ UAB/ UDB	Dinuba CACGP: Agriculture; Exeter CACGP: Agriculture; Farmersville CACGP: Agriculture/Open Space; FGMP: Valley Agriculture Extensions; Kings River AP: Agricultural; Lindsay CACGP: Agricultural; Porterville CACGP: Agriculture; RVLP: Agriculture; Tulare CACGP: Agriculture; Visalia CACGP: Agriculture; Woodlake CACGP: Agriculture.
Foothill Agriculture	FGMP/ UDB	FGMP: Extensive Agriculture, Foothill Extensions; Three Rivers CP: Agriculture.
Resource Conservation	KRP/ MFP/ UDB	Great Western Divide North Sub-AP: Resource Management/Conservation, Open Space; Kennedy Meadows Sub-AP: Resource Conservation; Kings River AP: Designated Floodway; Springville CP: Designated Floodway Overlay.
Timber Production	MFP	None
Native American Reserve	FGMP/ MFP	None
Urban Reserve	UDB	Culter-Orosi CP: Residential Reserve, Industrial Reserve; Dinuba CACGP: Residential Reserve, Industrial Reserve; Exeter CACGP: Urban Reserve; Goshen CP: Residential Reserve; Ivanhoe CP: Residential Reserve, Industrial Reserve; Pixley CP: Residential Reserve, Commercial Reserve, Industrial Reserve; Poplar/Cotton CP: Residential Reserve, Commercial Reserve, Industrial Reserve; Strathmore CP: Residential Reserve, Commercial Reserve, Industrial Reserve; Terra Bella-Ducor CP: Residential Reserve, Commercial Reserve, Industrial Reserve; Traver CP: Residential Reserve, Industrial Reserve; Woodlake CACGP: Residential Reserve, Industrial Reserve.
Residential		
Rural Residential	KRP/ UAB/ UDB	Dinuba CACGP: None; Exeter CACGP: Rural Residential; Farmersville CACGP: Residential; Kings River AP: Rural Residential/ Recreation Opportunity Area; Lindsay CACGP: Rural Residential; Porterville CACGP: Rural Density Residential; Springville CP: Low Density Residential; Three Rivers CP: Low Density Residential, Medium Density Residential, Individual Mobile Homes; Tulare CACGP: Large Lot Residential; Visalia CACGP: Rural Residential; Woodlake CACGP: Rural Residential.
Mountain Residential	MFP	Great Western Divide North Sub-AP: Mountain Residenital-5ac/min, Mountain Residential-20,000sq./min.; Kennedy Meadows Sub-AP: Mountain Residential-5ac/min.
Low Density Residential	KRP/ UDB	Dinuba CACGP: Low Density Residential; Farmersville CACGP: Low Density Residential; Kings River AP: Residential, Residential (A), Kings River Golf Course and Country Club; Three Rivers CP: High Density Residential.

Table 4.2 Countywide Land Use Designation Matrix Continued

GP Update Land Use Designation	Framework Area	Existing Plan and Land Use Designation
Low-Medium Density Residential	UDB	Culter-Orosi CP: Low Density Residential; Dinuba CACGP: Medium Density Residential; Earlimart CP: Low Density Residential; Exeter CACGP: Low Density Residential/Single Family Residential; Farmersville CACGP: Residential; Goshen CP: Residential; Ivanhoe CP: Low Density Residential; Lindsay CACGP: Low Density Residential; Pixley CP: Low Density Residential; Poplar/Cotton CP: Low Density Residential; Porterville CACGP: Low Density Residential; Richgrove CP: Residential; Springville CP: Medium Density Residential; Strathmore CP: Low Density Residential; Terra Bella-Ducor CP: Low Density Residential; Tulare CACGP: Low Density Residential; Visalia CACGP: Planned Residential; Woodlake CACGP: Low Density Residential.
Medium Density Residential	MFP/ UDB	Culter-Orosi CP: Medium Density Residential; Exeter CACGP: Medium Density Residential/Multifamily Residential; Goshen CP: Multifamily Residential, Mobile Homes Overlay in Multifamily Residential; Great Western Divide North Sub-AP: Multiple Family Residential; Ivanhoe CP: Medium Density Residential; Lindsay CACGP: Medium Density Residential; Pixley CP: Medium Density Residential; Poplar/Cotton CP: Medium Density Residential; Porterville CACGP: Medium Density Residential; Richgrove CP: Residential; Springville CP: Planned High Density Residential; Strathmore CP: Medium Density Residential; Terra Bella-Ducor CP: Medium Density Residential; Three Rivers CP: Multiple Family Residential; Traver CP: Medium Density Residential; Tulare CACGP: Multifamily Residential; Visalia CACGP: Planned Residential; Woodlake CACGP: Medium Density Residential.
Medium-High Residential	UDB	None
High Density Residential	UDB	Culter-Orosi CP: High Density Residential; Earlimart CP: High Density Residential; Ivanhoe CP: High Density Residential; Lindsay CACGP: High Density Residential; Pixley CP: High Density Residential; Poplar/Cotton CP: High Density Residential; Porterville CACGP: High Density Residential; Richgrove CP: Residential; Strathmore CP: High Density Residential; Terra Bella-Ducor CP: High Density Residential; Tulare CACGP: Multifamily Residential; Visalia CACGP: Planned Residential; Woodlake CACGP: High Density Residential.
Commercial		
Neighborhood Commercial	KRP/ MFP/ UDB	Culter-Orosi CP: Neighborhood Commercial; Dinuba CACGP: Neighborhood Commercial; Exeter CACGP: Neighborhood Commercial; Great Western Divide North Sub-AP: Neighborhood Commercial; Ivanhoe CP: Neighborhood Commercial; Kings River AP: Neighborhood Commercial; Lindsay CACGP: Neighborhood Commercial; Porterville CACGP: Neighborhood Commercial; Woodlake CACGP: Neighborhood Commercial.

Table 4.2 Countywide Land Use Designation Matrix Continued

GP Update Land Use Designation	Framework Area	Existing Plan and Land Use Designation[1]
General Commercial	MFP/ UDB	Earlimart CP: General Commercial; Exeter CACGP: General Commercial; Farmersville CACGP : General Commercial; Goshen CP: Community Commercial; Great Western Divide North Sub-AP: General Commercial; Ivanhoe CP: Commercial; Pixley CP: Commercial; Poplar/Cotton CP: Commercial; Richgrove CP: Commercial; Springville CP: Planned Community Commercial; Strathmore CP: General Commercial; Terra Bella-Ducor CP: Commercial; Three Rivers CP: Community Commercial; Traver CP: Commercial; Tulare CACGP: General Commercial; Visalia CACGP: Local Retail Commercial; Woodlake CACGP: Commercial Service.
Community Commercial	UDB	Culter-Orosi CP: General Commercial; Porterville CACGP: General Commercial; Visalia CACGP: Regional Retail Commercial.
Highway Commercial	UDB	Dinuba CACGP: Highway Commercial; Earlimart CP: Highway Commercial; Farmersville CACGP: Highway Commercial; Goshen CP: Highway Commercial; Lindsay CACGP: Highway Commercial; Strathmore CP: Highway Commercial; Woodlake CACGP: Highway Commercial.
Town Center	UDB	Dinuba CACGP: Central Commercial; Exeter CACGP: Central Commercial; Lindsay CACGP: Central Commercial; Woodlake CACGP: Central Commercial.
Service Commercial	UDB	Culter-Orosi CP: Service Commercial; Dinuba CACGP: Service Commercial; Earlimart CP: Service Commercial; Exeter CACGP: General Commercial; Farmersville CACGP: Service Commercial; Goshen CP: Service Commercial; Ivanhoe CP: Commercial; Lindsay CACGP: Service Commercial; Pixley CP: Commercial; Poplar/Cotton CP: Commercial; Porterville CACGP: Heavy Commercial; Strathmore CP: Service Commercial; Terra Bella-Ducor CP: Commercial; Traver CP: Commercial; Visalia CACGP: Service Commercial.
Office Commercial	UDB	Culter-Orosi CP: Office; Porterville CACGP: Professional and Office; Visalia CACGP: Professional Office.
Commercial Recreation	KRP/ MFP/ UDB	Goshen CP: Private Recreation; Great Western Divide North Sub-AP: General Commercial; Kennedy Meadows Sub-AP: Mountain Commercial; Kings River AP: Commercial-Recreation, Private Recreation; Springville CP: Planned Recreation Commercial; Three Rivers CP: Commercial Recreation; Visalia CACGP: Commercial Recreation.
Mixed Use		
Mixed Use	HDB/ MFP/ UDB	Allensworth HP; Alpaugh CP; Balance Rock MSC; Balch Park MSC; Blue Ridge MSC; California Hot Springs/Pine Flat MSC; Camp Nelson MSC; Coffee Camp MSC; Delft Colony HP; East Orosi CP; East Tulare Villa HP; Johnsondale MSC; Fairview MSC; Hart MSC; Lemon Cove CP; Lindcove HP; London CP; McClenney Tract MSC; Mineral King MSC; Monson HP; Panorama Park MSC.; Pine Flat MSC; Plainview CP; Ponderosa MSC; Posey/Idlewild MSC; Poso Park MSC; Seville HP; Silver City MSC; Sugerloaf Mountain Park MSC; Sugarloaf Park MSC; Sugarloaf Village MSC; Teviston HP; Tipton CP; Tonyville HP; Waukena HP; West Goshen HP; Wishon MSC; Wilsonia MSC; Woodville CP; Yettem HP.

Table 4.2 Countywide Land Use Designation Matrix Continued

GP Update Land Use Designation	Framework Area	Existing Plan and Land Use Designation
Foothill Mixed Use	FGMP	FGMP: Development Corridor.
Planned Community Area	UDB	None
Industrial		
Light Industrial	UDB	Culter-Orosi CP: Industry; Dinuba CACGP: Limited Industrial, General Industrial; Earlimart CP: Industry; Exeter CACGP: Industrial; Farmersville CACGP: Industrial; Goshen CP : Industrial, Low Intensity Commercial/Industrial; Ivanhoe CP: Industrial; Lindsay CACGP: Manufacturing, Service Commercial/ Light Manufacturing; Pixley CP: Planned Industrial/ Commercial, Industrial; Poplar/Cotton CP: Industrial; Porterville CACGP: Industrial; Richgrove CP: Industrial; Strathmore CP: Industrial; Terra Bella-Ducor CP: Industrial; Three Rivers CP: Light Industrial; Traver CP: Industrial; Tulare CACGP: General Industrial, Service Commercial; Visalia CACGP: Industrial, Light Industrial; Woodlake CACGP: General Industrial.
Heavy Industrial	UDB	Culter-Orosi CP : Industry (subject to a Special Use Permit); Dinuba CACGP: General Industrial; Earlimart CP: Industry (subject to a Special Use Permit); Exeter CACGP: Industrial; Farmersville CACGP: Industrial; Goshen CP: Industrial; Lindsay CACGP: Planned Manufacturing (subject to a Special Use Permit); Pixley CP: Industrial; Poplar/Cotton CP: Industrial (subject to a Special Use Permit); Porterville CACGP: Industrial; Terra Bella-Ducor CP: Industrial; Traver CP: Industrial (subject to a Special Use Permit); Tulare CACGP: General Industrial; Visalia CACGP: Industrial; Woodlake CACGP: General Industrial.
Public		
Public/Quasi-Public	KRP/ MFP/ UDB	Culter-Orosi CP: Quasi-Public Uses; Dinuba CACGP: Community Facilities; Earlimart CP: Quasi-Public Uses; Exeter CACGP: Public/Quasi-Public; Farmersville CACGP: Public/ Quasi-Public; Goshen CP: Schools and Parks; Great Western Divide North Sub-AP: Quasi-Public; Ivanhoe CP: Public; Kings River AP: Public; Lindsay CACGP: Parks and Schools, Public/Semi-Public; Pixley CP: Public/Quasi-Public; Poplar/Cotton CP: Public/Quasi-Public; Porterville CACGP: Public; Richgrove CP: Public/Quasi-Public; Springville CP: Public/Quasi Public; Strathmore CP: Public; Terra Bella-Ducor CP: Public/Quasi Public; Traver CP: Quasi-Public; Tulare CACGP: Public Facilities; Visalia CACGP: Quasi-Public; Woodlake CACGP: Public Facilities.
Public Recreation	UDB	Culter-Orosi CP: Parks/ Open Space; Earlimart CP: Parks/ Open Space; Exeter CACGP: Open Space; Juvenile Detention Facility-Sequoia Field Land Use and Public Buildings Element: Major Public and Semi-Public Facility; Porterville CACGP: Recreation and Open Space; Sequoia Field Land Use and Public Buildings Element: Major Public and Semi-Public Facilities; Three Rivers CP: Parks and Recreation; Tulare CACGP: Recreation; Visalia CACGP: Parks; Woodlake CACGP: Parks and Recreation.

[1.] CACGP=County Adopted City General Plan, AP=Area Plan, CP=Community Plan, MSC=Mountain Service Center, HP=Hamlet Plan, RVLP=Rural Valley Lands Plan, UDB=Urban Development Boundary, UAB=Urban Area Boundary, FGMP=Foothill Growth Management Plan, MFP=Mountain Framework Plan, KRP=Kings River Plan

Resource Land Use Designations

Valley Agriculture (VA)

This designation establishes areas for intensive agricultural activities on prime valley agricultural soils and other productive or potentially productive valley lands where commercial agricultural uses can exist without conflicting with other uses, or where conflicts can be mitigated. Uses typically allowed include irrigated crop production, orchards and vineyards; livestock; resource extraction activities and facilities that directly support agricultural operations, such as processing; and other necessary public utility and safety facilities. Allowable residential development includes one principal and one secondary dwelling unit per parcel for relative, caretaker/employee, or farm worker housing. This designation is located primarily outside UDBs on the valley floor. The RVLP generally applies to the central valley below the 600-foot elevation contour line outside the County's UDBs and HDBs *(see RVLP Part II page 1-1*). The following standards apply to all parcels designated as valley agriculture except those parcels deemed non-viable in accordance with the procedures set forth in Part II-Chapter 1 (RVLP). Maximum density, intensity, and parcel size for non-viable parcels is determined in accordance with the procedures set forth in Part II-Chapter 1 (RVLP).

Minimum Parcel Size: 10-80 Acres

Maximum Density: 1 dwelling unit per 10 acres

- One additional unit may be allowed for every 20 additional acres over the minimum parcel size

Maximum Intensity: 0.02 FAR

Foothill Agriculture (FA)

This designation establishes areas for agricultural activities primarily located in the foothill and mountain regions where extensive commercial agricultural uses can exist without conflicting with other uses, or where conflicts can be mitigated. Uses typically allowed include orchards and vineyards, grazing of cattle, horses, sheep, and goats on grazing lands, resource extraction activities, facilities that directly support agricultural operations, and other necessary public utility and safety facilities. Allowable residential development includes one principal and one secondary dwelling unit per 160 acres, for relative, caretaker/employee, or farm worker housing. This designation is located primarily outside UDBs and foothill development corridors, in the foothills. The Foothill Growth Management Plan applies to all lands designated Foothill Agriculture except those lands located in the Community Plan areas.

Minimum Parcel Size: 160 Acres

Maximum Density: 1 dwelling unit per 80 acres

- One additional unit may be allowed for every 40 additional acres over 160 acres

Maximum Intensity: 0.02 FAR

Resource Conservation (RC)

This designation is intended to identify and protect open space lands including State and National forests and parks, Bureau of Land Management lands, and other public lands specifically preserved for timberland protection (non-TP designated), watershed preservation, outdoor recreation, grazing, and wilderness or wildlife/environmental preserves. Uses typically allowed in this designation are those related to resource utilization and resource conservation activities and could include uses that provide a buffer between incompatible types of land use. Resource operations and other facilities such as grazing, hunting and fishing clubs, guest ranches, campgrounds and summer camps on private lands, require a Special Use Permit. Residential uses (1 dwelling unit per 40 acres), may be conditionally allowed. This designation is located primarily outside UDBs in the foothill and mountain regions. This

designation applies to those State and federally owned parks, forests, recreational and/or management areas of which the County has no land use jurisdiction.

Minimum Parcel Size: 160 Acres

Maximum Density: 1 Dwelling Unit per 40 acres

Maximum Intensity: 0.02 FAR (Special Use Permit required)

Timber Production (TP)
This designation is intended to identify and protect areas that demonstrate that the "highest and best use" is timber production and accompanying accessory uses. The designation is applied to lands that are zoned Timber Production Zone (TPZ) pursuant to the California Timberland Productivity Act of 1982. Public improvements and urban services are prohibited on TP lands except where necessary and compatible with ongoing timber production.

Minimum Parcel Size: 160 Acres

Maximum Intensity: 0.02 FAR (Special Use Permit required)

Native American Reserve (NAR)
This designation recognizes tribal trust and reservation lands managed by a Native American Tribe under the United States Department of the Interior's Bureau of Indian Affairs over which the County has no land use jurisdiction. The County encourages adoption of tribal management plans for these areas that consider compatibility and impacts upon adjacent area facilities and plans.

Minimum Parcel Size: Not Applicable

Maximum Intensity: Not Applicable

Urban Reserve (UR)
This designation establishes a holding zone whereby properties shall remain zoned for agriculture or open space use until such a time as conversion to urban uses is deemed appropriate. The UR designation shall be appended by the intended future land use designation, for example, Urban Reserve – Heavy Industrial (UR-HI). When a rezoning occurs without a General Plan amendment, the UR designation shall be removed from the parcel. This designation applies primarily within UDBs.

Minimum Parcel Size: 1 Dwelling Unit per 10 Acres

Maximum Intensity: 0.02 FAR

Residential Land Use Designations

Rural Residential (RR)

This designation establishes areas for single family dwellings and farm worker housing located away from cities and communities in agricultural or rural areas where dispersed residential development on 1-5 acre parcels is set forth in community or sub-area plans. Typical allowed uses include: detached single-family dwellings and secondary dwellings; agricultural uses such as crop production, orchards and vineyards, grazing, and animal raising; and necessary public utility and safety facilities. This designation is primarily located at the edges of UDBs in the lower foothill and valley regions.

Maximum Density:

- 1 Dwelling Unit/1 Acres if average slope is less than 30 percent.
- 1 Dwelling Unit/10 Acres if average slope is 30 percent or greater.

Mountain Residential (MR)

This designation establishes areas for single-family dwellings within the foothill and mountain regions where steep slopes and limited services provide for dispersed residential development on larger parcels. Typical uses allowed include: detached single-family homes and secondary dwellings; agricultural uses such as grazing or animal raising; and limited agricultural support businesses such as roadside produce stands, tourist-related lodging and activities; resource extraction; and public support uses such as churches, schools, libraries, medical facilities, parks, and other necessary public utility and safety facilities. This designation is generally found in Mountain Sub-Area Plans.

Maximum Density:

- 1 Dwelling Unit/20,000 square feet plus 1 additional Unit for each 40 Acres
- 1 Dwelling Unit/ 40 Acres if average slope is 30 percent or greater

Low Density Residential (LDR)

This designation establishes areas for single-family residences with individual homes on lots generally ranging from 12,500 square feet to one acre. Uses typically allowed include: detached single-family homes; secondary dwellings; and residential support uses such as churches, schools, and other necessary public utility and safety facilities. This designation is typically found inside communities or on the outside edge of UDBs.

Maximum Density: 1-4 Dwelling Units/Acre

- When areas in this designation are identified as primary recharge areas for a community's water system, acreage minimums should not be below 2 acres.
- Areas with 30 percent or higher average slopes should have acreage minimums in excess of 3 acres.

Low-Medium Density Residential (LMDR)

This designation establishes areas suitable for single-family neighborhoods at relatively low densities on lots ranging from generally 5,000 to 12,500 square feet in urbanized areas. Uses typically allowed include detached single-family homes; secondary dwellings; and residential support uses such as churches, schools, parks, medical facilities, and other necessary public utility and safety facilities. This designation is used only within UDBs.

Maximum Density: 1-8 Dwelling Units/Acre

Medium Density Residential (MDR)
This land designation establishes areas for single-family and low-density multi-family dwellings. Uses typically allowed include single-family dwellings, second units, townhomes, duplexes, triplexes, and mobile home parks. This designation is used only within UDBs.

Maximum Density: 4-14 Dwelling Units/Acre

Medium-High Density Residential (MHDR)
This designation establishes areas for compact single family and multi-family dwellings in urbanized areas. Uses typically allowed include a wide range of living accommodations, including single-family dwellings, duplexes, townhouses, and low-rise apartments. This designation is used only within UDBs. Dwelling Units are based on Gross Acreage and development shall be no less than that identified as the intensity per gross acreage for Medium-High Density Residential designated lands.

Maximum Density: 10-20 Dwelling Units/Acre

High Density Residential (HDR)
This designation established areas for multi-family dwellings in urbanized areas. Uses typically allowed include: duplexes, townhouses, and apartments located near schools, parks, and other public services. This designation is used only within UDBs. Dwelling Units are based on Gross Acreage and development shall be no less than that identified as the intensity per gross acreage High Density Residential designated lands.

Maximum Density: 14-30 Dwelling Units/Acre

Commercial Land Use Designations

Neighborhood Commercial (NC)
This designation establishes areas for small-scale, general retail, and service businesses that provide goods to the immediate surrounding area. Uses typically allowed include: food and beverage retail sales; limited personal, medical, professional, and repair services; and retail sales. This designation is found primarily within UDBs.

Maximum Intensity: 0.5 FAR

General Commercial (GC)
This designation establishes areas for small, localized retail, recreational, and service businesses that provide goods and services to the surrounding community. Uses typically allowed include: eating and drinking establishments; food and beverage retail sales; limited personal, medical, professional services; repair services; and retail sales. Such facilities may range from a single use to a cluster of uses such as a shopping center. This designation is found primarily within UDBs.

Maximum Intensity: 0.5 FAR

Community Commercial (CC)
This designation establishes areas for a full range of retail commercial establishments serving multiple neighborhoods or an entire community and surrounding area. Uses typically allowed include: big box retail, eating and drinking establishments; food and beverage sales; hardware stores; gasoline service stations; public buildings; general merchandise stores; and professional and financial offices. Such facilities are typically arranged as a cluster of uses such as a shopping center. This designation is found primarily within UDBs.

Maximum Intensity: 0.5 FAR

Highway Commercial (HC)
This designation establishes areas for retail, recreational, and service-based businesses which provide goods and services to tourists and commuters along major highways. Uses typically allowed include: big box retail; eating and drinking establishments; food and beverage retail sales; limited repair services; lodging (hotels and motels); and retail sales. Such facilities may range from a single use to a cluster of uses located at a freeway off ramp or major highway intersection. This designation is located primarily within UDBs and pursuant to regional growth corridor plans and policies.

Maximum Intensity: 0.5 FAR

Town Center (TC)
This designation establishes the commercial core of the community and provides for a concentration of businesses and a central gathering place for social activity, commonly formed around a pedestrian oriented “main street”. Uses typically allowed include: eating and drinking establishments; retail sales; personal, medical and professional services; entertainment venues; civic uses; medium-high and high-density residential dwellings; and mixed use development. These areas may contain a combination of vacant or infill parcels and parcels with the potential to redevelop over time. This designation is found only within UDBs.

Maximum Intensity: 2.0 FAR

Maximum Density: 10-30 Dwelling Units/Acre

Service Commercial (SC)
This designation establishes areas for service commercial uses in urbanizing areas. Uses typically allowed include: automotive-related or heavy equipment sales and services; building maintenance services; construction sales and services; and warehousing. This designation is found primarily within UDBs.

Maximum Intensity: 0.5 FAR

Office Commercial (OC)
This designation establishes areas in communities that provide employment opportunities for medical and professional services and limited support retail sales. Uses typically allowed include: offices and office parks; and secondary support uses such as printing, supply stores; and eating establishments. This designation is found primarily within UDBs.

Maximum Intensity: 0.5 FAR

Commercial Recreation (CR)
This designation establishes areas for a mix of commercial uses oriented toward tourists and other visitors. Uses typically allowed include: recreation activities (e.g., golf courses, archery ranges, theme parks); dining; entertainment services; destination-resort hotels; motels; dude ranches; wineries; spas; and on-site employee residential uses. Residential uses would only be allowed in conjunction with resort uses as onsite caretaker or employee housing. This designation is found primarily within the foothill and mountain regions.

Maximum Intensity: 0.5 FAR

Mixed Use Land Use Designations

Mixed Use (MU)

This designation establishes areas appropriate for the planned integration of some combination of retail; office; single and multi-family residential; hotel; recreation; limited industrial; public facilities or other compatible use.

Mixed Use areas allow for higher density and intensity development, redevelopment, or a broad spectrum of compatible land uses ranging from a single use on one parcel to a cluster of uses. These areas are intended to provide flexibility in design and use for contiguous parcels having multiple owners, to protect and enhance the character of the area. The consideration of development proposals in Mixed Use areas should focus on compatibility between land uses, and the development potential of a given area compared to the existing and proposed mix of land uses and their development impacts. Density bonuses for residential units of 25 % to 35% may be granted, according to the Density Bonus Ordinance or State law, to Mixed Use areas to encourage the development of affordable housing units, compact development in the implementation of development strategies that support the use of mass transit, reduction of air impacts, and implementation of measures that contribute to the reduction of global warming. Specific plans may be required to assist in the consideration of Mixed Use development proposals. This designation is found within UDBs, HDBs, PCAs, and MSCs and pursuant to regional growth corridor plans and policies.

Maximum Density: 1-30.0 Dwelling Units/Acre

Maximum Intensity: 0.5 FAR

Foothill Mixed Use (FMU)

This designation establishes areas within the foothill development corridors for residential, commercial recreation, and light industrial uses. Density bonuses for residential units of 25% to 35% may be granted, according to the Density Bonus Ordinance or State law, to Mixed Use areas to encourage the development of affordable housing units, compact development in the implementation of development strategies that support the use of mass transit, reduction of air impacts, and implementation of measures that contribute to the reduction of global warming. Specific plans, Planned Unit Developments, or Development Agreements may be required to assist in the consideration of Mixed Use development proposals. Uses typically allowed include: single-family and multi-family residential dwellings, eating and drinking establishments; food and beverage retail sales; limited personal, medical, professional services; repair services; retail sales; and agricultural-related industrial uses. Such facilities may range from a single use to a cluster of uses.

(Maximum Density and Intensity in the Foothill Region are determined based on site capacity and analysis conducted in accordance with the procedures and standards set forth in Part II-Chapter 3: Foothill Growth Management Plan).

> ⓘ *See Part II, Area Plans, Foothill Growth Management Plan for a description of the foothill development corridors.*

Planned Community Area (PCA)

This designation establishes areas suitable for comprehensive planning for long term community development on large tracts of land, typically under unified ownership or development control, and allows for master planning where a community plan typically does not currently exist. Planned communities have a balance of land uses that support economic growth and promote an exceptional quality of life. Planned communities accommodate mixed use developments that include residential; commercial; administrative; industrial; and other activity. Density bonuses for residential units of 25% to 35% may be granted, according to the Density Bonus Ordinance or State law, to Mixed Use areas to

encourage the development of affordable housing units, compact development in the implementation of development strategies that support the use of mass transit, reduction of air impacts, and implementation of measures that contribute to the reduction of global warming. Master Development Plans and Area Development Plans are required to assist in the consideration of Mixed Use development proposals. Furthermore, such communities must ensure provision of open space, infrastructure and public services needed to support growth. No PCA shall be established unless it includes a minimum of 200 continuous acres of land.

Maximum Density: 30.0 Dwelling Units/Acre

Maximum Intensity: 2.0 FAR

(Maximum Density and Intensity in the Foothill Region are determined based on site capacity and analysis conducted in accordance with the procedures and standards set forth in Part II-Chapter 3: Foothill Growth Management Plan).

Industrial Land Use Designations

Light Industrial (LI)
This designation establishes areas for a range of non-intensive business park, industrial park, and storage uses that do not have detrimental noise or odor impacts on surrounding urban uses. Uses typically allowed include: warehousing; welding and fabrication shops; manufacturing and processing; and business support uses such as retail or eating establishments that serve adjacent light industrial uses and employees. This designation is found primarily within UDBs and pursuant to regional growth corridor plans and policies.

Maximum Intensity: 0.5 FAR

Heavy Industrial (HI)
This designation establishes areas for the full range of industrial uses, which may cause noise or odor impacts on surrounding urban uses. Uses typically allowed include: manufacturing; processing; fabrication; ethanol plants; warehouses; asphalt batch plants; mills; wood processing yards; and support uses such as retail or eating establishments that support adjacent heavy industrial uses and employees. This designation is found both primarily within UDBs and pursuant to regional growth corridor plans and policies.

Maximum Intensity: 0.5 FAR

Public Facilities Land Use Designations

Public/Quasi-Public (P/QP)
This designation establishes areas for public and quasi-public services and facilities that are necessary to maintain the welfare of County residents and businesses. Uses typically allowed include: churches; schools; civic centers; hospitals; fire stations; sheriff stations; liquid and solid waste disposal sites; cemeteries; airports; and public utility and safety facilities. This designation is found primarily within UDBs and pursuant to regional growth corridor plans and policies.

Density/Intensity: None Specified

Public Recreation (PR)
This designation establishes areas for public recreational/tourist activities. Uses typically allowed include: large community/regional parks; historic sites; boat ramps/marinas; and other recreation related public utility and safety facilities operated by a County, State, or federal agency.

Density/Intensity: None Specified

4.1 Growth and Development

LU-1 To encourage the overall economic and social growth of the County while maintaining its quality of life standards and highly efficient land use.

LU-1.1 Smart Growth and Healthy Communities
The County shall promote the principles of smart growth and healthy communities in UDBs and HDBs, including:

1. Creating walkable neighborhoods,
2. Providing a mix of residential densities,
3. Creating a strong sense of place,
4. Mixing land uses,
5. Directing growth toward existing communities,
6. Building compactly,
7. Discouraging sprawl,
8. Encouraging infill,
9. Preserving open space,
10. Creating a range of housing opportunities and choices,
11. Utilizing planned community zoning to provide for the orderly pre-planning and long term development of large tracks of land which may contain a variety of land uses, but are under unified ownership or development control, and
12. Encouraging connectivity between new and existing development.

LU-1.2 Innovative Development
The County shall promote flexibility and innovation through the use of planned unit developments, development agreements, specific plans, Mixed Use projects, and other innovative development and planning techniques.

LU-1.3 Prevent Incompatible Uses
The County shall discourage the intrusion into existing urban areas of new incompatible land uses that produce significant noise, odors, or fumes.

LU-1.4 Compact Development
The County shall actively support the development of compact mixed use projects that reduce travel distances.

LU- 1.5 Paper Subdivision Consolidation
The County shall encourage consolidation of paper parcels/subdivisions, especially those lots that are designated Valley Agriculture (VA), Foothill Agriculture (FA), or Resource Conservation (RC), are irregular in shape, inadequate in size for proper use, or lack infrastructure.

LU-1.6 Permitting Procedures and Regulations
The County shall continue to ensure that its permitting procedures and regulations are consistent and efficient.

LU-1.7 Development on Slopes
The County shall require a preliminary soils report for development projects in areas with shallow or unstable soils or slopes in excess of 15 percent. If the preliminary soil report indicates soil conditions could be unstable, a detailed geologic/hydrologic report by a registered geologist, civil engineer, or engineering geologist shall be required demonstrating the suitability of any proposed or additional development.

LU-1.8 Encourage Infill Development
The County shall encourage and provide incentives for infill development to occur in communities and hamlets within or adjacent to existing development in order to maximize the use of land within existing urban areas, minimize the conversion of existing agricultural land, and minimize environmental concerns associated with new development.

LU-1.9 Specific Plans
The County shall require specific plans or equivalent plans for residential, commercial, or Mixed Use projects of 80 acres or larger, as described in Table 4.3. Specific plans or equivalent plans may also be required for projects that contain sufficient scale or complexity that are less than 80 acres.

LU-1.10 Roadway Access
The County shall require access to public roadways for all new development.

Polices continued on Page 4-26.

Table 4.3

Specific Plan Content (Policy LU-1.9: Specific Plans)

All specific plans prepared for projects in the unincorporated portions of the County shall, at a minimum comprise five planning frameworks. Within each framework, the specific plan must provide the goals and policies that will guide subsequent decisions on projects, permits, and approvals needed within the specific plan area. The frameworks will also include a detailed implementation plan that will identify responsibilities, financing requirements, and phasing/timing.

The **Land Use Framework** will include the proposed land use pattern, proposed development densities/intensities in each area, and development phasing. The framework will also include specifics on development standards.

The specific plan prepared will provide complete guidance on the land use provisions that will guide future development within the specific plan area. At a minimum, these provisions will address the following topics. The County may require that other topics be addressed, depending on site specific needs.

- **Land Use Classification**. A land use classification system that clearly identifies the uses that may be allowed in each area. The Specific Plan will provide further details on development standards for each area within the plan. This classification system will use clear terminology to define and further describe allowable uses. The classification system will employ up-to-date terminology and an appropriate combination of specific and generic land use types, instead of a lengthy “encyclopedic” list of allowed uses that can quickly become obsolete.

- **General Site Planning**. These standards will specify the requirements that would be applied to all development and land uses regardless of the applicable land use designation. These would address, as appropriate, site access requirements and entry statements; energy efficiency; water efficiency; fences, walls, sound walls, hedges, buffers, and other screening; noise regulations; outdoor lighting standards; performance standards (e.g., air quality, glare, vibration, etc.), undergrounding of utilities; and other similar topics.

- **Development Standards**. Development standards for each land use designation (e.g., building forms, design objectives, land use objectives, height limitations, setback requirements, site coverage requirements, etc.) will be organized in tables and graphically illustrated wherever possible. In this portion of the plan, integration of the project with the existing community will be a key.

- **Housing Mix**. The specific plan will discuss the proposed mix of housing types within the community. In keeping with the County’s Housing Element, affordable housing requirements and bonus density provisions and related incentives will be incorporated, as appropriate. A key to the housing component will be incorporation of housing opportunities including a mix of housing types for households having a mix of income ranges, including a phasing strategy that ensures the development of this mix, including prioritizing construction of higher density housing as a part of each phase of the project.

Table 4.3

Specific Plan Content (Policy LU-1.9: Specific Plans) continued

The **Design Framework** will provide detailed design guidelines that will be used as the Specific Plan is implemented/developed. The purpose of these guidelines will be to establish the expected level of design within the Specific Plan area while still maintaining project flexibility and innovation. The objective of this framework is not to dictate a specific design, but to establish design expectations.

The design guidelines provided will be illustrated to help explain the intent and expectations. This part of the Specific Plan will also incorporate detailed landscaping standards, including specific requirements for preliminary and final landscape plan submittal and review.

The Design Framework will also provide guidance on the integration of the streetscape into the overall project design. The framework will define building type requirements of each area and define how buildings address the street and interact with public improvements and the public rights-of-way to define the overall character of the streetscape (e.g., new urbanism principles and smart growth concepts). The Design Framework shall also set out design concepts for the integration of new development with the existing adjacent community and future growth areas.

The **Circulation Framework** will include the proposed circulation network, system elements, connectivity on all sides of the project, design standards, and system phasing. This framework will address all components of the circulation system, including vehicular traffic, bicycles, pedestrian movement, transit, rail, air and inter-modal connectivity. The design of transportation systems will be included to discourage reliance on vehicular travel and focus increased opportunities for the provision of alternative modes of travel (public transit, bicycle, and pedestrian). This component will also address parking and loading standards if different from the standard County requirements.

The Infrastructure/Public Facilities Framework will cover infrastructure requirements (water, sewer, storm drainage, electricity, natural gas, communications, parkland, schools, libraries, law enforcement, fire suppression and other needed public facilities and services). For infrastructure, the framework will address the proposed trunk infrastructure system improvements and system phasing necessary to support implementation of the land use plan.

The Water Supply Availability Framework will cover the assessment requirements for availability and sufficiency of long-term water supplies for development projects that do not otherwise trigger California Water Code Section 10910 (et seq.).

4.2 Resource Uses

LU-2	To provide for the long-term conservation of productive and natural resource lands including agricultural, foothill, mountain, and riparian areas and to accommodate services and related activities that support the continued viability and conservation of resource lands.

LU-2.1 Agricultural Lands
The County shall maintain agriculturally-designated areas for agriculture use by directing urban development away from valuable agricultural lands to cities, unincorporated communities, hamlets, and planned community areas where public facilities and infrastructure are available.

LU-2.2 Agricultural Parcel Splits
The County shall deny requests to create parcels less than the minimum allowed size in agricultural designated areas, unless specifically provided by Division of Land Exceptions in the Tulare County Zoning Ordinance, as may be adopted by the Board of Supervisors, based on concerns that these parcels are less viable economic farming units and that the resultant increase in residential density increases the potential for conflict with normal agricultural practices on adjacent parcels. Evidence that the affected parcel may be an uneconomic farming unit due to its current size, soil conditions, or other factors shall not alone be considered a sufficient basis to grant an exception. The RVLP shall be the tool to determine the viability of a given agricultural parcel in the valley and its ability to be subdivided, unless specifically provided by Division of Land Exceptions in the Tulare County Zoning Ordinance.

LU-2.3 Open Space Character
The County shall require that all new development requiring a County discretionary approval, including parcel and subdivision maps, be planned and designed to maintain the scenic open space character of open space resources including, but not limited to, agricultural areas, rangeland, riparian areas, etc., within the view corridors of highways. New development shall utilize natural landforms and vegetation in the least visually disruptive way possible and use design, construction and maintenance techniques that minimize the visibility of structures on hilltops, hillsides, ridgelines, steep slopes, and canyons.

LU-2.4 Residential Agriculture Uses
The County shall limit, to the extent allowed by law, residential development of lands designated for agricultural use. Only residences needed to support farming operations, agriculture, tourism, and agricultural support services shall be allowed.

LU-2.5 Agricultural Support Facilities
The County shall encourage beneficial reuse of existing or vacant agricultural support facilities for new businesses (including non-agricultural uses).

ⓘ *Also see Chapter 3-Agriculture, Policy AG-1.13: Agricultural Related Uses.*

LU-2.6 Industrial Development
Other than provided in Policy LU-2.5: Agricultural Support Facilities, the County shall, and the cities should, through their industrial development policies, approve only those agriculturally-oriented or related industries and uses that can demonstrate, whether by location and/or controlled methods of operation, that they will not adversely affect

agricultural production or the County's natural resources. These uses should be located inside UDBs, HDBs, PCAs and regional growth corridors unless necessary for the support of agricultural operations or as provided in Policy LU-2.5: Agricultural Support Facilities.

LU-2.7 Timing of Conversion from Urban Reserve
The following three criteria shall be used to determine when conversion of Urban Reserve designated properties to urban uses is appropriate:

1. The property is not subject to an agricultural preserve contract;
2. Full urban services, schools, and infrastructure sufficient to serve urban development either are available or can be made available; and
3. At least 30 percent of the property boundaries are contiguous to existing urban development.

LU-2.8 Merger of Sub Standard Agricultural Parcels
The County shall provide incentives to encourage the merger of sub-standard parcels of less than 10 acres in size located in agricultural areas, where such parcels are under common ownership.

4.3 Residential Uses

LU-3 To provide adequate land in a range of residential densities to accommodate the housing needs of all income groups expected to reside in the County, and ensure a high quality of development.

LU-3.1 Residential Developments
The County shall encourage new major residential development to locate near existing infrastructure for employment centers, services, and recreation.

LU-3.2 Cluster Development
The County shall encourage proposed residential development to be clustered onto portions of the site that are more suitable to accommodating the development, and shall require access either directly onto a public road or via a privately-maintained road designed to meet County road standards.

LU-3.3 High-Density Residential Locations
The County shall encourage high-density residential development (greater than 14 dwelling units per gross acre) to locate along collector roadways and transit routes, and near public facilities (e.g., schools, parks), shopping, recreation, and entertainment.

LU-3.4 Mountain, Rural, and Low-Density Residential
The Mountain, Rural, and Low-Density Residential development located outside of a UDB shall be subject to the following requirements:

1. Able to meet the Rural Valley Lands Plan policies, Foothill Growth Management Plan policies, or Mountain Framework Plan policies and requirements,
2. Areas which qualify for minimum densities greater than 1 unit per 10 acres must meet the following characteristics (unless clustering is used):
   a. Average slopes must be below a 30 percent grade,

b. Not identified as a moderate-to-high landslide hazard area, and

c. Access to new development is provided via an existing publicly-maintained road or via a new road improved consistent with adopted County standards.

LU-3.5 Rural Residential Designations
The County shall not re-zone any new areas for residential development in the RVLP area, unless it can be shown that other objectives, such as buffers and the relationship of the development to surrounding uses, can be achieved.

ⓘ *Also see Chapter 3-Agriculture, Policy AG-1.12: Ranchettes.*

LU-3.6 Project Design
The County shall require residential project design to consider natural features, noise exposure of residents, visibility of structures, circulation, access, and the relationship of the project to surrounding uses. Residential densities and lot patterns will be determined by these and other factors. As a result, the maximum density specified by General Plan designations or zoning for a given parcel of land may not be attained.

LU-3.7 Second Dwellings
The County shall allow second dwellings by ministerial permit in areas designated to allow single-family residential units. Such dwellings shall not be sold as independent units. Irrespective of the applicable maximum density limitation of the land use category, the second dwelling shall be clearly subordinate in size and similar in design to the primary dwelling.

LU-3.8 Rural Residential Interface
The County shall minimize potential land use conflicts at the interface between urban development and existing developed rural-residential areas.

4.4 Commercial Development

LU-4 To maintain economic vitality and promote the development of commercial uses that are compatible with surrounding land uses and meet the present and future needs of County residents, the regional community, and visitors.

LU-4.1 Neighborhood Commercial Uses
The County shall encourage the development of small neighborhood convenience and grocery facilities to meet the everyday shopping and personal needs of immediately surrounding residential land uses in communities and hamlets.

LU-4.2 Big Box Development
The County shall limit the size of large “big-box” retail businesses on a case-by-case basis to be consistent with the character of the area.

LU-4.3 Commercial Service Locations
The County shall provide for commercial service businesses such as warehouses, repair services, business support services, furniture sales, and building materials sales where they will not adversely affect surrounding properties, typically in areas serving occasional needs rather than day-to-day needs. Criteria to be used in siting commercial service areas are:

1. Provide good access to highways or major collectors,
2. Buffer existing or planned residential areas,
3. Develop in-depth rather than in a strip fashion along the access road to provide adequate room for parking, buffering, etc., and
4. Encourage development as integrated planned areas in conjunction with community commercial areas or with common architectural and site development features.

LU-4.4 Travel-Oriented Tourist Commercial Uses
The County shall require travel-oriented tourist commercial uses (for example, entertainment, commercial recreation, lodging, fuel) to be used in areas where traffic patterns are oriented to major arterials and highways. Exceptions may be granted for resort or retreat related developments that are sited based on unique natural features.

LU-4.5 Commercial Building Design
The County shall encourage that new commercial development is consistent with the existing design of the surrounding community or neighborhood by encouraging similar façades, proportionate scale, parking, landscaping, and lighting.

LU-4.6 Commercial Storage Facilities
The County shall require that commercial storage facilities, including "mini" storage, indoor and outdoor storage facilities, and contractor's materials storage be screened from view through landscape buffers or other natural landscapes.

4.5 Industrial Development

LU-5 To designate adequate land for, and promote development of, industrial uses to meet the present and future needs of County residents for jobs and to maintain economic vitality.

LU-5.1 Industrial Developments
The County shall encourage a wide range of industrial development activities in appropriate locations to promote economic development, employment opportunities, and provide a sound tax base.

LU-5.2 Industrial Park Developments
The County shall encourage the development of visually attractive, well-landscaped, and carefully-planned industrial parks in areas with suitable topography and adequate infrastructure.

LU-5.3 Storage Screening
The County shall require adequate landscaping and screening of industrial storage areas to minimize visual impacts and enhance the quality of the environment.

LU-5.4 Compatibility with Surrounding Land Use
The County shall encourage the infill of existing industrial areas and ensure that proposed industrial uses will not result in significant harmful impacts to adjacent land uses .

LU-5.5 Access
The County shall locate industrial development where there is access from collector or arterial roads, and where industrial/heavy commercial traffic is not routed through residential or other areas with uses not compatible with such traffic.

LU-5.6 Industrial Use Buffer
Unless mitigated, the County shall prohibit new heavy industrial uses to a minimum of 500 feet from schools, hospitals, or populated residential areas (more than 10 dwelling units within a quarter mile diameter area). The buffer area may be used for activities not creating impacts to adjoining sensitive land uses for uses accessory to the heavy industrial use. The establishment of a buffer may not be required when mitigated or may not apply to industrial uses that do not impact adjoining uses identified herein. The buffer area shall be landscaped and maintained.

LU-5.7 Industrial Uses Allowed on Resource Land
The County shall allow asphalt batch plants and similar processing facilities that are directly associated with the development of a resource to be located at the site of the resource under the following criteria:

1. Any such site shall be developed under the Special Use Permit process, and
2. The Special Use Permit shall not permit any commercial or industrial uses that are not related to the processing of the resource.

4.6 Public/Institutional Development

LU-6	To provide for the development of public and institutional uses that support surrounding land uses and meet the present and future needs of County residents, the regional community, and visitors.

LU-6.1 Public Activity Centers
The County shall encourage the development of centrally located public activity centers that include parks, schools, libraries, and community centers in communities via accessible, multiple modes of travel.

LU-6.2 Buffers
The County shall ensure that residential and other non-compatible land uses are separated and buffered from major public facilities such as landfills, airports, and sewage treatment plants.

LU-6.3 Schools in Neighborhoods
The County shall encourage school districts to locate new schools in areas that allow students to safely walk or bike from their homes.

LU-6.4 Schools District Coordination
The County shall work with school districts to coordinate the location of new schools and responsibility for developing and maintaining associated infrastructure.

4.7 Community Design

LU-7 To preserve and enhance the character and scale of Tulare County's communities, hamlets, and rural areas, including their design heritage and historic character.

LU-7.1 Distinctive Neighborhoods
The County shall encourage development of diverse and distinctive neighborhoods that build on the patterns of the natural landscape and are responsive in their location and context and to the lifecycle needs of the residents.

LU-7.2 Integrate Natural Features
The County shall emphasize each community's natural features as the visual framework for new development and redevelopment.

LU-7.3 Friendly Streets
The County shall encourage new streets within UDBs to be designed and constructed to not only accommodate traffic, but also serve as comfortable pedestrian and cyclist environments. These should include, but not be limited to:

1. Street tree planting adjacent to curbs and between the street and sidewalk to provide a buffer between pedestrians and automobiles, where appropriate,
2. Minimize curb cuts along streets,
3. Sidewalks on both sides of streets, where feasible,
4. Bike lanes and walking paths, where feasible on collectors and arterials, and
5. Traffic calming devices such as roundabouts, bulb-outs at intersections, traffic tables, and other comparable techniques.

LU-7.4 Streetscape Continuity
The County shall ensure that streetscape elements (e.g., street signs, trees, and furniture) maintain visual continuity and follow a common image for each community.

LU-7.5 Crime Prevention Through Design
The County shall encourage design of open space areas, bicycle and pedestrian systems, and housing projects so that there is as much informal surveillance by people as possible to deter crime.

LU-7.6 Screening
The County shall require landscaping to adequately screen new industrial uses to minimize visual impacts.

LU-7.7 Parking Location
The County shall encourage automobile-oriented uses to locate parking in areas less visible from the street (e.g., reverse frontage commercial centers).

LU-7.8 Building Abatement
The County shall continue its abatement program of assisting private property owners who are looking to remove unsightly trailers, signage, and trash. The County shall also focus on abatement of dilapidated buildings and structures.

LU-7.9 Visual Access
The County shall require new development to maintain visual access to views of hillsides, creeks, and other distinctive natural areas by regulating building orientation, height, and bulk.

LU-7.10 Gateways/Entry-points
The County shall identify key entry points on the edges of the communities and support programs and projects that enhance gateways and transitional zones between communities to make each community more distinctive and inviting for residents and visitors.

LU-7.11 Adaptive Reuse
The County shall encourage and promote the adaptive reuse of historic structures in order to preserve the historic resources that are a part of Tulare County's heritage.

ⓘ *Also see Chapter 3-Agriculture, Policy AG-1.13: Agricultural Related Uses.*

LU-7.12 Historic Buildings and Areas
The County shall encourage preservation of buildings and areas with special and recognized historic, architectural, or aesthetic value. New development should respect architecturally and historically significant buildings and areas. Landscaping, original roadways, sidewalks, and other public realm features of historic buildings or neighborhoods shall be restored or repaired where ever feasible.

LU-7.13 Preservation of Historical Buildings
The County shall encourage and support efforts by local preservation groups to identify and rehabilitate historically significant buildings.

LU-7.14 Contextual and Compatible Design
The County shall ensure that new development respects Tulare County's heritage by requiring that development respond to its context, be compatible with the traditions and character of each community, and develop in an orderly fashion which is compatible with the scale of surrounding structures.

LU-7.15 Energy Conservation
The County shall encourage the use of solar power and energy conservation building techniques in all new development.

LU-7.16 Water Conservation
The County shall encourage the inclusion of "extra-ordinary' water conservation and demand management measures for residential, commercial, and industrial indoor and outdoor water uses in all new urban development.

LU-7.17 Shared Parking Facilities
The County shall encourage, where feasible, the use of shared parking facilities. Such areas could include developments with different day/night uses.

LU-7.18 Lighting

The County shall continue to improve and maintain lighting in park and recreation facilities to prevent nuisance light and glare spillage on adjoining residential areas.

LU-7.19 Minimize Lighting Impacts

The County shall ensure that lighting in residential areas and along County roadways shall be designed to prevent artificial lighting from reflecting into adjacent natural or open space areas unless required for public safety.

LU 7.20 Disadvantaged Legacy Communities

Encourage the extension, construction or upgrading services to identified Disadvantaged Legacy Communities.[1]

LU 7.21 Disadvantaged Legacy Communities

Promote the extension, construction or upgrade of public water, sewer, stormwater drainage and structural fire protection services to identified Disadvantaged Legacy Communities as depicted in Appendix D - Disadvantaged Unincorporated Communities Assessment Report where feasible, and identify funding mechanisms that could make the extension, construction or upgrade of services and facilities to these communities and hamlets financially feasible.[2]

[The analysis in Appendix D - Disadvantaged Unincorporated Communities Assessment Report is not a General Plan Amendment but provides data to comply with SB 244. A General Plan Amendment will not be required to update information contained in Disadvantaged Unincorporated Communities Assessment Report.][3]

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[1] Added GPA 15-010 BOS Resolution # 2015-0964 11-17-15.

[2] Added GPA 15-010 BOS Resolution # 2015-0964 11-17-15.

[3] Added GPA 15-010 BOS Resolution # 2015-0964 11-17-15.

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4.8 Work Plan/Implementation Measures

The following table documents the Implementation Measures included with the General Plan to implement the goals and policies included in this Element.

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
1. The County shall update the Zoning Ordinance to be consistent with the land use standards set forth in this Land Use Element.	LU-1.3 LU-1.6	RMA	■			
2. The County shall prepare Land Development Regulations addressing lighting, landscaping, signage, fencing, walls, buffers, land use transitions, parking area improvements, street scaping, and other standards applicable to land development.	LU-1.1 ERM-4.2	RMA, Planning	■			
3. During preparation of the Zoning Ordinance and Land Development Regulations, the County shall consider appropriate incentives to encourage smart growth implementation, including but not limited to such factors as infill, densification, transportation alternatives, provision of public amenities, and commercial standards.	LU-1.1 LU-1.2 LU-1.4 LU-1.8	RMA, Planning	■			
4. During the review of all discretionary permit applications, the County shall ensure that smart growth and other urban design principles set forth in this Land Use Element are incorporated as conditions of project approval, as appropriate.	LU-1.1	Planning Commission				■
5. The County shall develop and maintain a database of paper lot subdivisions and pursue efforts to consolidate them into larger parcels.	LU-1.5	RMA		■		
6. The County shall develop and maintain a Geographic Information System (GIS) based database of identified potential unstable soils and slopes to evaluate proposed projects.	LU-1.7	RMA		■		
7. The County shall develop a set of criteria to determine whether proposed projects are infill developments and develop a set of incentive programs for infill projects located within UDBs.	LU-1.8	RMA		■		

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
8. The County shall develop and maintain a GIS based database of infill sites and encourage new development to occur on the identified sites.	LU-1.8	RMA		■		■
9. The County shall create a program to consolidate infill sites when permits are sought for development and shall require access to public roads be present or secured prior to development.	LU-1.8 LU-1.10	RMA	■			
10. The County shall require identification of infill sites in all new community plan updates, hamlet plans, and redevelopment project area plans as they are prepared over time.	LU-1.8	RMA, Planning; RDA				■
11. The County shall amend the Zoning Ordinance to strengthen minimum parcel size standards, with principle attention to increasing the minimum acreage requirement for land division from 5 to 10 acres or more.	LU-2.2 AG-1.12	RMA, Planning	■			
12. The County shall amend the Zoning Ordinance to increase the length of time that must lapse before existing homes qualify for divisions of land to create homesites in agricultural areas.	LU-2.4	RMA, Planning	■			
13. The County shall, in cooperation with property owners, reinstitute Open Space and Land Conservation contracts for all parcels on prime agricultural land meeting the minimum land area as required under State law.	LU-2.1 LU-2.8 AG-1.6 AG-1.7	RMA, Planning				■
14. The County shall work with Tulare County Association of Governments (TCAG) to explore implementation strategies to promote neighborhood convenience services in unincorporated communities.	LU-4.1	RMA, Planning	■			
15. GIS shall be used in evaluating the impacts of proposed industrial areas when community or hamlet plans are developed or updated.	LU-5.1 LU-5.2 LU-5.4	RMA, Planning				■
16. The County shall adopt an ordinance to facilitate reuse of	LU-2.5 LU-2.6	RMA, Planning				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
existing abandoned agricultural support facilities, considering the following factors: a. The use of site plan review, discretionary, or administrative use permit to change from one agricultural use to another; b. A requirement for a Special Use Permit to change from an agricultural use to a non-agricultural use; c. Upgrading of the site for consistency with all County standards; d. The timing of how long a property owner needs to wait before conversion of an agricultural-oriented business into a new business should be permitted in order to prevent abuse; e. Consideration of restrictions on re-use such as auto showcases or boat sales; and f. Provision of reclamation plans and financial assurances for future site restoration. Such a reclamation plan may include removal of the buildings.						
17. The County shall consider preparing an inventory of abandoned warehouses and other such agricultural support facilities to facilitate track conversion. Such survey would indicate infrastructure and services available to the site.	LU-2.5	RMA, Planning				■
18. Provision for a graduated transition in density/lot size from higher to lower density between the two respective areas shall generally be required unless significant buffers or other measures are determined adequate to protect established rural residential developments. The County, while recognizing the cities' need to optimize use of land shall encourage cities to require buffering measures when urban development is proposed adjacent to existing developed rural-residential areas.	LU-3.8 PF-1.1	RMA, Planning				■
19. The County shall prepare a cluster development ordinance, defining the process, incentives,	LU-3.2	RMA, Planning				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
and standards.						
20. The County shall work with TCAG, EDC, and the Redevelopment Agency to explore implementation strategies to promote and attract accessible neighborhood convenience services and jobs in unincorporated communities and hamlets.	LU-4.1	RMA, Planning	■			
21. The County shall establish a program for consulting annually with school districts regarding growth projections and proposed facility changes and additions.	LU-6.3 LU-6.4	RMA				■
22. The County shall work with the Sheriff's Department to research Crime Prevention through Environmental Design (CPTED) Guidelines and develop crime prevention design standards as an informational tool to developers of residential uses throughout the County.	LU-7.5	RMA		■		
23. The County shall cooperate with local preservation groups and community property owners who identify historic buildings that are representative of the historic visual character of an area, in order to encourage perpetuation of identified architectural characteristics in new proposed development that will be within the same view shed as the historic building.	LU-7.12 LU-7.13	RMA				■
24. The County shall review LEED and LEED-ND certification requirements and develop an implementation program.	LU-7.15 LU-7.16 AQ-3.5	RMA		■		

5. Economic Development

The Economic Development Element is divided into the following sections:

- General (Section 5.1)
- Business Attraction, Expansion, and Retention (Section 5.2)
- Diversified Economy (Section 5.3)
- Labor Force Development (Section 5.4)
- Tourism (Section 5.5)
- Commercial Development (Section 5.6)
- Work Plan/Implementation Measures (Section 5.7)

Key Terms

The following terms are used throughout this Element to describe economic development issues:

Economic Base. The portion of the local economy that primarily sells its goods and services to customers outside the County or local region. These industries draw income into the County that is then re-circulated in local-serving "Non-Basic" businesses such as retail and service establishments.

Economic Development Corporation (EDC). A private, Countywide organization that promotes economic development through informational packages, site tours of the region, and presentations to corporations in support of EDC members. The EDC is governed by a Board of Directors comprised of representatives from local communities, private sector leaders, and other organizations.

Emerging Industries. Industries that currently have low concentration in the County but are growing rapidly.

Industry. A term for the collective activities of a group of firms that produce the same kind of commodity or service or are engaged in the same type of operations. The auto industry and the steel industry are examples of industries within the manufacturing sector.

Labor Force. Persons that are either employed or are actively seeking work.

Value-Added. The increase in the value of products over the cost of their raw materials. Higher-value-added products support higher wages and generally return greater economic benefits to the locality in which they are produced.

Existing Conditions Overview

Tulare County, like many agricultural areas in the San Joaquin Valley, finds itself facing the first half of the Twenty-First Century coping with new growth and opportunities. While this may be said of nearly all of California, the challenge in Tulare County is compounded by an economy in transition.

Historically, agriculture drove Tulare County's economy. For most of the past 100 years, Tulare County has had one of the largest agricultural outputs of any County in the United States. Despite a strong agriculturally-based economy, Tulare County's unemployment rate has remained much higher than the State average because of the seasonal nature of agricultural employment.

Tulare County's long and short-term objectives are to work with cities, communities, and hamlets, the private sector, and other organizations to bring the County more in line with State employment and income growth averages. The first step in improving Tulare County's economy is to build upon the strong agricultural base. Tulare County has an opportunity to expand its agricultural economy through the advent of new technologies and marketing to international markets. It is essential for the County's agricultural economy to remain at the cutting edge in crop selection and growing practices.

Tulare County has several opportunities to diversify its economy both in existing and emerging industrial sectors. Newer business opportunities in areas such as ethanol production, value-added food processing, and dairy production have established a foothold in the County within the past twenty years and should be nurtured and expanded to serve as the economic base for the County and region.

Tulare County is also the gateway to Sequoia and Kings Canyon National Parks, Giant Sequoia National Monument, Sequoia National Forest, and other Sierra attractions, creating opportunities for recreational and resort development in the foothills, creating jobs, and increasing housing demand.

Training and education must also be expanded to build a base of skills that will attract firms locating or seeking to expand in the area. A quality work force is one key requirement for selecting a site, according to site location professionals. Efforts to create a highly skilled workforce must be made to attract industry into the area to ensure a diversified and vibrant economy.

5.1 General

ED-1	To maintain a healthy and diverse local economy that meets the present and future employment, shopping, recreational, and service needs of Tulare County residents.

ED-1.1 Economic Leadership
The County shall provide Countywide and regional leadership in economic development and coordination of economic development resources with attention to attraction of clean industries.

ED-1.2 Staff Resources
The County may allocate County staff resources to economic planning and coordinate with cities and regional organizations in related economic development and planning efforts.

ED-1.3 Economic Strategy
To the extent appropriate, the County shall maintain, monitor, and periodically update an Economic Development Strategy, which shall be used as an operational guide to implement the economic development goals, policies, and programs of the General Plan, as well as fulfilling federal Economic Development Administration (EDA) requirements for a Comprehensive Economic Development Strategy (CEDS) to receive grant funding.

ED-1.4 Local and Regional Coordination
The County shall work with city, local, and regional agencies to develop a resource allocation program that efficiently and equitably distributes the cost and benefits of economic development to local government jurisdictions in the County. The program should include a Countywide capital improvement plan.

ED-1.5 Regional Cooperation
The County will work cooperatively with regional economic development activities to expand and improve the economic base of the County.

ED-1.6 Develop Public/Private Partnerships
The County shall pursue partnerships to encourage the development of public facilities and infrastructure improvements that benefit communities.

ED-1.7 Grant Funding
The County will research and pursue grant funding that will promote tourism, support community growth, and maintain the quality of life for its residents and businesses.

ED-1.8 Adequate Facilities and Services
The County shall encourage new industries to locate within communities that have or can acquire adequate infrastructure capacity to meet the needs of new development.

5.2 Business Attraction, Expansion, and Retention

ED-2 To promote business growth and industry diversification and maintain a favorable business climate and a supportive economic foundation.

ED-2.1 Business Retention
The County shall participate in regional business retention and expansion programs, such as the Rapid Response program to ensure that County services are accessible to businesses.

ED-2.2 Land Requirements
The County shall ensure there is capacity for new and expanding businesses by:

1. Reserving sufficient locations for industry, recognizing industry's need for greater land requirements;
2. Recognizing the need for a variety of locations to avoid creation of a monopoly of the industrial land market and to reflect varying requirements for transportation facilities and utility services; and
3. Reserving land for exclusive industrial use to encourage development of like industries that complement each other and to prevent encroachment on industrial areas by incompatible uses.

ED-2.3 New Industries
The County shall encourage new industries to locate within cities, unincorporated communities, hamlets, regional growth corridors, and other unincorporated County areas where appropriately zoned. The County, in cooperation with cities and communities will identify locations for industrial uses in unincorporated areas around cities consistent with the cities' economic development strategies, taking into account opportunities offered by variations in local environmental conditions.

ED-2.4 Job Quality – Diversify Jobs
The County shall focus its business expansion and industry attraction efforts on companies and institutions that bring quality jobs to the County and provide benefits and self-sufficiency wages for County residents.

ED-2.5 Small Business
Recognizing the powerful job creation potential of small businesses, the County shall support entrepreneurial development and small business expansion.

ED-2.6 Agency Support for Small Businesses
The County shall coordinate with other agencies to provide well-tailored services and job creation resources for small businesses, such as incubator zones.

ED-2.7 Home-Based Businesses
The County shall support the formation and operation of home-based businesses that maintain compatibility with surrounding uses.

ED-2.8 Jobs/Housing Ratio
The County shall strive to achieve a jobs-to-housing ratio of greater than one in areas planned for urban development.

ED-2.9 Regional Processing
The County shall encourage processing facilities that obtain raw materials regionally and locally, including those which have potential to expand into regional processing facilities, to locate in industrial parks within existing unincorporated communities or under city jurisdiction.

ED-2.10 Supporting Agricultural Industry
Recognizing that certain critical requirements of food processing industries, such as wastewater treatment, may require innovative solutions, the County shall support and encourage technology development programs in collaboration with research institutions, such as the College of the Sequoias, for use by industries to support expansion on agricultural processing facilities in UDBs.

ED-2.11 Industrial Parks
As part of new or updated community plans, the County shall designate sites for industrial development to meet projected demand.

ED-2.12 Intermodal Freight Connections
The County shall support the creation and enhancement of intermodal connections along major highways and thoroughfares for freight handling that supports existing and future industrial development.

ED-2.13 Airport Capacity
The County shall support the expansion of airport capacity for cargo, as well as passengers.

ED-2.14 Railways
The County shall encourage improvements to rail lines and services for cargo and passenger services in support of existing and future industrial and commercial development.

5.3 Diversified Economy

ED-3 To diversify the economic base of Tulare County through the expansion of non-agricultural industry clusters and through the development and expansion of recreation and visitor-serving attractions and accommodations.

ED-3.1 Diverse Economic Base
The County shall actively promote the development of a diversified economic base by continuing to promote agriculture, recreation services, and commerce, and by expanding its efforts to encourage industrial development including the development of energy resources.

ED-3.2 Industry Clusters
The County shall support an approach to economic development that targets the development of industry clusters through strategic partnerships with higher educational institutions, work force training agencies, business associations, financial institutions, and venture capital concerns.

ED-3.3 Non Agricultural Industries
The County shall encourage the development and expansion of non-agricultural industry clusters such as information technology and ethanol production within UDBs.

ED-3.4 Telecommunications
The County shall encourage the development of County-wide telecommunications infrastructure.

ED-3.5 High Speed Rail
The County shall support development of high speed rail through the Central Valley with service to Tulare County.

ED-3.6 Higher Learning
The County shall help facilitate, where possible, collaboration between institutions of higher learning and local and regional technology firms.

ED-3.7 Attractive Economy
The County shall support efforts to enhance the cultural and recreational amenities available in the County to attract business entrepreneurs and employees from other metropolitan areas in California and throughout the nation and the world.

ED-3.8 Business Technology
The County shall actively support the efforts of existing and new businesses to access and maintain the highest levels of technology available for their operations.

ED-3.9 Non-Agricultural Business Development
The County shall encourage major financial institutions, venture capital firms, and business finance agencies to provide access to capital and financing programs for non-agricultural businesses.

ED-3.10 Specialty Business Program
The County shall promote and support programs focused on specialty business and ethnically diverse enterprises.

5.4 Labor Force Development

ED-4	To improve labor force preparedness by providing the local workforce with the skills needed to meet the requirements of an increasingly diverse business sector in the Twenty First Century global economy.

ED-4.1 Workforce Skills Development
The County shall develop programs and work with other agencies and organizations to support efforts that improve the skills of the County's workforce, which is needed to meet the requirements of new and expanding businesses.

ED-4.2 Workforce Education
The County shall work with school districts to prepare students for the Twenty First Century global economy. For example, school districts in the County should be encouraged to adopt the School-to-Work program as a model for K-12 education and focus on the requirements of those industries targeted for future growth.

ED-4.3 Specialized Training
The County shall encourage local colleges and industries to offer technical training and provide specialized training for employees.

ED-4.4 Workforce Programs
The County shall support programs that prepare the hard-to-serve unemployed for job readiness.

ED-4.5 Higher Education
The County shall encourage and support the development and expansion of higher education facilities, including community, State, and private college and university campuses.

ED-4.6 Vocational Training in Secondary Schools
The County shall serve as a catalyst, as well as an active participant, in bringing key organizations together to expand vocational and technical programs in secondary schools.

ED-4.7 Retain Local Graduates
The County shall actively support efforts to keep local graduates in the local workforce.

5.5 Tourism

ED-5	To take full advantage of the natural, cultural, and social opportunities available in the County for the enhancement of tourism.

ED-5.1 Development of a Recreation Industry
The County shall capitalize on the economic potential of recreation as a major industry in all ways consistent with other policies of the General Plan.

ED-5.2 Agricultural and Ecological Tourism
The County shall support the development of agri-tourism and eco-tourism activities that highlight the agricultural and natural resources of the County.

ED-5.3 Highway Tourism
The County shall support the development of welcome centers that promote agricultural-tourism along State Highway 99 and other State Highways within the County.

ED-5.4 Recreational Accommodations
The County shall support the development of visitor-serving attractions and accommodations in unincorporated areas near natural amenities and resources that would not be diminished by tourist activities.

ED-5.5 Rivers
The County shall encourage the development of recreational activities and promote tourism along the Kaweah, Tule, and Kings Rivers.

ED-5.6 Lakes
The County shall promote Lake Kaweah and Lake Success as major recreational areas that include camping, water sports, hiking, golf, conference/hotel facilities, and historic attractions.

ED-5.7 Foothills
The County shall encourage additional recreational and visitor-serving development in the Sierra and foothills in areas such as Three Rivers and Springville.

ED-5.8 Foothill Gateways
The County shall encourage the identification and development of additional recreational opportunities in the foothills and other areas where there are “gateway opportunities”.

ED-5.9 Bikeways
The County shall support the enhancement of the County's recreational bikeways and promote the bikeway network as a component of the County's tourism program.

ED-5.10 Visitor-Serving Business
The County shall encourage visitor-serving businesses to coordinate their advertising.

ED-5.11 Marketing Programs
The County shall regularly evaluate marketing programs and provide assistance to marketing campaigns that attract visitors to the County.

ED-5.12 Heritage Tourism
The County shall encourage agricultural, ecological, and heritage tourism by highlighting Tulare County's agricultural, historical, and cultural resources, such as Allensworth State Park and Sequoia Field.

ED-5.13 National Parks Tourism
The County shall work with Sequoia and Kings Canyon National Parks, Giant Sequoia National Monument, Sequoia National Forest, and others to market these areas of the County as tourist destinations.

ED-5.14 Interagency Cooperation
The County shall cooperate with federal land management agencies to develop and promote Three Rivers and Springville as gateway communities.

Also see Chapter 7-Scenic Landscapes, Policy SL-2.2: Gateways to the Sequoias, for further information about gateway communities.

5.6 Commercial Development

ED-6 Address regional and local commercial needs by continuing to support downtowns, town centers, and neighborhood services.

ED-6.1 Revitalization of Community Centers
The County, through public and private collaboration, shall strive to strengthen the core areas of communities to serve as the center for public, financial, entertainment, and commercial activities.

ED-6.2 Comprehensive Redevelopment Plan
The County may promote private sector investment in community core areas through implementation of comprehensive redevelopment plans.

ED-6.3 Entertainment Venues
The County shall encourage the establishment of community and regional entertainment venues within community core areas.

ED-6.4 Culturally Diverse Businesses
The County shall promote and support the expansion of culturally diverse businesses in community core areas through the use of Small Business Administration (SBA), Community Development Block Grant (CDBG), and Redevelopment Funds .

ED-6.5 Intermodal Hubs for Community and Hamlet Core Areas
The County shall work with communities and transit providers to develop intermodal hubs that focus on both local and regional bus service.

ED-6.6 Core Area Beautification
The County shall promote the beautification of communities, hamlet core areas, and mountain service centers.

ED-6.7 Existing Commercial Centers

The County shall help protect the viability of community retail centers by promoting a business mix that responds to changing economic conditions and provides needed services to surrounding neighborhoods.

Text continued on Page 5-11.

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5.7 Work Plan/Implementation Measures

The following table documents the Implementation Measures included with the General Plan to implement the goals and policies included in this Element.

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
1. The County shall work with the EDC to update and adopt a strategy that supports the economic goals and policies of the General Plan.	ED-1.3	RMA		■		
2. The County shall coordinate a committee of representatives from the County, cities, and other local and regional agencies to develop a resource allocation program.	ED-1.4	CAO	■			
3. The County shall commit staff resources to engage in regional transportation initiatives, such as the TCAG's Tulare County Regional Blueprint and San Joaquin Partnership that encourage regional planning and economic development.	ED-1.5	RMA, Planning; TCAG				■
4. The County shall develop criteria for the location of value-added agricultural processing facilities that are compatible with an agricultural setting. Such criteria shall take into account the service requirements of facilities for processing agricultural products and the capability and capacity of the cities to provide the services required.	ED-2.3 ED-2.10	RMA, Planning; Agriculture Advisory Committee				■
5. The County shall work with the Tulare County EDC and agricultural interests to create agricultural enterprise zones with incentives to encourage agricultural support industry.	ED-2.10	RMA; EDC				■
6. The County shall continue to provide seed funding and training through the Micro Enterprise Program, the Small Business Development Center, and similar programs.	ED-3.10	RMA,				■
7. The County shall continue its collaborative planning and funding efforts with agencies such as the County Office of Education, State Employment Development Department (EDD), local school districts, post	ED-4.1 ED-4.2 ED-4.3 ED-4.4	RMA				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
secondary educational institutions, training agencies, and the cities. Such efforts may include education management services, employment placement services, relocation and retention programs, youth employment programs, jobs clubs, and neighborhood jobs services.						
8. The County, in conjunction with the Sequoia Valley Visitors Council, EDC, and local chambers of commerce, shall develop visitor and tourism marketing programs and provide funding assistance as appropriate to support effective marketing programs that attract business and recreational travelers to the County.	ED-5.1 ED-5.11	RMA,				■
9. The County shall conduct an evaluation of allocating transit occupancy tax revenues to programs that directly support tourism.	ED-5.1	CAO	■			
10. The County shall continue to partner with community leaders and organizations to promote beautification of unincorporated communities and hamlets. Such programs could include amnesty days, community clean up days, etc.	ED-6.6	RMA,				■

6. Housing

State Housing Element Law requires that Housing Elements be updated periodically – previously on five year intervals. Currently, as a result of SB 375, Housing Elements may be updated on an optional eight year cycle that allows better synchronicity between transportation and housing. The Regional Housing Needs Assessment (RHNA) for Tulare County is prepared by the Tulare County Association of Governments (TCAG). The current RHNA is for the fifth Housing Element cycle and covers a 9.75-year projection period (January 1, 2014 to September 30, 2023). The planning period for this Housing Element is eight years (December 31, 2015 through December 31, 2023). The 2015 Housing Element (GPA 15-003) was adopted by Tulare County Board of Supervisors on November 17, 2015 (BOS Resolution # 2015-0964), and was approved (certified) by the State Department of Housing and Community Development (HCD) by letter dated December 9, 2015.

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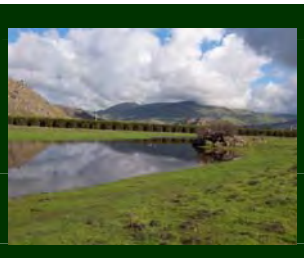

C. Environment Component

The Tulare County General Plan provides guidance for the protection of natural and cultural resources and the protection of the health and safety of County residents with an emphasis on enhancing scenic landscapes, reducing pollutants, minimizing the threats of man-made and natural hazards, and maintaining adequate water supplies.

Environmental Concepts

Concept 1: Scenic Landscapes
The scenic landscapes in Tulare County will continue to be one of the County's most visible assets. The Tulare County General Plan emphasizes the enhancement and preservation of these resources as critical to the future of the County. The County will continue to assess the recreational, tourism, quality of life, and economic benefits that scenic landscapes provide and implement programs that preserve and use this resource to the fullest extent.

Concept 2: Environmental Resources Management
As Tulare County develops its communities and hamlets, the County will ensure that development occurs in a manner that limits impacts to natural and cultural resources through proper site planning and design techniques. Development will be avoided in naturally and culturally sensitive areas wherever possible.

Concept 3: Air Quality
The air of Tulare County and its surrounding region will be incrementally cleaner as the implementation of improved transportation, agriculture, and industrial practices reduce pollutants.

Concept 4: Health and Safety
The provision of a responsive public health and safety system is critical to the County's future and the welfare of its residents. Development in unstable or hazard-prone areas (e.g., flood plains, slopes, etc.) will be limited to low-intensity uses. Police and fire services throughout the County will be expanded to serve growing communities, while noise sensitive land uses will be sited to avoid major noise generators, such as railroads, roadways, airports, and industrialized portions of the County.

Concept 5: Water
The long-term strategy for water in Tulare County centers on protecting and conserving existing water supplies and identifying new sources of water. As Tulare County continues to grow, new methods for conserving, treating, and supplying water will enable County residents and farmers to continue to have an adequate supply of quality water that limits long-term impacts on groundwater.

Guideline Principles

Scenic Landscapes

Principle 1: Scenic Resources
Protect the beauty of the County *[New Principle] [Board of Supervisors, November 2005]*.

Principle 2: Reinvestment
Promote reinvestment in existing communities in a way that enhances livability and image *[New Principle].*

Principle 3: Urban and Rural Interface
Encourage design and site planning of development adjacent to scenic landscapes that reflect the unique relationship between communities and rural lands *[New Principle].*

Principle 4: Rural Landscape Separators
Plan and design communities to maintain rural landscapes as visual and physical separators *[New Principle].*

Principle 5: New Town Impacts
Ensure that new towns or communities are planned and designed to limit their impact on scenic working and natural landscapes *[New Principle].*

Environmental Resources Management

Principle 1: Natural Resources
Provide for the appropriate utilization of natural resources in the County *[New Principle] [Board of Supervisors, November 2005].*

Principle 2: Reduce Impacts
Design and plan new development to reduce impacts to natural and cultural resources *[New Principle].*

Principle 3: Cultural Resources
Continue identifying significant cultural resources to ensure the preservation and maintenance of the heritage of Tulare County *[New Principle].*

Principle 4: Natural Lands
Support the continued preservation of natural lands *[New Principle].*

Air Quality

Principle 1: Air Quality
Pursue economic, land use, and transportation programs that improve air quality in the County *[New Principle] [Board of Supervisors, November 2005].*

Principle 2: Reduce Pollution
Encourage reduction in air polluting activities including industrial, agricultural, and transportation practices that contribute to poor air quality *[New Principle].*

Principle 3: Alternative Transportation Modes
Promote land use patterns that support alternative modes of transportation to reduce vehicle emissions and maintain air quality *[New Principle].*

Health and Safety

Principle 1: Noise Protection
Locate noise-generating uses in areas with compatible surrounding uses *[New Principle].*

Principle 2: Critical Facilities
Locate critical facilities in areas with minimal hazards and design facilities to withstand potentially hazardous events *[New Principle].*

Principle 3: Public Safety
Maintain an adequate public safety and emergency response system throughout the County *[New Principle].*

Principle 4: Health, Safety, and Welfare
Protect the health, safety, and welfare of County residents *[New Principle].*

Water

Principle 1: Protection
Protect the supply and quality of urban, agricultural, and environmental water serving the County *[New Principle] [Board of Supervisors, November 2005].*

Principle 2: New Sources
Identify and encourage the development of new sources for water that do not deplete or negatively impact groundwater *[New Principle].*

Principle 3: Recharge
Identify and encourage the development of locations where water recharge systems can be developed to replenish water supplies *[New Principle].*

Principle 4: Adequate Supply
Plan delivery systems to ensure adequate water is available to meet demand *[New Principle].*

Principle 5: Conservation
Encourage efficient use, conservation, and reuse of water *[New Principle].*

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7. Scenic Landscapes

The Scenic Landscapes Element is organized into the following sections:

- Natural and Working Landscapes (Section 7.1)
- Scenic Corridors and Places (Section 7.2)
- Community Design (Section 7.3)
- Design of Infrastructure (Section 7.4)
- Work Plan/Implementation Measures (Section 7.5)

Key Terms

The following terms are used throughout this element to describe scenic landscapes issues:

Community Design. Community design considers the shape, patterns, and visual texture of development. It includes roads, blocks, buildings, land subdivision, and other types of historic and contemporary investment that contribute to the form and quality of communities and cities.

Compatible Development. This includes new public or private development, such as buildings and infrastructure, which is harmonious with natural features and historic structures.

Core Areas. These are traditional centers of communities that often include many cultural, governmental, economic, and residential activities that serve the surrounding area.

County Scenic Routes. These are highways and roads that have been identified by the County as important to tourism and the rural travel experience in valley, foothill, and mountain landscapes.

Cultural Landscapes. A cultural landscape is a geographic area that includes cultural and natural resources associated with a historic event, activity, person, or group of people. They provide scenic, economic, ecological, social, recreational, and educational opportunities.

Edge Conditions. This refers to the way urban uses interface with rural and agricultural landscapes.

Gateway Community. A community that is located along a major transportation route adjacent to a known destination (i.e., Three Rivers and Sequoia National Park). These communities must be passed through to access certain areas or destinations and act as gateways.

Historic Places. These are official National, State, and local historic preservation sites. These identify and acknowledge places of important historical, cultural, and/or architectural importance. A detailed description of these can be found in the Background Report.

Natural Landscapes. An expanse of naturally-formed scenery that contribute to the visual beauty of Tulare County.

Scenic Landscapes. Scenic landscapes include agricultural lands, woodlands, forestlands, watercourses, mountains, meadows, structures, communities, and other types of scenery that contribute to the visual beauty of Tulare County.

State Scenic Highways. Scenic highways exhibit unique natural beauty viewed by travelers. California Scenic Highways may be formally designated based on criteria established in Section 260 et seq. of the Streets and Highway Code. Benefits of "scenic highway" status include protecting environmental assets that encourage tourism and inclusion on travel maps produced by the State Division of Tourism.

State scenic highway nominations are evaluated by Caltrans using the following qualifications:

1. The proposed scenic highway is principally within an unspoiled native habitat and showcases the unique aspects of the landscape, showcase agriculture, or man-made water features,
2. Existing visual intrusions do not significantly impact the scenic corridor,
3. Strong local support for the proposed scenic highway designation is demonstrated, and
4. The length of the proposed scenic highway is not short or segmented.

If Caltrans determines that the highway qualifies for designation, the local government must prepare a scenic corridor protection plan including five minimum requirements, regulating elements such as land use, density, land and site planning, landscaping, and design.

Urban Separators. Urban separators maintain natural and working landscapes between urban areas. They are used to enhance definition of individual communities, hamlets and cities and maintain their identity.

Viewshed. An area of land, water, or other environmental features that is visible from a fixed vantage point. Viewsheds tend to be areas of particular scenic or historic value that are deemed worthy of preservation against development or other change. The preservation of viewsheds is typically the goal in the designation of open space areas, green belts, and urban separators.

Working Landscapes. These are landscapes shaped by human activities that produce economic commodities such as agricultural lands, ranch lands, and timber lands. They may also include picturesque commercial districts in communities, crops, orchards, agricultural structures, stands of timber, and canals.

Existing Conditions

Tulare County has a complex structure of scenic natural landscapes, agricultural landscapes, and urban and rural communities. It possesses many of California's most unspoiled places and is experiencing rapid population growth and the need to diversify its economy. Tulare County's natural and working landscapes include growing communities and cities with expanding urban edges.

7.1 Natural and Working Landscapes

SL-1 To protect and feature the beauty of Tulare County's views of working and natural landscapes.

SL-1.1 Natural Landscapes

During review of discretionary approvals, including parcel and subdivision maps, the County shall as appropriate, require new development to not significantly impact or block views of Tulare County's natural landscapes. To this end, the County may require new development to:

1. Be sited to minimize obstruction of views from public lands and rights-of-ways,
2. Be designed to reduce visual prominence by keeping development below ridge lines, using regionally familiar architectural forms, materials, and colors that blend structures into the landscape,
3. Screen parking areas from view,
4. Include landscaping that screens the development,
5. Limit the impact of new roadways and grading on natural settings, and
6. Include signage that is compatible and in character with the location and building design.

SL-1.2 Working Landscapes

The County shall require that new non-agricultural structures and infrastructure located in or adjacent to croplands, orchards, vineyards, and open rangelands be sited so as to not obstruct important viewsheds and to be designed to reflect unique relationships with the landscape by:

1. Referencing traditional agricultural building forms and materials,
2. Screening and breaking up parking and paving with landscaping, and
3. Minimizing light pollution and bright signage.

SL-1.3 Watercourses

The County shall protect visual access to, and the character of, Tulare County's scenic rivers, lakes, and irrigation canals by:

1. Locating and designing new development to minimize visual impacts and obstruction of views of scenic watercourses from public lands and right-of-ways, and
2. Maintaining the rural and natural character of landscape viewed from trails and watercourses used for public recreation.

7.2 Scenic Corridors and Places

SL-2 To protect the scenic views for travelers along the County's roads and highways.

SL-2.1 Designated Scenic Routes and Highways
The County shall protect views of natural and working landscapes along the County's highways and roads by maintaining a designated system of County scenic routes and State scenic highways by:

1. Requiring development within existing eligible State scenic highway corridors to adhere to land use and design standards and guidelines required by the State Scenic Highway Program,
2. Supporting and encouraging citizen initiatives working for formal designation of eligible segments of State Highway 198 and State Highway 190 as State scenic highways,
3. Formalizing a system of County scenic routes throughout the County (see Figure 7-1), and
4. Requiring development located within County scenic route corridors to adhere to local design guidelines and standards.

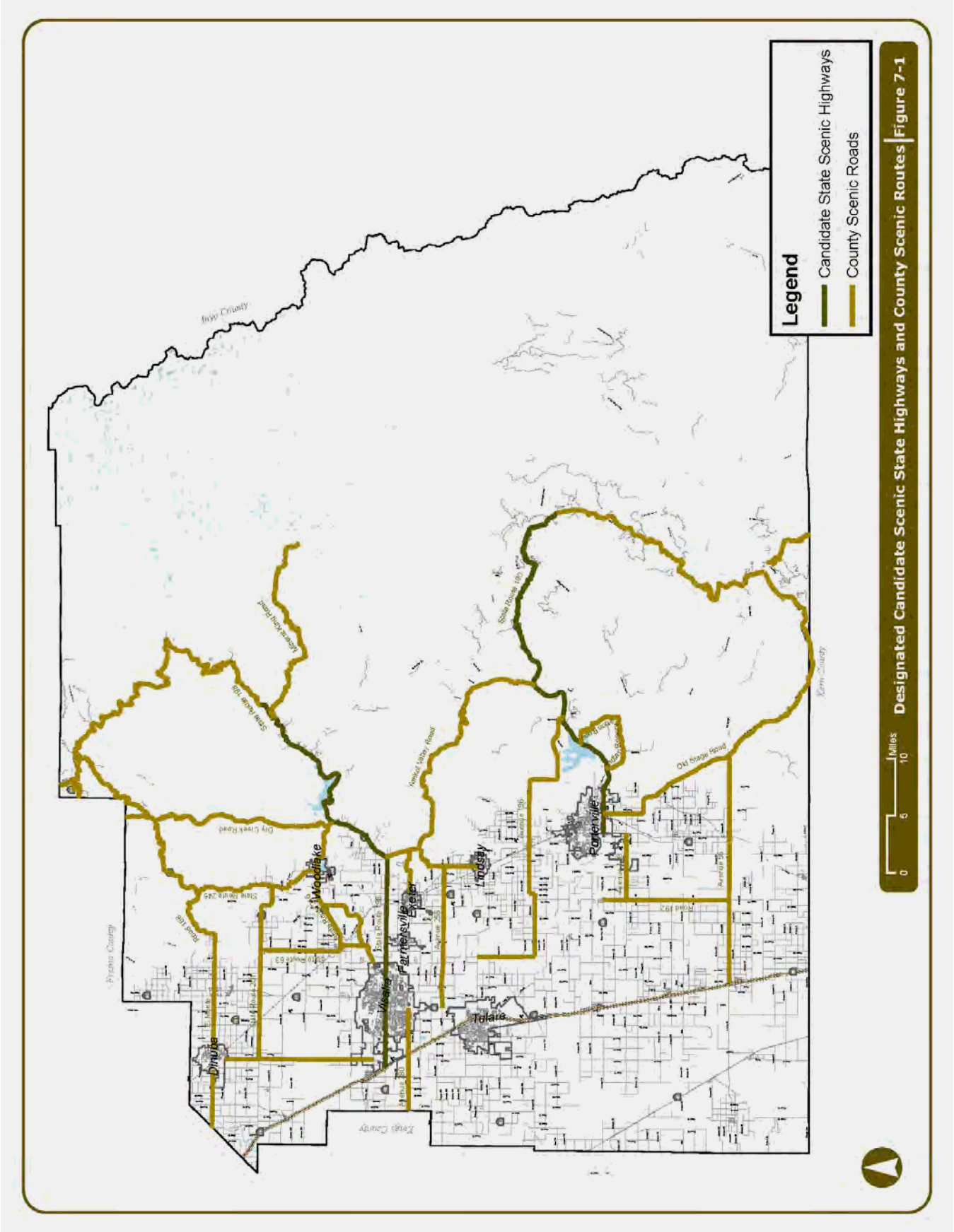
SL-2.2 Gateways to the Sequoias
The County shall ensure that the "gateway highways" (State Highway 190 and State Highway 198) to the Sequoias feature the County's unique history and scenery by:

1. Maintaining the rural character of roadway rights-of-ways, highway signage, and related roadway and structure design,
2. Protecting primary viewsheds from development,
3. Prohibiting development of highway commercial projects that do not respond to their physical or cultural context, and
4. Featuring the community centers/main streets of the gateway communities of Three Rivers and Springville.

SL-2.3 Historic and Cultural Landscapes
The County shall use the County's scenic routes and highways to connect cultural landscapes, historic landmarks and communities, and points of interest including:

1. Historic travel routes and trails,
2. Historic settlements,
3. Historic places, events, sites, buildings and structures,
4. Prehistoric and archeological features, and
5. Majestic trees, streetscapes, and parks.

SL-2.4 New Billboards
Unless superseded by State law, the County shall prohibit billboards and other forms of off-site advertising along State scenic highways, County scenic routes, and within areas designated for agriculture and open space.


Legend
Candidate State Scenic Highways
County Scenic Roads
Miles
0
5
10
Kern County
Tulare County
Fresno County
Kings County
Dinuba
Woodlake
Visalia
Farmersville
Exeter
Lindsay
Tulare
Porterville
Lemon Cove Road
Dry Creek Road
Lovelace Road
Lemon Cove Road
Lemon Cove Road
Lemon Cove

SL-2.5 Billboard Removal
The County shall seek to reduce the number of billboards along State scenic highways and County scenic routes.

SL-2.6 Billboard Placement
The County shall control the placement of billboards throughout the unincorporated County to preserve scenic qualities along major routes.

7.3 Community Design

SL-3	To provide distinctive communities, rural development patterns and character that is compatible with the best features of Tulare County's traditional community centers and agricultural landscapes.

SL-3.1 Community Centers and Neighborhoods
The County shall support investments in unincorporated communities and hamlets to improve the image, quality of urban infrastructure, amenities, and visual character by:

1. Encouraging restoration of existing historic buildings and developing new buildings that reflect the local culture and climate,
2. Creating or enhancing overall community design frameworks with a hierarchy of connected block and street patterns, open spaces, town centers, neighborhoods, and civic facilities,
3. Reducing the need for sound-walls and gated neighborhoods by having residential and non-residential uses interface along streets and open spaces (not adjoining property lines) and locating residential uses on local-serving streets,
4. Planning residential development as interconnected neighborhoods with definable social and physical centers that incorporate parks, schools, and commercial services,
5. Enhancing the comfort and scenic experience of transit riders, cyclists, and pedestrians, and
6. Developing open spaces, streets, and pedestrian facilities that include landscaping and streetscaping that improve the image of the community and make it a more comfortable pedestrian environment.

SL-3.2 Urban Expansion–Edges
The County shall design and plan the edges and interface of communities with working and natural landscapes to protect their scenic qualities by:

1. Maintaining urban separators between cities and communities,
2. Encouraging cities to master plan mixed-density neighborhoods at their edges, locating compatible lower density uses adjacent to working and natural landscapes, and
3. Protecting important natural, cultural, and scenic resources located within areas that may be urbanized in the future.

SL-3.3 Highway Commercial

The County shall require highway commercial uses to be located and designed to reduce their visual impact on the travel experience along State scenic highways and County scenic routes by:

1. Encouraging commercial development to locate in existing communities and hamlets,
2. Designing highway commercial areas as an extension of community street patterns and vernacular design traditions, allowing the individual personalities of each community to extend to the highway edge, and
3. Discouraging development of frontage roads consistent with commercial strips except when consistent with regional growth corridor and community plans.

SL-3.4 Planned Communities

If planned communities are allowed, the County shall require that they are designed to minimize visual impact on scenic working and natural landscapes by:

1. Avoiding development along ridgelines and other highly visible locations,
2. Siting development in a manner that reduces the visibility of new development,
3. Mitigating light pollution on night sky conditions,
4. Utilizing architectural and site planning concepts that appropriately reflect local climate and site conditions, and
5. Integrating cultural, architectural, and historic resources into their plans.

7.4 Design of Infrastructure

SL-4	To design infrastructure to visually enhance the built environment while minimizing visual impact on rural and natural places.

SL-4.1 Design of Highways

The County shall work with Caltrans and Tulare County Association of Governments (TCAG) to ensure that the design of State Highway 99 and other State Highways protects scenic resources and provides access to vistas of working and natural landscapes by:

1. Limiting the construction of sound walls that block views of the County's landscapes (incorporate setbacks to sensitive land uses to avoid noise impacts whenever feasible),
2. Using regionally-appropriate trees and landscaping and incorporating existing landmark trees,
3. Preserving historic and cultural places and vistas,
4. Avoiding excessive cut and fill for roadways along State scenic highways and County scenic routes, and along areas exposed to a large viewing area, and
5. Promote highway safety by identifying appropriate areas for traffic pull-outs and rest areas.

SL-4.2 Design of County Roads

The County's reinvestment in rural County roads outside urban areas should, in addition to meeting functional needs and safety needs, preserve the experience of traveling on the County's "country roads" by:

1. Maintaining narrow as possible rights-of-ways,
2. Limiting the amount of curbs, paved shoulders, and other "urban" edge improvements,
3. Preserving historic bridges and signage, and
4. Promote County road safety by identifying appropriate areas for traffic pull-out.

SL-4.3 Railroads and Rail Transit

The County shall encourage rail infrastructure for freight and passenger service to be planned and designed to limit visual impacts on scenic landscapes by:

1. Concentrating infrastructure in existing railroad rights-of-ways,
2. Avoiding additional grade separated crossings in viewshed locations, and
3. Using new transit stations supporting rail transit as design features in existing and future core community areas.

For information regarding communications systems, See Chapter 14-Public Facilities and Services, Section 13.6: Communication Systems.

Please see next page.

7.5 Work Plan/Implementation Measures

The following table documents the Implementation Measures included with the General Plan to implement the goals and policies included in this Element.

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
1. The County shall work with citizens groups to prepare nomination materials, inventories of visual and scenic resources, corridor protection plans and other documents required to support the adoption of State scenic highway designations for State Highways 190 and 198.	SL-2.1	RMA				■
2. The County shall adopt procedures criteria, formal nomination and designation procedures, and requirements for County scenic routes.	SL-1.1 SL-2.1	RMA	■			
3. The County shall establish site plan review and/or design review processes for development located along designated State scenic highways and County scenic routes.	SL-1.1 SL-2.1 SL-3.1	RMA	■			
4. The County shall prepare design guidelines for County scenic routes in the Valley areas (a scenic corridor overlay already exist for roads in the foothills). For communities, these guidelines will be used to maintain the scenic character of these corridors as they pass through the community.	SL-2.1 SL-3.1	RMA	■			
5. The County shall work with Caltrans on the preparation and maintenance of corridor protection plans that will be used to guide compatible development along designated State scenic highways.	SL-2.1 SL-2.4 SL-2.5 SL-3.3 SL-4.1	RMA				■
6. The County shall work with local communities to prepare "Sequoia Gateway Guidelines" for Three Rivers and Springville. This shall be carried out in conjunction with community plan updates for these areas.	SL-2.2	RMA	■			
7. The County shall work with the Sequoia Regional Visitors Center, the Sequoia Natural History Association, the Economic Development	SL-2.2	RMA, Eco.Dev. Corp.				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
Corporation and local interest groups in Three Rivers and Springville to prepare and distribute promotional materials detailing scenic routes, points of interest, and activities that will entice visitors to stay longer in the County's gateway communities and surrounding areas. Distribution locations for these articles, maps, and other materials might include visitor centers, the internet, safety rest stops, local cafes, and travel publications.						
8. The County shall work with the Tulare County Historical Society, State Parks, and the State Historic Preservation Officer to research historic sites along State scenic highways and County scenic routes and prepare a formal list of cultural and historic resources.	SL-2.3	RMA	■			
9. The County shall evaluate existing amortization rules and explore means to abate and remove billboards, in coordination with Caltrans, as appropriate.	SL-2.5	RMA			■	
10. The County shall create an inventory of existing billboards indicating any signs that are inconsistent with the County Zoning Ordinance.	SL-2.5	RMA			■	
11. The County shall update its Land Development Regulations and Zoning Ordinance consistent with the policies described herein.	SL-3.1 SL-3.2 SL-3.3 SL-3.4 SL-4.1 SL-4.2	RMA	■			
12. The County shall work with the Tulare County Redevelopment Agency, special districts, private developers, and local communities to add "design elements" to community plans and specific plans.	SL-3.1 SL-3.2 SL-3.3 SL-3.4 SL-4.1	RMA				■
13. Whenever new or updated community, hamlet, sub-area or corridor plans are created, the need for urban separators will be considered as part of the process.	SL-3.2	RMA, Planning				■
14. Development of design and	SL-4.2	RMA	■			

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
improvement standards required in the Transportation & Circulation Element (Implementation Measure 4) shall include consideration of the aesthetic principles set forth in Policy SL-4.2: Design of County Roads.						
15. The County shall work with railroads and transportation agencies to review rail planning for freight and passenger service in Tulare County for consistency with Scenic Landscapes Element.	SL-4.3	RMA				■

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8. Environmental Resources Management

The Environmental Resources Management Element is divided into the following sections:

- Biological Resources (Section 8.1)
- Mineral Resources - Surface Mining (Section 8.2)
- Mineral Resources - Other (Section 8.3)
- Energy Resources (Section 8.4)
- Recreation and Open Space Resources (Section 8.5)
- Cultural Resources (Section 8.6)
- Soil Resources (Section 8.7)
- Work Plan/Implementation Measures (Section 8.8)

ⓘ *For water resource issues, see Chapter 11-Water Resources.*

Key Terms

The following terms are used throughout this element to describe natural and cultural resource issues.

Active Recreation. This term is used to refer to sites that have been modified with structures or facilities designed for their enjoyment, such as a playground or recreation center.

Agricultural. Agricultural activities are defined to include the production of food, feed, forage, fiber, and oilseed crops and are lands available for use as cropland, pastureland, rangeland, and commercial timber.

Cluster Development. Development in which a number of dwelling units are placed in closer proximity than usual, or are attached, with the purpose of retaining an open-space area.

Commercial Recreation Facilities. Facilities serving recreational needs but operated for private profit (for example, private campgrounds, riding stables, tourist attractions, amusement parks).

Critical Habitat. Critical habitat is the natural environment designated by the U.S. Fish and Wildlife Service (USFWS), as required for the conservation of a federally listed species. These habitats are specifically protected under the Federal Endangered Species Act (16 USC 1532, 50 CFR 424.02). The designation of a critical habitat is a formal process that involves the posting of a draft proposal in the federal register of the critical habitat designation, a public comment period, and a final determination.

Cultural Resources. Cultural resources consist of tangible or observable evidence of past human activity, found in direct association with a geographic location, including tangible properties possessing intangible, traditional cultural values. Cultural resources may include buildings, structures, objects, sites, areas, places, records, or manuscripts which are historically or archaeologically significant.

Extensive Agriculture. A larger minimum size farm, in extensive exclusive agricultural zoning, to preclude the intrusion of uses which conflict with agriculture and related agricultural-industrial uses, such as animal agriculture, tree crops, and related uses such as feed mills, stock feeding pens or resource oriented uses such as quarries and asphalt manufacture. These are uses which, by their nature, can conflict with adjacent land uses and would, with large surrounding acreages, have whatever nuisance factors that exist ameliorated by space and by minimal conditional controls.

Farmland Security Zone. An area created within an agricultural preserve by a board of supervisors (board) upon request by a landowner or group of landowners. An agricultural preserve defines the boundary of an area within which a city or County will enter into Williamson Act contracts with landowners. The boundary is designated by resolution of the board or city council having jurisdiction. Agricultural preserves are generally at least 100 acres in size.

Intensive Agriculture. An intensive exclusive agricultural district, not with the intent of large lot residential use, but to allow for intensive family-farm or corporate operations which require relatively small acreage, such as horticulture, vineyards, orchards, truck gardening, raising of flower stock or seeds and some animal raising with conditions established to preclude nuisance or hazard to adjoining land owners.

For agricultural terms and policies, see Chapter 3-Agriculture.

Mineral Resources. Mineral resources are defined as naturally occurring materials in the earth that can be utilized for commercial purposes.

MRZ-2. Areas underlain by mineral deposits where geologic data indicate that significant mineral deposits are located or likely to be located. Defined by the State Geologist (also see SMARA).

Paleontological Resources. Paleontological resources are any fossilized remains, traces, or imprints of organisms, preserved in or on the earth's crust, that are of paleontological interest and that provide information about the history of life on earth, with the exception of materials associated with an archaeological resource [as defined in Section 3(1) of the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470bb[1]), or any cultural item as defined in Section 2 of the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001)].

Passive Recreation. Areas used in their natural state with few structures or facilities other than parking and trails.

Recreation Area. Any public or private space set aside or primarily oriented to recreational use.

Ridgeline. A long narrow chain of hills or mountains.

Riparian. The interface between land and a flowing surface water body. They are typically characterized by hydrophilic vegetation and are often subject to flooding. Riparian zones are significant in ecology, environmental management, and civil engineering due to their role in soil conservation, their biodiversity, and the influence they have on aquatic ecosystems. Riparian zones occur in many forms including grassland, woodland, wetland, or even non-vegetative.

Sensitive Habitat. A sensitive habitat is especially diverse, regionally uncommon, or of special concern to local, State, and Federal agencies. Elimination or substantial degradation of such a community would constitute a significant impact under California Environmental Quality Act (CEQA). The California Department of Fish and Game (CDFG) monitors the condition of some sensitive natural communities in its Natural Diversity Database (NDDB).

Sensitive Natural Community. A sensitive natural community is a biological community that is regionally rare, provides important habitat opportunities for wildlife, or is of special concern to local, State, or Federal agencies. The CEQA identifies the elimination or substantial degradation of such communities as a significant impact (CERES 2004). Based on Federal and State regulations, wetlands and critical habitat are examples of sensitive natural communities.

Surface Mining and Reclamation Act (SMARA). The SMARA (Public Resources Code, Division 2, Chapter 9, Section 2710 et seq.) contains provisions for the inventory of mineral lands in the State of California. The State Geologist, in accordance with the State Board's Guidelines for Classification and Designation of Mineral Lands, must classify Mineral Resource Zones (MRZ).

Special-Status Species. Special-status species are those plants and animals that, because of their recognized rarity or vulnerability to habitat loss or population decline, are recognized by Federal, State, or other agencies. Some of these species receive specific protection that is defined by Federal or State endangered species legislation. Others have been designated as "sensitive" on the basis of adopted policies and expertise of State resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. These species are referred to collectively as "special status species" in this report, following a convention that has developed in practice but has no official sanction. For the purposes of this assessment, the term "special-status" includes those species that are:

- Federally-listed or proposed under the Federal Endangered Species Act (50 CFR 17.11-17.12),
- Candidates for listing under the Federal Endangered Species Act (61 FR 7596-7613),
- State-listed or proposed under the California Endangered Species Act (14 CCR 670.5),
- Species listed by the USFWS or the CDFG as a species of concern or of special concern,
- Fully protected animals, as defined by the State of California (California Fish and Game Code § 3511, 4700, and 5050),
- Species that meet the definition of threatened, endangered, or rare under California Environmental Quality Act (CEQA Guidelines § 15380),
- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code § 1900 et seq.), and
- Plants listed by the California Native Plant Society (CNPS) as rare, threatened, or endangered (List 1A and List 2 status plants in Skinner and Pavlik 1994).

Vernal Pools. Seasonally flooded depression found on soils with an impermeable layer such as hardpan, claypan, or volcanic basalts. While the pools are shallow enough to dry up each season, the unique soil characteristics allow water to remain in pools longer than surrounding uplands. Plant and animal life within these pools is characterized by species specifically adapted to the cycles of wetting and drying.

Viewshed. A viewshed is the area that can be seen from a given vantage point and viewing direction. A viewshed is composed of foreground items (items close to the viewer) that are seen in detail, and background items (items at some distance from the viewer) that frame the view. If a person is moving, as when traveling along a roadway (a view corridor), the viewshed changes as the person moves, with the foreground items changing rapidly and the background items remaining fairly consistent for a long period of time.

Watercourse. Any river, creek, stream, brook, wash, arroyo, or channel where water flows at least periodically.

Waters of the U.S. This is also a term defined in § 404 of the Clean Water Act, referring to those hydric features that are regulated by the Clean Water Act but are not defined as wetlands (33 CFR 328.4). Waters of the U.S. include lakes, rivers, and intermittent streams. To be considered under the jurisdiction of the Army Corp of Engineers (ACOE), these features must exhibit an identified bed and bank and an ordinary high-water mark. A permit from the ACOE is required under § 404 of the Clean Water Act for any action affecting other waters of the U.S. (33 USC 1344 and EPA 2004).

Waters of the State. This term is defined in the Porter-Cologne Act as "any surface or groundwater, including saline waters, within the boundaries of the State" (California Water Code § 13000 et seq.). Waters of the State includes all wetlands, including those not listed under the Clean Water Act, such as isolated wetlands. The Regional Water Quality Control Board enforces the Porter-Cologne Act and is charged with protecting waters of the State.

Wetlands. The Federal government defines wetlands in Section 404 of the Clean Water Act as “areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support (and do support, under normal circumstances) a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3[b] and 40 CFR 230.3). The definition of wetlands requires three wetland identification parameters are present: wetland hydrology, hydric soils, and hydrophytic vegetation. The ACOE is the responsible agency for regulating wetlands under § 404 of the Clean Water Act, while the Environmental Protection Agency (EPA) has overall responsibility for the Act (ACOE, 2002).

Williamson Act. The Williamson Act, also known as the California Land Conservation Act, is a voluntary program that allows property owners to have their property assessed on the basis of agricultural production rather than current market value. The purpose of the Act is to encourage property owners to continue to use their property in agricultural activities to prevent their premature conversion to urban uses. Also see Farmland Security Zones.

Williamson Act Contract. A contract between a landowner and a city or county to restrict land to agricultural or open space uses in return for lower than normal property tax assessments. The minimum term for a Williamson Act contract is 10 years. Since the term automatically renews on each anniversary date of the contract, the actual term can be indefinite.

For more information on the Williamson Act, see Chapter 3-Agriculture.

Existing Conditions Overview

Tulare County is located in a geographically diverse region with the majestic peaks of the Sierra Nevada framing its eastern region, while its western portion includes the San Joaquin valley floor, which is very fertile and extensively cultivated. Nestled among the scenic resources provided by its extensive topographic relief (elevations range from approximately 200 feet to the highest point in the

lower 48 States at 14,505 feet above sea level), Tulare County enjoys a varied landscape exhibiting diverse ecosystems and habitats including the Pacific Flyway. A broad-scale method of classifying the landscape is by eco-region. This method is used by the U.S. Forest Service (USFS) and relates to the California Manual of Vegetation and U.S. Geological Survey (USGS) Major Land Resources Area system. The eco-region approach evaluates the land from a wide range of interrelated environmental variables including topography, soils, hydrology, flora, and fauna.

Tulare County falls into three eco-regions that trend generally north-south. These sections apportion the County in a north-south pattern. The majority of the western portion of the County comprises the Great Valley Section, the majority of the eastern portion of the County falls in the Sierra Nevada Section, and a band between these two sections comprises the Sierra Nevada Foothill Area (USFS 2004).

Mineral Resources. In addition to biological resources, Tulare County also has important mineral resources. Economically, the most important minerals that are extracted in Tulare County are sand, gravel, crushed rock, and natural gas. Other minerals that could be mined commercially include tungsten and relatively small amounts of chromite, copper, gold, lead, manganese, silver, zinc, barite, feldspar, limestone, and silica.

Aggregate resources are the most valuable mineral resource in the County because it is a major component of the Portland Cement Concrete (PCC) and Asphaltic Concrete (AC). PCC and AC are essential to constructing roads, buildings, and providing for other infrastructure needs. There are three streams that have provided the main source of high quality sand and gravel in Tulare County to make PCC and AC. They include the Kaweah River, Lewis Creek, and the Tule River. The highest quality deposits are located at the Kaweah and Tule Rivers. Other sources of construction material are also mined in the hard rock deposits of the foothills.

Recreation Resources. For recreation, there are 13 parks that are owned and operated by Tulare County. These parks are quite diverse, ranging from 3 acres to 160 acres in size. In addition to County parks, the County has extensive recreation and open space resources from Sequoia National Forest and Giant Sequoia National Monument to the Sequoia and Kings Canyon National Parks. The only State Park in Tulare County is Colonel Allensworth State Historic Park, which contains a museum and visitor center. The Mountain Home State Forest consists of 4,807 acres of parkland containing a number of Giant Sequoias, and is located just east of the City of Porterville. The Forest is a Demonstration Forest, which is considered timberland that is managed for forestry education, research, and recreation. Two Federal recreational areas are also in Tulare County: Lake Kaweah and Lake Success.

Cultural Resources. Tulare County lies within a culturally rich province of the San Joaquin Valley. Studies of the prehistory of the area show inhabitants of the San Joaquin Valley maintained fairly dense populations situated along the banks of major waterways, wetlands, and streams. Tulare County was inhabited by aboriginal California Native American groups consisting of the Southern Valley Yokuts, Foothill Yokuts, Monache, and Tubatulabal. Of the main groups inhabiting the Tulare County area, the Southern Valley Yokuts occupied the largest territory.

California's coast was initially explored by Spanish (and a few Russian) military expeditions during the late 1500s. However, European settlement did not occur until the arrival into southern California of land-based expeditions originating from Spanish Mexico starting in the 1760s. Early settlement in the Tulare County area focused on ranching. In 1872, the Southern Pacific Railroad entered Tulare County, connecting the San Joaquin Valley with markets in the north and east. About the same time, valley settlers constructed a series of water conveyance systems (canals, dams, and ditches) across the valley. With ample water supplies and the assurance of rail transport for commodities such as grain, row crops, and fruit, a number of farming colonies soon appeared throughout the region.

The colonies grew to become cities such as Tulare, Visalia, Porterville, and Hanford. Visalia, the County seat, became the service, processing, and distribution center for the growing number of farms, dairies, and cattle ranches. By 1900, Tulare County boasted a population of about 18,000. New transportation links such as SR 99 (completed during the 1950s), affordable housing, light industry, and agricultural commerce brought steady growth to the valley. The California Department of Finance estimated the 2007 Tulare County population to be 430,167.

Basic Components of the Environmental Resources Management Element. ERME brings together two mandatory elements of the General Plan as specified by State Law in a single element correlated with other complementary elements of the County's General Plan, including the Agriculture, Scenic Landscapes, and Water Resources Elements. Since each of these components deal with various aspects of the natural environment, they work together to produce environmental policies for the Conservation and Open Space Elements of the General Plan. These plans for open space and conservation emphasize the approach of making use of existing land use trends, providing guides which will encourage land uses that will lead to achievement of these plans, and to use existing regulations, or only slightly adjusted regulations, to achieve the bulk of these plan requirements.

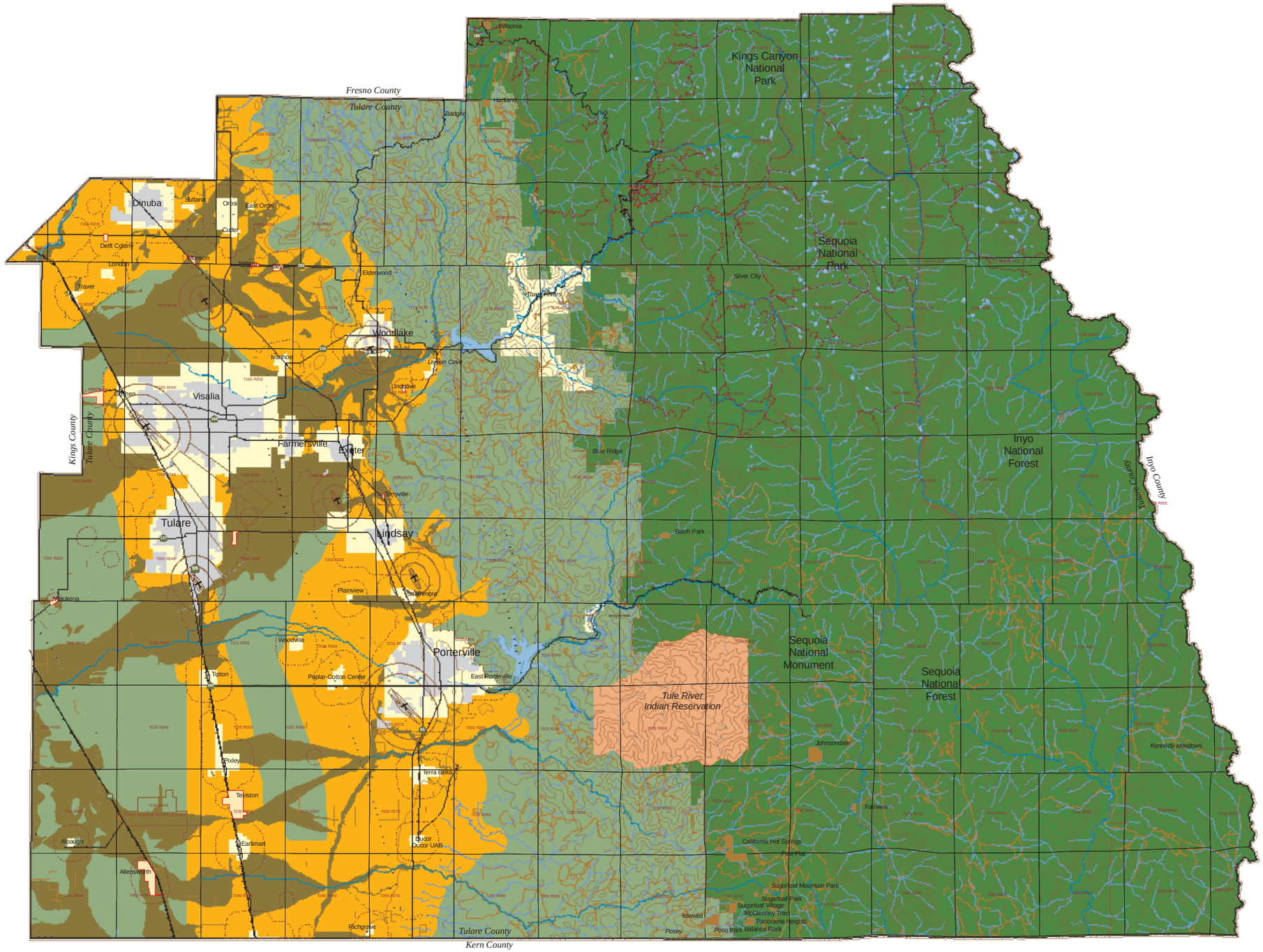
Open Space. Open space is an integral part of the Environmental Resources Management Plan. Open Space as a part of this Environmental Resource Management Element is an expression of the use of open space in conserving, protecting, and enhancing the environment of Tulare County. Open Space is presented in two ways: through narrative and through graphics. A compilation of those aspects of open space which can be graphically portrayed are shown on the map entitled "Plan for Open Space" (Figure 8-1: Plan for Open Space). This is a generalized system-plan which serves as a guide and draws attention to those areas discussed in the narrative section as areas necessary for protection and enhancement of the environment in Tulare County.

The Plan for Open Space locates proposed trail systems, airport clear zones, flood prone areas, agricultural lands, urban lands, State and Federally owned resource protection lands, suggested scenic corridor routes, important waterways, the Tule Indian Reservation, and areas designated as wind-sheds (within which uses should be carefully studied so as not to adversely affect the air resources within urban areas). At the scale of this map, it is impossible to designate precise boundary lines for the different areas; because of this, the map should be used as the beginning reference. Detailed designations are reflected through zoning ordinances which reflect the policies of this element.

Policies are important to the implementation of this plan. Such policies and recommendations should be regarded as a basic part of the Plan for Open Space. They are directly concerned with the protection, conservation, and enhancement of natural resources, agricultural, recreation, scenic, watershed, ground water recharge, and wildlife habitat lands.

The Plan for Open Space further recognizes and plans for implementation of the fundamental concepts that the preservation of open space lands is necessary not only for the maintenance of the economy of the State, but also for the assurance of the continued availability of land for the production of food and fiber, for the enjoyment of scenic beauty, for recreation, and for the use of natural resources. It also discourages premature and unnecessary conversion of open-space lands to urban uses as a matter of public interest and will benefit urban dwellers by discouraging noncontiguous development patterns which unnecessarily increase the costs of community services to community residents.

Conservation. There are many policies throughout this report which are designed to conserve resources through a system of careful development and appropriate utilization of these resources, integrated with multiple uses where possible. Protection and utilization of resources for recreation and open space will result in their conservation.



Legend

- Extensive Agriculture
- National and State Open Space Land
- Intensive Agriculture
- Urban Expansion
- Flood Plains
- Mountain Service Centers
- Tule River Indian Reservation
- Cities
- Lakes
- Airport Zones
- Streams
- Trails
- Townships
- Windsheds
- Railroads
- Power Transmission Lines
- Airports

N

Scale

0 2.5 5 Miles

0 2.5 5 Kilometers

Sources:

Tulare County and City Planning Staffs
United States Geological Survey
U.S. Bureau of Reclamation
U.S. Army Corps of Engineers
State of California, Division of Highways

Content:

Open Space for Urban Use
Water Preservation
Recreation
Scenic Corridors
Agriculture
Public Safety
Water Recharge Areas

0 5 10 20 30 Miles

Tulare County Plan For Open Space | Figure 8-1

Back of fold out.

Conservation of species is provided for in the many recommendations for preservation of wildlife habitat, as well as provision for new areas for this use; the identification of endangered species and their special habitat areas, wildlife preserves, recommendations for controlled use of wildlands and other open space areas; and recommendations for conservation of the diversified life style environments and economic aspects of Tulare County.

Recreation. Another part of this General Plan addresses the recreational needs of the residents of Tulare County. This plan is provided for all socio-economic levels and in diverse locations so that everyone may have accessibility. Recreation and park sites are also open space so that they can be considered as implementation devices for a part of the Plan for Open Space. This reinforces the concept that the more related uses that can be found for a land parcel, the easier its preservation and conservation can be justified. Further, open land use for economically sound purposes has a higher probability of remaining in open space use. Recreational sites often provide wildlife habitat, vegetation to mitigate air pollution, and in some cases aquifer recharge areas or watershed protection, sometimes in addition to agricultural or forestry based economic returns.

Through designation of significant open space areas, which can be utilized for recreational purposes, and with the establishment of protective zoning, the recreational needs of the citizens of the County will be met.

8.1 Biological Resources

ERM-1 To preserve and protect sensitive significant habitats, enhance biodiversity, and promote healthy ecosystems throughout the County.

ERM-1.1 Protection of Rare and Endangered Species
The County shall ensure the protection of environmentally sensitive wildlife and plant life, including those species designated as rare, threatened, and/or endangered by State and/or Federal government, through compatible land use development.

ERM-1.2 Development in Environmentally Sensitive Areas
The County shall limit or modify proposed development within areas that contain sensitive habitat for special status species and direct development into less significant habitat areas. Development in natural habitats shall be controlled so as to minimize erosion and maximize beneficial vegetative growth.

ERM-1.3 Encourage Cluster Development
When reviewing development proposals, the County shall encourage cluster development in areas with moderate to high potential for sensitive habitat.

ERM-1.4 Protect Riparian Areas
The County shall protect riparian areas through habitat preservation, designation as open space or recreational land uses, bank stabilization, and development controls.

ERM-1.5 Riparian Management Plans and Mining Reclamation Plans
The County shall require mining reclamation plans and other management plans to include measures that protect, maintain, and restore riparian resources and habitats.

ERM-1.6 Management of Wetlands
The County shall support the preservation and management of wetland and riparian plant communities for passive recreation, groundwater recharge, and wildlife habitats.

ERM-1.7 Planting of Native Vegetation
The County shall encourage the planting of native trees, shrubs, and grasslands in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native vegetation and wildlife, and ensure that a maximum number and variety of well-adapted plants are maintained.

ERM-1.8 Open Space Buffers
The County shall require buffer areas between development projects and significant watercourses, riparian vegetation, wetlands, and other sensitive habitats and natural communities. These buffers should be sufficient to assure the continued existence of the waterways and riparian habitat in their natural state.

ERM-1.9 Coordination of Management on Adjacent Lands
The County shall work with other government land management agencies (such as the Bureau of Land Management, US Forest Service, National Park Service) to preserve and protect biological resources, including those within and adjacent to designated critical habitat, reserves, preserves, and other protected lands, while maintaining the ability to utilize and enjoy the natural resources in the County.

ERM-1.10 Appropriate Access for Recreation
The County shall encourage appropriate access to resource-managed lands.

ERM-1.11 Hunting and Fishing
The County shall provide opportunities for hunting and fishing activities within the County pursuant to appropriate regulations of the California Fish & Game Code.

ERM-1.12 Management of Oak Woodland Communities
The County shall support the conservation and management of oak woodland communities and their habitats.

ERM-1.13 Pesticides
The Tulare County Agricultural Commissioner/Sealer will cooperate with State and Federal agencies in evaluating the side effects of new materials and techniques in pesticide controls to limit effects on natural resources.

ERM-1.14 Mitigation and Conservation Banking Program
The County shall support the establishment and administration of a mitigation banking program, including working cooperatively with TCAG, Federal, State, not-for-profit and other agencies and groups to evaluate and identify appropriate lands for protection and recovery of threatened and endangered species impacted during the land development process.

ERM-1.15 Minimize Lighting Impacts
The County shall ensure that lighting associated with new development or facilities (including street lighting, recreational facilities, and parking) shall be designed to prevent artificial lighting from illuminating adjacent natural areas at a level greater than one foot candle above ambient conditions.

ERM-1.16 Cooperate with Wildlife Agencies
The County shall cooperate with State and federal wildlife agencies to address linkages between habitat areas.

ERM-1.17 Conservation Plan Coordination
The County shall coordinate with local, State, and federal habitat conservation planning efforts (including Section 10 Habitat Conservation Plan) to protect critical habitat areas that support endangered species and other special-status species.

8.2 Mineral Resources – Surface Mining

ERM-2 To conserve protect and encourage the development of areas containing mineral deposits while considering values relating to water resources, air quality, agriculture, traffic, biotic, recreation, aesthetic enjoyment, and other public interest values.

ERM-2.1 Conserve Mineral Deposits
The County will encourage the conservation of identified and/or potential mineral deposits, recognizing the need for identifying, permitting, and maintaining a 50 year supply of locally available PCC grade aggregate.

ERM-2.2 Recognize Mineral Deposits
The County will recognize as a part of the General Plan those areas of identified and/or potential mineral deposits.

See Figure 8-2: Tulare County Mineral Resource Zones on the next page.

ERM-2.3 Future Resource Development
The County will provide for the conservation of identified and/or potential mineral deposits within Tulare County as areas for future resource development. Recognize that mineral deposits are significantly limited within Tulare County and that they play an important role in support of the economy of the County.

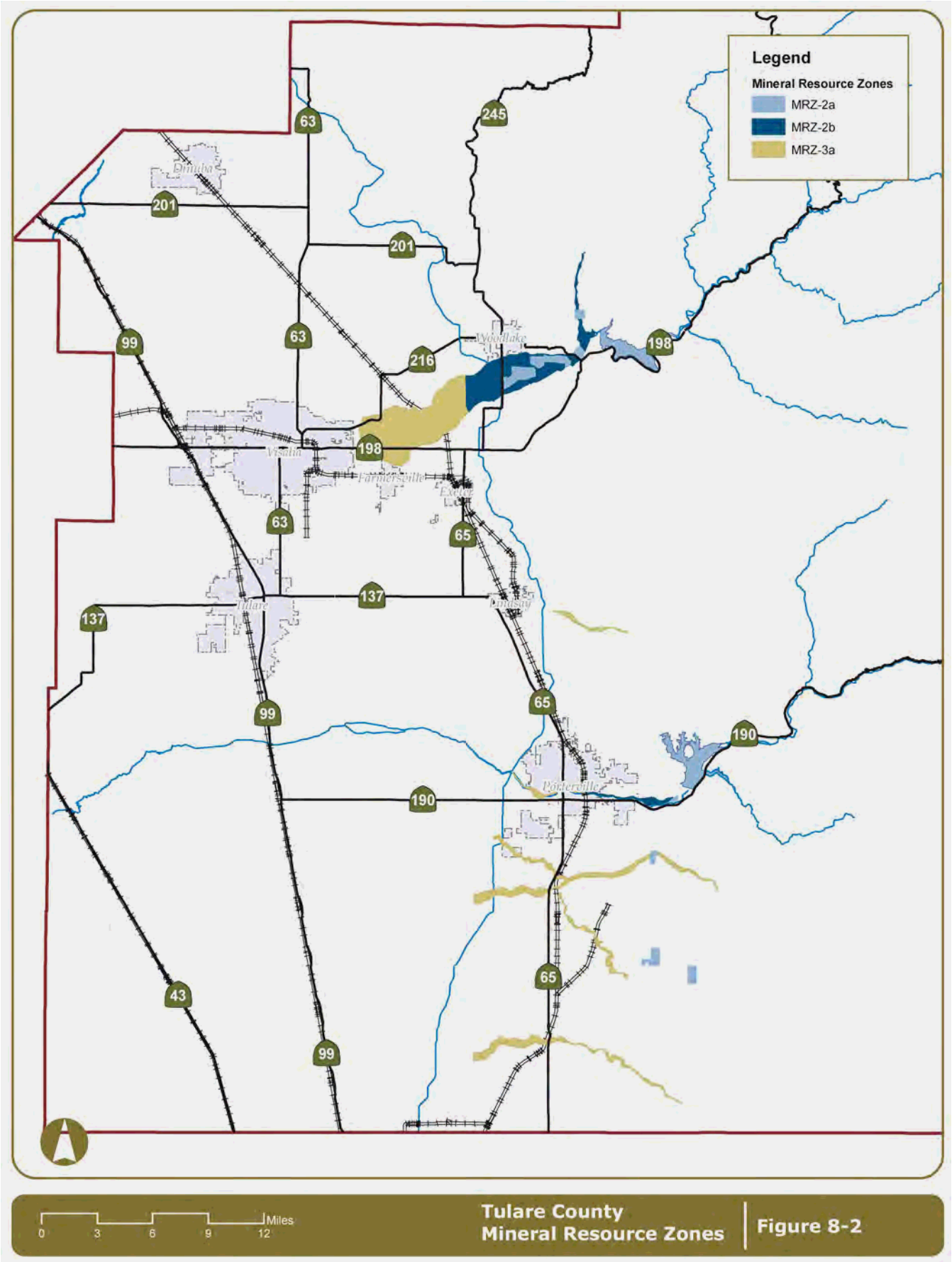
ERM-2.4 Identify New Resources
The County will encourage exploration, evaluation, identification, and development of previously unrecognized but potentially significant hard rock resources for production of crushed stone aggregate.

ERM-2.5 Resources Development
The County will promote the responsible development of identified and/or potential mineral deposits.

ERM-2.6 Streamline Process
The County will create a streamlined and timely permitting process for the mining industry, which will help encourage long-range planning and the reasonable amortization of investments.

ERM-2.7 Minimize Adverse Impacts
The County will minimize the adverse effects on environmental features such as water quality and quantity, air quality, flood plains, geophysical characteristics, biotic, archaeological, and aesthetic factors.

ERM-2.8 Minimize Hazards and Nuisances
The County will minimize the hazards and nuisances to persons and properties in the area during extraction, processing, and reclamation operations.


Legend
Mineral Resource Zones
MRZ-2a
MRZ-2b
MRZ-3a
Dinuba
Woodlake
Visalia
Farmersville
Exeter
Tulare
Lindsay
Porterville
63
245
201
201
99
63
216
198
198
63
65
137
137
99
65
190
190
65
43
99
Miles
0
3
6
9
12
Tulare County
Mineral Resource Zones
Figure 8-2

ERM-2.9 Compatibility
The County will encourage the development of mineral deposits in a manner compatible with surrounding land uses.

ERM-2.10 Incompatible Development
Proposed incompatible land uses in the County shall not be on lands containing or adjacent to identified mineral deposits, or along key access roads, unless adequate mitigation measures are adopted or a statement of overriding considerations stating public benefits and overriding reasons for permitting the proposed use are adopted.

ERM-2.11 Conditions of Approval
The County shall establish procedures to ensure compliance with conditions of approval on all active and idle mines.

ERM-2.12 Approved Limits
Tulare County will establish procedures to ensure that vested interest mining operations remain within their approved area and/or production limits.

ERM-2.13 SMARA Requirements
All surface mines in the County, unless otherwise exempted, shall be subject to reclamation plans that meet SMARA requirements. Reclamation procedures shall restore the site for future beneficial use of the land consistent with the Tulare County General Plan, subsequent to the completion of surface mining activities. Mine reclamation costs shall be borne by the mine operator, and guaranteed by financial assurances set aside for restoration procedures.

8.3 Mineral Resources – Other

ERM-3	To protect the current and future extraction of mineral resources that are important to the County's economy while minimizing impacts of this use on the public and the environment.

ERM-3.1 Environmental Contamination
All mining operations in the County shall be required to take precautions to avoid contamination from wastes or incidents related to the storage and disposal of hazardous materials, or general operating activity at the site.

ERM-3.2 Limited Mining in Urban Areas
Within the County UDBs and HDBs, new commercial mining operations should be limited due to environmental and compatibility concerns.

ERM-3.3 Small-Scale Oil and Gas Extraction
The County shall allow by Special Use Permit small-scale oil and gas extraction activities and facilities that can be demonstrated to not have a significant adverse effect on surrounding or adjacent land and are within an established oil and gas field outside of a UDB.

ERM-3.4 Oil and Gas Extraction
Facilities related to oil and gas extraction and processing in the County may be allowed in identified oil and gas fields subject to a special use permit. The extraction shall demonstrate that it will be compatible with surrounding land uses and land use designations.

ERM-3.5 Reclamation of Oil and Gas Sites
The County shall require the timely reclamation of oil and gas development sites upon termination of such activities to facilitate the conversion of the land to its primary land use as designated by the General Plan. Reclamation costs shall be borne by the mine operator, and guaranteed by financial assurances set aside for restoration procedures.

8.4 Energy Resources

ERM-4 To encourage energy conservation in new and existing developments throughout the County.

ERM-4.1 Energy Conservation and Efficiency Measures
The County shall encourage the use of solar energy, solar hot water panels, and other energy conservation and efficiency features in new construction and renovation of existing structures in accordance with State law.

ERM-4.2 Streetscape and Parking Area Improvements for Energy Conservation
The County shall promote the planting and maintenance of shade trees along streets and within parking areas of new urban development to reduce radiation heating.

ERM-4.3 Local and State Programs
The County shall participate, to the extent feasible, in local and State programs that strive to reduce the consumption of natural or man-made energy sources.

ERM-4.4 Promote Energy Conservation Awareness
The County should coordinate with local utility providers to provide public education on energy conservation programs.

ERM-4.5 Advance Planning
The County shall participate with energy providers in identifying long range energy strategies and facilities.

ERM-4.6 Renewable Energy
The County shall support efforts, when appropriately sited, for the development and use of alternative energy resources, including renewable energy such as wind, solar, bio-fuels and co-generation.

ERM-4.7 Reduce Energy Use in County Facilities
The County Shall continue to integrate energy efficiency and conservation into all County functions.

ERM-4.8 Energy Efficiency Standards
The County shall encourage renovations and new development to incorporate energy efficiency and conservation measures that exceed State Title 24 standards. When feasible, the County shall offer incentives for use of energy reduction measures such as expedited permit processing, reduced fees, and technical assistance.

8.5 Recreation and Open Space Resources

ERM-5	To provide a parks, recreation, and open space system that serves the recreational needs of County residents and visitors, with special emphasis on recreation related to Environmental Resources Management.

ERM-5.1 Parks as Community Focal Points
The County shall strengthen the role of County parks as community focal points by providing community center/recreation buildings to new and existing parks, where feasible.

ERM-5.2 Park Amenities
The County shall provide a broad range of active and passive recreational opportunities within community parks. When possible, this should include active sports fields and facilities, community center/recreation buildings, children's play areas, multi-use areas and trails, sitting areas, and other specialized uses as appropriate.

ERM-5.3 Park Dedication Requirements
The County shall require the dedication of land and/or payment of fees, in accordance with local authority and State law (for example the Quimby Act), to ensure funding for the acquisition and development of public recreation facilities.

ERM-5.4 Park-Related Organizations
The County shall consider the use of existing entities or the creation of assessment districts, landscape and lighting districts, County service areas, community facilities districts, homeowners associations, or other types of districts to generate funds for the acquisition and development of parkland and/or historical properties as development occurs in the County.

ERM-5.5 Collocated Facilities
The County shall encourage the development of parks near public facilities such as schools, community halls, libraries, museums, prehistoric sites, and open space areas and shall encourage joint-use agreements whenever possible.

ERM-5.6 Location and Size Criteria for Parks
Park types used in Tulare County are defined as follows:

- **Neighborhood Play Lots (Pocket Parks)**. The smallest park type, these are typically included as part of a new development to serve the neighborhood in which they are contained. Typical size is one acre or less. If a park of this type is not accessible to the general public, it can not be counted towards the park dedication requirements of the County. Pocket Parks can be found in communities, hamlets, and other unincorporated areas.
- **Neighborhood Parks**. Neighborhood parks typically contain a tot lot and playground for 2-5 year olds and 5-12 year olds, respectively, one basketball court or two half-courts, baseball field(s), an open grassy area for informal sports activities (for example, soccer), and meandering concrete paths that contain low-level lighting for walking or jogging. In addition, neighborhood parks typically have picnic tables and a small group picnic shelter. These park types are typically in the range of 2 to 15 acres and serve an area within a ½ mile radius. Neighborhood parks can be found in communities, hamlets, and other unincorporated areas.

- **Community Parks**. Community parks are designed to serve the needs of the community as a whole. These facilities can contain the same facilities as the neighborhood park. In addition, these parks can contain sports facilities with night lighting, community centers, swimming pools, and facilities of special interest to the community. These parks are typically 15 to 40 acres in size and serve an area within a 2 mile radius. Community parks can be found in communities, planned community areas, and large hamlets.
- **Regional Parks**. Regional parks are facilities designed to address the needs of the County as a whole. These facilities may have an active recreation component (play area, group picnic area, etc.), but the majority of their area is maintained for passive recreation (such as hiking or horseback riding), and natural resource enjoyment. Regional parks are typically over 200 acres in size, but smaller facilities may be appropriate for specific sites of regional interest.

The following guidelines should be observed in creating and locating County parks:

1. The County shall strive to maintain an overall standard of five or more acres of County-owned improved parkland per 1,000 population in the unincorporated portions of the County,
2. Neighborhood play lots (pocket parks) are encouraged as part of new subdivision applications as a project amenity, but are not included in the calculation of dedication requirements for the project,
3. Neighborhood parks at three acres per 1,000 population, if adjoining an elementary school and six acres per 1,000 population if separate [ERME IV-C; Open Space; Policy 3; Pg. 101],
4. Community parks at one-acre per 1,000 population if adjoining a high school and two acres per 1,000 population if separate [ERME IV-C; Open Space; Policy 4; Pg. 101],
5. Regional parks at one-acre per 1,000 population,
6. Only public park facilities shall be counted toward Countywide parkland standards, and
7. A quarter mile walking radius is the goal for neighborhood parks.

See Chapter 14-Public Facilities, Section 14.1: General, for information on funding mechanisms for parks.

ERM-5.7 Public Water Access

The County shall give a high priority to the acquisition of public access rights to water courses. Acquisition of multi-purpose sites, such as the protection of drainage ways, wildlife habitats, and scenic assets, shall be encouraged. In the lakefront areas of Lake Success and Lake Kaweah, special consideration should be given to matching recreational needs of the community with lake access.

ERM-5.8 Watercourse Development

The County, in approving recreational facilities along major watercourses, shall require a buffer of at least 100 feet from the high-water line edge/bank and screening vegetation as necessary to address land use compatibility issues. The establishment of a buffer may not be required when mitigated or may not apply to industrial uses that do not impact adjoining uses identified herein.

ERM-5.9 Encourage Development of Private Recreation Facilities

The County should encourage private interests to establish new commercial recreation opportunities in the County. The intensity of such development should not exceed the ability of the natural environment of the site and its surroundings to accommodate the new development and should be compatible with surrounding land uses.

Such facilities may include, but are not limited to, campgrounds, destination resorts, hotels, ball courts, skeet clubs and facilities, hunting and fishing clubs, equestrian facilities, and recreational camps.

ERM-5.10 Recreational Facilities for Special Use Groups

The County should encourage the provision of recreation facilities and activities for special use groups such as physically disabled, mentally handicapped, and senior citizens.

ERM-5.11 Cooperation with Federal and State Agencies

The County shall work with Federal and State agencies that manage land within the County, as appropriate.

ERM-5.12 Meet Changing Recreational Needs

The County shall promote the continued and expanded use of national and State forests, parks, and other recreational areas to meet the recreational needs of County residents.

ERM-5.13 Funding for Recreational Areas and Facilities

The County shall support the continued maintenance and improvement of existing recreational facilities and expansion of new recreational facilities opportunities for County, State, and Federal lands. The County shall strive to obtain adequate funding to improve and maintain existing parks, as well as construct new facilities.

ERM-5.14 Park Design

The County shall make efforts to involve community members in the design and development of park facilities.

ERM-5.15 Open Space Preservation

The County shall preserve natural open space resources through the concentration of development in existing communities, use of cluster development techniques, maintaining large lot sizes in agricultural areas, discouraging conversion of lands currently used for agricultural production, limiting development in areas constrained by natural hazards, and encouraging agricultural and ranching interests to maintain natural habitat in open space areas where the terrain or soil is not conducive to agricultural production.

ERM-5.16 Regional Recreation Planning

Tulare County shall, on a cooperative, regionally planned basis, provide for regional recreation needs in fair proportion to the demand from each County, specifically Fresno, Kings, and Kern Counties.

ERM-5.17 Activity Prioritization

Where necessary, one or more conflicting recreational uses shall be restricted, or prohibited, and a priority of uses established. This is particularly important in water-oriented sports, where such uses as power-boating, swimming, sailing, canoeing, water skiing, skin diving, and fishing all compete for the same water and cannot safely co-exist if concentrations become too great.

ERM-5.18 Night Sky Protection
Upon demonstrated interest by a community, mountain service center, or hamlet the County will determine the best means by which to protect the visibility of the night sky.

ERM-5.19 Interagency Cooperation
The County shall cooperate with Federal land management agencies to develop and promote the establishment of Three Rivers and Springville as gateway communities.

ERM-5.20 Allowable Uses on Timber Production Lands
The County shall allow uses (not related to forest production) on lands designated Resource Conservation in forestry production areas, provided it is demonstrated that:

1. They are compatible with forestry uses,
2. Will not interfere with forest practices,
3. Consider forest site productivity and minimize the loss of productive forest lands,
4. Will meet standards relating to the availability of fire protection, water supply, and waste disposal, and
5. Will not degrade the watershed and/or water quality due to increased erosion.

8.6 Cultural Resources

ERM-6 To manage and protect sites of cultural and archaeological importance for the benefit of present and future generations.

ERM-6.1 Evaluation of Cultural and Archaeological Resources
The County shall participate in and support efforts to identify its significant cultural and archaeological resources using appropriate State and Federal standards.

ERM-6.2 Protection of Resources with Potential State or Federal Designations
The County shall protect cultural and archaeological sites with demonstrated potential for placement on the National Register of Historic Places and/or inclusion in the California State Office of Historic Preservation's California Points of Interest and California Inventory of Historic Resources. Such sites may be of Statewide or local significance and have anthropological, cultural, military, political, architectural, economic, scientific, religious, or other values as determined by a qualified archaeological professional.

ERM-6.3 Alteration of Sites with Identified Cultural Resources
When planning any development or alteration of a site with identified cultural or archaeological resources, consideration should be given to ways of protecting the resources. Development can be permitted in these areas only after a site specific investigation has been conducted pursuant to CEQA to define the extent and value of resource, and mitigation measures proposed for any impacts the development may have on the resource.

ERM-6.4 Mitigation
If preservation of cultural resources is not feasible, every effort shall be made to mitigate impacts, including relocation of structures, adaptive reuse, preservation of facades, and thorough documentation and archival of records.

ERM-6.5 Cultural Resources Education Programs
The County should support local, State, and national education programs on cultural and archaeological resources.

ERM-6.6 Historic Structures and Sites
The County shall support public and private efforts to preserve, rehabilitate, and continue the use of historic structures, sites, and parks. Where applicable, preservation efforts shall conform to the current Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. .

ERM-6.7 Cooperation of Property Owners
The County should encourage the cooperation of property owners to treat cultural resources as assets rather than liabilities, and encourage public support for the preservation of these resources.

ERM-6.8 Solicit Input from Local Native Americans
The County shall continue to solicit input from the local Native American communities in cases where development may result in disturbance to sites containing evidence of Native American activity and/or to sites of cultural importance.

ERM-6.9 Confidentiality of Archaeological Sites
The County shall, within its power, maintain confidentiality regarding the locations of archaeological sites in order to preserve and protect these resources from vandalism and the unauthorized removal of artifacts.

ERM-6.10 Grading Cultural Resources Sites
The County shall ensure all grading activities conform to the County's Grading Ordinance and California Code of Regulations, Title 20, § 2501 et. seq..

8.7 Soil Resources

ERM-7 To preserve and protect soil resources in the County for agricultural and timber productivity and protect public health and safety.

ERM-7.1 Soil Conservation
The County of Tulare shall establish the proper controls and ordinances for soil conservation.

ERM-7.2 Soil Productivity
The County shall encourage landowners to participate in programs that reduce soil erosion and increase soil productivity. To this end, the County shall promote coordination between the Natural Resources Conservation Service, Resource Conservation Districts, UC Cooperative Extension, and other similar agencies and organizations.

ERM-7.3 Protection of Soils on Slopes
Unless otherwise provided for in this General Plan, building and road construction on slopes of more than 30 percent shall be prohibited, and development proposals on slopes of 15 percent or more shall be accompanied by plans for control or prevention of erosion, alteration of surface water runoff, soil slippage, and wildfire occurrence.

Other policies relating to slopes can be found in (Part I) Chapter 4-Land Use, Policy LU-1.7: Development on Slopes and (Part II) Chapter 3-Foothill Growth Management Plan, Policy FGMP-8.11: Development on Slopes.

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8.8 Work Plan/Implementation Measures

The following table documents the Implementation Measures included with the General Plan to implement the goals and policies included in this Element.

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
1. The County shall encourage and support public education that will alert citizens of the County to the types of plant and animal life which need protection and preservation. Methods of public education could include printed material, speakers, and displays, made available through the news media, local educators, County facilities (such as libraries), or the internet.	ERM-1.1	RMA	■			■
2. The County shall review development proposals against the California Natural Diversity Data Base, and other available studies provided by the California Department of Fish and Game, and consult, as appropriate, with the California Department of Fish and Game and U.S. Fish and Wildlife to assist in identifying potential conflicts with sensitive natural communities or special status species.	ERM-1.1 ERM-1.2	RMA, Planning				■
3. On project sites that have the potential to contain species of local or regional concern, sensitive natural communities or special-status species, the County shall require the project applicant to have the site surveyed and mapped by a qualified biologist. A report on the finding of this survey shall be submitted to the County as part of the application and environmental review process.	ERM-1.1 ERM-1.2	RMA, Planning				■
4. Where sensitive habitat for special status species is found to exist on a site and biological survey validates that such habitat does exist and there is the potential for occurrences of special status species to be found, the County shall require a plan to protect these areas, with	ERM-1.1 ERM-1.2	RMA, Planning				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
assurances to protect these areas to be submitted prior to the time of construction. Such plan shall first recommend avoidance where at all feasible. When avoidance is infeasible, the County shall consider a variety of optional measures to limit the loss of habitat, including modification of the proposal or other such acceptable practice as identified in a biological study conducted by an environmental professional.						
5. The County shall work cooperatively with the California Department of Fish and Game to develop a joint study which will identify in Tulare County the following: a. Significant habitat to be preserved in a natural state for the survival of rare and endangered species, b. Fish and game habitat desirable for meeting the quantity of demand for fishing and hunting, and c. Wildlife habitat needed for meeting the quantity of demand for recreational, educational and scientific observation, scenic enjoyment and appreciation of open space.	ERM-1.1 ERM-1.2 ERM-1.4 ERM-1.6 ERM-1.7 ERM-1.8 ERM-1.9 ERM-1.12	RMA, Planning	■			
6. On project sites with the potential to contain wetland resources, a wetland delineation study shall be prepared using the protocol defined by the Army Corps of Engineers. A report on the findings of this survey shall be submitted to the County as part of the application process and environmental review process.	ERM-1.1 ERM-1.2 ERM-1.6	RMA, Planning				■
7. The County shall utilize provisions within the Zoning Ordinance to designate Resource Conservation Areas designed to protect natural habitats as those areas are identified over time.	ERM-1.1 ERM-1.4 ERM-1.5 ERM-1.6	RMA, Planning		■		
8. If feasible and needed, the County shall develop and	ERM-1.14	RMA, Planning		■		

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
administer a mitigation banking program in conjunction with TCAG and other stake holders.						
9. The County shall incorporate into the Zoning Ordinance requirements for the dedication of buffers as public open space for riparian and wetland areas for development or other discretionary permits where the development or activity will impact a riparian area. Special attention should be given to preservation of trout habitat. Buffer requirements should be measured from the edge of the riparian area and set at distances recommended by biological studies of the site.	ERM-1.4 ERM-1.6 ERM-1.8	RMA, Planning	■			
10. The County shall actively pursue a program of acquisition or preservation of vernal pools. This can be done through a variety of mechanisms, including establishing a mitigation banking program, conservation easements, and trusts.	ERM-1.6	RMA, Planning		■		■
11. The County shall continue efforts to maintain and enlarge wetland preserves, which provide waterfowl habitat necessary to the maintenance of the flyway route through the valley. Such wetlands should also be protected through stormwater management programs, erosion control, and public education.	ERM-1.6	RMA, Planning	■			
12. The County shall develop a list of native vegetation to be used as a landscape pallet for use by citizens and developers.	ERM-1.7	RMA, Planning	■			
13. The County shall classify and preserve private lands which are prime timber lands and reserve them for that use, while at the same time, encouraging compatible recreation and open space uses.	ERM-1.10	RMA, Planning		■		■
14. The County shall ensure that the provisions of Public Resources Code § 21083.4 are followed when evaluating projects in areas containing oak woodlands.	ERM-1.12	RMA, Planning				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
15. The County shall work with stakeholders to determine the feasibility of adopting an oak woodlands management plan pursuant to the Oak Woodlands Conservation Act of 2001. The purpose will be to qualify for grant funding to support and encourage voluntary long term private stewardship and conservation of California's oak woodlands.	ERM-1.12	RMA, Planning		■		
16. The County shall establish a program to require the replacement planting of native oaks where oak woodlands are proposed for alteration by development projects.	ERM-1.12	RMA, Planning	■			
17. The County shall continue its enforcement program that provides consequences for the destruction of wildlife, natural biological control organisms, and other damages beyond the boundaries of the control area resulting from the inappropriate application of pesticides or herbicides. This should include damages caused by wind drift, also those caused by irrigation waters impregnated with pesticides or herbicides, which are ejected into waterways and public bodies.	ERM-1.13	Env. Health; Agricultural Commissioner/ Sealer	■			
18. The County shall promote a public relations program which will explain typical agricultural operations and the County's Right to Farm Ordinance.	ERM 1.13 AG-1.14	RMA, Planning	■			
19. Tulare County shall establish procedures to allow for the timely recognition of identified and/or potential mineral deposits to be recognized by the Board of Supervisors, so that said deposits may be protected from future incompatible land uses.	ERM-2.1 ERM-2.2 ERM-2.3	RMA, Planning		■		
20. RMA staff shall report annually to the Planning Commission and Board of Supervisors with updated information from the California Geological Survey on the following: 1) update annual production/consumption figures for construction grade rock,	ERM-2.1 ERM-2.2 ERM-2.3 ERM-2.4	RMA, Planning		■		

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
sand and gravel usage in Tulare County; 2) projected 50 year requirements for construction grade rock, sand and gravel in Tulare County; 3) update actual permitted reserves in Tulare County and the status of any pending applications for new mining permits or modification of existing permits; and 4) summary of projected remaining life of permitted reserves in Tulare County.						
21. The location of potential alluvial and hard rock mineral deposits shall be incorporated as part of the ERM Element of the Tulare County General Plan by amendment to the Mineral Resource Zones Map: Figure 8-1, with property specific overlays.	ERM-2.1 ERM-2.2 ERM-2.3 ERM-2.4 ERM-2.9	RMA, Planning		■		
22. The County shall coordinate with the Office of Mine Reclamation, California Department of Conservation, and the State Geological Survey on projects which may threaten the potential to extract mineral resources..	ERM-2.1 ERM-2.2 ERM-2.3 ERM-2.4 ERM-2.9	RMA, Planning				■
23. Tulare County shall establish procedures to provide for a thorough and comprehensive pre-application process that will allow for a more predictable surface mine and reclamation permitting process.	ERM-2.6	RMA, Planning		■		
24. Tulare County shall establish procedures to provide for minor modifications to surface mining permits and reclamation plans, provided the modifications do not materially affect the determination of the decision-making administrative approvals. Such modifications shall be noted on the approved plans and shall be initialed by the Resource Management Agency Director or designee. Any proposed modifications that change conditions of approval will require public notice.	ERM-2.6	RMA, Planning		■		
25. Tulare County shall establish procedures to bring a surface mining operation into	ERM-2.6	RMA, Planning				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
compliance in the event it fails to comply with any conditions of approval. Procedures shall be established to promptly abate illegal mining operations conducted without permits.						
26. Tulare County shall establish procedures to allow the Planning Commission to approve certain types of mining permits and reclamation plans.	ERM-2.6	RMA, Planning		■		
27. Tulare County shall devise procedures as part of the Zoning Ordinance update to mitigate significant conflicts arising from incompatible land uses.	ERM-2.7 ERM-2.8 ERM-2.9 ERM-2.10	RMA, Planning		■		
28. Conditions to minimize or eliminate the potential adverse impact of development on identified and/or potential mineral deposits and surrounding properties, covering such issues as access, traffic noise, air quality, water quality and quantity, public health and safety, aesthetics, natural resources, and the socioeconomic setting, pursuant to CEQA and SMARA, should be imposed as a part of the permit process.	ERM-2.8 ERM-2.9 ERM-2.10 ERM-2.11	RMA, Planning				■
29. Areas containing mineral springs and seeps, where such seeps and springs appear to be vital to the continuation of wildlife in the area, shall be protected. Protection techniques may include avoidance and or setback requirements.	ERM-2.7 ERM-2.8 ERM-3.1	RMA, Planning	■			
30. When considering developments proposed for areas adjacent to the Kaweah and Tule Rivers, Lewis Creek, and other waterways with aggregate potential, such development shall be planned to not hinder future extraction of these commercially important minerals.	ERM-2.9 ERM-2.10	RMA, Planning				■
31. Tulare County shall establish criteria for all new surface mining permits so as to guide mineral deposit development toward areas containing compatible land uses.	ERM-2.10	RMA, Planning		■		

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
32. The Planning staff shall periodically review the standard conditions of approval for surface mine and reclamation plans.	ERM-2.11	RMA, Planning				■
33. The County shall reference proposed conditions of approval recommended by the former members of the Mineral Resources Policy Advisory Committee (MRPAC) in June 2006, during permit review. Conditions should be imposed as a part of the permit application process which considers the potentially adverse environmental effects of surface mining operations, pursuant to CEQA. (1) When the initial study and/or scoping process indicates the possibility of adverse impacts to water resources, including surface and underground water, no surface mining permit or reclamation plan shall be approved until the applicant has provided: a. A geological-hydrological report prepared by a qualified and impartial consultant retained by the County, and paid for by the applicant which identifies all the hydrologic and geologic features pertinent to water resources and the potential adverse quality, quantity, and flood-related risks. The County shall provide for professional independent peer review of such reports. b. The geological-hydrological report shall identify mitigation measures necessary to achieve quality and quantity characteristics of water resources at levels deemed acceptable by State and Federal water regulatory agencies, and in line with local historical data and in conformance with water rights law.	ERM-2.11	RMA, Planning				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
34. Tulare County may enter into Memorandums of Understanding (MOUs), or develop other protocols for coordination with agencies of jurisdiction for the purposes of coordinating and simplifying the administration and processing of both SMARA and California Environmental Quality Act documents.	ERM-2.11 ERM-2.12	RMA, Planning				■
35. An initial review of compliance shall be conducted by the Tulare County Resource Management Agency Director or designee six months after the granting of a SMARA permit. Annual reviews shall be conducted throughout the life of the permit thereafter.	ERM-2.12	RMA, Planning				■
36. Tulare County shall include a statement of purpose in the Tulare County SMARA Ordinance describing the role of surface mining in the local economy, as well as the benefits of appropriate reclamation, as defined by SMARA regulations and guidelines.	ERM-2.13	RMA, Planning	■			
37. Tulare County shall establish procedures to assure compliance with State SMARA review requirements.	ERM-2.13	RMA, Planning				■
38. For all new mining operations or expansions requiring new or amended permits from the County, the County will require submittal and approval of a reclamation plan, in accordance with SMARA requirements. Reclamation should be done on a phased basis as extraction from phases are completed (as opposed to reclamation at the end closure of the mine).	ERM-2.11 ERM-2.13	RMA, Planning				■
39. Tulare County shall evaluate all new surface mining permits and/or reclamation plans through the CEQA process, focusing on water resources, air quality, agriculture, traffic, biotic, recreation, aesthetic enjoyment, and other public interest values.	ERM-3.1	RMA, Planning				■
40. The County shall encourage and assist community service districts (CSD), or similar local	ERM-5.1 thru ERM-5.18	RMA, Planning				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
entities to assume parkland acquisition, development, operations, and maintenance functions in established areas.						
41. When appropriate, based on the size of the development or if new park facilities are installed as part of an approved residential project, the County shall require the creation of a service district or landscaping and lighting district to maintain the park and its facilities.	ERM-5.1 thru ERM-5.17 ERM-5.4	RMA, Planning				■
42. The County Board of Supervisors shall establish and adjust, as appropriate, a park development impact fee based on a level of service to provide for funding that meets the actual cost, park acquisition, and development.	ERM-5.3 ERM-5.6	RMA, Planning				■
43. Access to suitable recreation land shall be obtained through various types of acquisition and public-private joint agreement arrangements, as applicable. Maximum efforts should be concentrated upon acquisition of recreation sites within one hour's travel time from urban concentrations throughout the County and sites that can be developed for intensive use.	ERM-5.6 ERM-5.10	RMA, Planning				■
44. The County shall develop shoreline development standards regulating uses along water courses and waterways, such as well drilling, location of septic tanks, building setbacks, lot sizes, public access, and encouragement of protection of scenic and recreational assets in conformance with Government Code § 66478(a).	ERM-5.8	RMA, Planning	■			
45. Developers of new subdivisions who propose to build public recreation facilities shall be required to post adequate bonds or cash deposits to assure completion of the entire facility to ensure long term maintenance.	ERM-5.13	RMA, Planning				■
46. Tulare County should initiate the development of a park master plan to cover facilities needed to	ERM-5.10	RMA, Planning; Parks	■			

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
serve the unincorporated communities, hamlets, and regional park needs in the County. Emphasis should be given to classifying and quantifying the present and future needs of all socio-economic groups and visitors, with special emphasis on deficiencies in recreation for low-income residents. An inventory of potential park and recreation areas should be made and a program of priorities established with proposed methods of financing.						
47. Scenic and open space easements shall be acquired through subdivision and development approvals including, but not limited to, wooded areas, flood plains, scenic and historic sites, shorelines, and other recreation areas.	ERM-5.15	RMA, Planning				■
48. The County should consider other tools in addition to the continued implementation of the Williamson Act program as part of its open space and protection program, such as transfer of development rights.	ERM-5.15	RMA, Planning				■
49. The County shall incorporate provisions into development regulations that in the event archaeological and/or buried historic resources are discovered during site excavation, grading, or construction, work on the site will be suspended until the significance of the features can be determined by a qualified archaeologist. If significant resources are determined to exist, the archaeologist shall make recommendations for protection or recovery of the resource.	ERM-6.1 ERM-6.2 ERM-6.3 ERM-6.4 ERM-6.9	RMA, Planning	■			
50. The County should establish and maintain a Historic Site Preservation Committee. This committee should include representatives from each community that have an interest	ERM-6.2 ERM-6.6 ERM-6.8	RMA, Planning	■			

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
in and knowledge of historic preservation. Activities of the committee include: a. Inventory historical sites and buildings worthy of preservation. b. Advisory group to the Board of Supervisors and the Planning Commission. c. Review and comment on development proposals that threaten to encroach on historical assets. d. Determine appropriate locations for potential status as a Certified Local Government (CLG).						
51. The County shall maintain Countywide coverage of soil resources (Soil Conservation Service) in order to assure detailed and up-to-date mapping. Mapping should identify areas of: a. Soil and rock units that will support large structures without costly and special engineering design, b. Soils that present foundation problems because of excess plasticity, high shrink-swell properties, saturation with large volumes of water, or subsidence danger resulting from either too much or too little water, c. Highly corrosive soil and rock units, d. Highly acid or alkaline soils, and e. Location of oil and mining resources.	ERM-7.1 ERM-7.2	RMA, Planning		■		
52. The County shall adopt standards applicable to all types of man-made disruption, including drainage alternations of soils and subsurface geological features in order to minimize erosion and sedimentation problems.	ERM-7.1 ERM-7.3	RMA, Planning	■			
53. Groundwater and soil conditions shall be identified prior to subdividing and/or road and building construction. Such development shall be properly engineered to control potential	ERM-7.1 ERM-7.2 ERM-7.3	RMA, Planning				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
landslides in areas of unstable soils as well as substantial amounts of soil erosion.						
54. The County shall work with funding sources and organizations such as the Sierra Nevada Conservancy, land trusts, and private foundations to provide resources to implement the plans and programs of the Environmental Resources Management Element.	ERM-Chapter 8-Policies as applicable.	County				■
55A. Archaeological Resource Surveys. Prior to approval (for any project involving ground disturbing or demolition of a potentially historic building), the County shall determine the need for a project applicant to have a qualified archeologist conduct the following activities: (1) conduct a record search at the Regional Archaeological Information Center and other appropriate historical repositories, (2) conduct field surveys where appropriate, (3) prepare technical reports, where appropriate, meeting California Office of Historic Preservation Standards (Archeological Resource Management Reports).	ERM 6.2 ERM 6.3	County				■
55B. Discovery of Archaeological Resources. In the event that archaeological or paleontological resources are discovered during site excavation, the County shall require that grading and construction work on the project site be suspended until the significance of the features can be determined by a qualified archaeologist or paleontologist. The County will require that a qualified archeologist / paleontologist make recommendations for measures necessary to protect any site determined to contain or constitute an historical resource, a unique archaeological resource, or a unique paleontological resource or to undertake data recovery,	ERM 6.2 ERM 6.3	County				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
excavation, analysis, and curation of archaeological or paleontological materials. County staff shall consider such recommendations and implement them where they are feasible in light of project design as previously approved by the County.						
55C. Discovery of Human Remains. Consistent with Section 7050.5 of the California Health and Safety Code and (CEQA Guidelines) Section 15064.5, if human remains of Native American origin are discovered during project construction, it is necessary to comply with State laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American Heritage Commission (Public Resources Code Sec. 5097). In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken: 1. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until: a. The Tulare County Coroner/Sheriff must be contacted to determine that no investigation of the cause of death is required; and b. If the coroner determines the remains to be Native American: i. The coroner shall contact the Native American Heritage Commission within 24 hours. ii. The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native	ERM 6.2 ERM 6.3	County				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
American. iii. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code section 5097.98, or 2. Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance. a. The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission. b. The descendant fails to make a recommendation; or c. The landowner or his authorized representative rejects the recommendation of the descendent.						

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9. Air Quality

The Air Quality Element is divided into the following sections:

- Regional Perspective (Section 9.1)
- Transportation Design (Section 9.2)
- Land Use/Design (Section 9.3)
- Air Pollution Control (Section 9.4)
- Work Plan/Implementation Measures (Section 9.5)

Key Terms

The following terms are used throughout this element to describe air quality issues:

Ambient Air Quality Standards. These standards measure outdoor air quality. They identify the maximum acceptable average concentrations of air pollutants during a specified period of time. These standards have been adopted at a State and federal level.

Best Available Control Measures (BACM). A set of programs that identify and implement potentially best available control measures affecting local air quality issues.

Beat Available Control Technologies (BACT). The most stringent emission limitation or control technique of the following:1.) Achieved in practice for such category and class of source 2.) Contained in any State Implementation Plan approved by the Environmental Protection Agency for such category and class of source. A specific limitation or control technique shall not apply if the owner of the proposed emissions unit demonstrates to the satisfaction of the APCO that such a limitation or control technique is not presently achievable 3.) Contained in an applicable federal New Source Performance Standard or 4.) Any other emission limitation or control technique, including process and equipment changes of basic or control equipment, found by the APCO to be cost effective and technologically feasible for such class or category of sources or for a specific source.

Carbon Dioxide (CO_2). A naturally occurring gas, and also a by-product of burning fossil fuels and biomass, as well as land-use changes and other industrial processes. It is the principal anthropogenic greenhouse gas that affects the Earth's radiative balance. It is the reference gas against which other greenhouse gases are measured and therefore has a Global Warming Potential of 1.

Carbon Monoxide (CO). Carbon monoxide is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels and is emitted directly into the air (unlike ozone).

Climate Change. Climate change refers to a statistically significant variation in either the mean state of the climate or in its variability, persisting for an extended period (typically decades or longer). Climate

change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use.

Global Warming. Global warming is an average increase in the temperature of the atmosphere near the Earth's surface and in the troposphere, which can contribute to changes in global climate patterns. Global warming can occur from a variety of causes, both natural and human induced. In common usage, "global warming" often refers to the warming that can occur as a result of increased emissions of greenhouse gases from human activities.

Greenhouse Effect. Trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. Some of the heat flowing back toward space from the Earth's surface is absorbed by water vapor, carbon dioxide, ozone, and several other gases in the atmosphere and then reradiated back toward the Earth's surface. If the atmospheric concentrations of these greenhouse gases rise, the average temperature of the lower atmosphere will gradually increase.

Greenhouse Gas. Any gas that absorbs infrared radiation in the atmosphere. Greenhouse gases include, but are not limited to, water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrochlorofluorocarbons (HCFCs), ozone (O_3), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Hydrogen Sulfide (H_2S). Hydrogen sulfide is a highly toxic flammable gas. Because it is heavier than air, it tends to accumulate at the bottom of poorly ventilated spaces.

Lead (Pb). Lead is the only substance which is currently listed as both a criteria air pollutant and a toxic air contaminant. Smelters and battery plants are the major sources of the pollutant "lead" in the air. The highest concentrations of lead are found in the vicinity of nonferrous smelters and other stationary sources of lead emissions. The EPA's health-based national air quality standard for lead is 1.5 micrograms per cubic meter (æg/m_3) [measured as a quarterly average].

Metropolitan Planning Organization (MPO). Tulare County Association of Governments (TCAG) is the MPO for Tulare County. MPO's are responsible for developing reasonably available control measures (RACM) and best available control measures (BACM) for use in air quality attainment plans and for addressing Transportation Conformity requirements of the federal Clean Air Act.

Mobile Source. A mobile emission source is a moving object, such as on-road and off-road vehicles, boats, airplanes, lawn equipment, and small utility engines.

Nitrogen Oxides (Oxides of Nitrogen, NO_x). NO_x are compounds of nitric oxide (NO) and nitrogen dioxide (NO_2). NO_x are primarily created from the combustion process and are a major contributor to ozone smog and acid rain formation. NOx also forms ammonium nitrate particulate in chemical reactions that occur when NOx forms nitric acid and combines with ammonia. Ammonium nitrate particulate is an important contributor to PM10 and PM2.5.

Ozone (O_3). Ozone is a pungent, colorless, toxic gas created in the atmosphere rather than emitted directly into the air. O_3 is produced in complex atmospheric reactions involving oxides of nitrogen, reactive organic gases (ROG), and ultraviolet energy from the sun in a photochemical reaction. Motor vehicles are the major sources of O_3 precursors.

Ozone Precursors. Chemicals such as non-methane hydrocarbons, also referred to as ROG, and oxides of nitrogen, occurring either naturally or as a result of human activities, which contribute to the formation of ozone. A major component of smog.

Photochemical. Some air pollutants are direct emissions, such as the CO produced by an automobile's engine. Other pollutants, primarily O_3, are formed when two or more chemicals react (using energy from the sun) in the atmosphere to form a new chemical. This is a photochemical reaction.

Particulate Matter 2.5 Micrometers (PM2.5). The federal government has recently added standards for smaller dust particulates. PM2.5 refers to dust/particulates/aerosols that are 2.5 microns in diameter or smaller. Particles of this size can be inhaled more deeply in the lungs and the chemical composition of some particles is toxic and have serious health impacts.

Particulate Matter 10 Micrometers (PM10). Dust and other particulates exhibit a range of particle sizes. Federal and State air quality regulations reflect the fact that smaller particles are easier to inhale and can be more damaging to health. PM10 refers to dust/particulates that are 10 microns in diameter or smaller. The fraction of PM between PM2.5 and PM10 is comprised primarily of fugitive dust. The particles between PM10 and PM2.5 are primarily combustion products and secondary particles formed by chemical reactions in the atmosphere.

Reactive Organic Gas (ROG). A photo chemically reactive chemical gas, composed of non-methane hydrocarbons that may contribute to the formation of smog. Also sometimes referred to as Volatile Organic Compounds (VOCs).

Reasonable Available Control Measures (RACM). A broadly defined term referring to technologies and other measures that can be used to control pollution. They include Reasonably Available Control Technology and other measures. In the case of PM10, RACM refers to approaches for controlling small or dispersed source categories such as road dust, woodstoves, and open burning. Regional Transportation Planning Agencies are required to implement RACM for transportation sources as part of the federal ozone attainment plan process in partnership with the SJVAPCD.

Reasonable Available Control Technologies (RACT): Devices, systems, process modifications, or other apparatus or techniques that are reasonably available, taking into account: the necessity of imposing such controls in order to attain and maintain a national ambient air quality standard; the social, environmental, and economic impact of such controls; and alternative means of providing for attainment and maintenance of such a standard.

San Joaquin Valley Air Basin (SJVAB). An air basin is a geographic area that exhibits similar meteorological and geographic conditions. California is divided into 15 air basins to assist with the statewide regional management of air quality issues. The SJVAB extends in the Central Valley from San Joaquin County in the north to the valley portion of Kern County in the south.

San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD is the regulatory agency responsible for developing air quality plans, monitoring air quality, developing air quality regulations, and permitting programs on stationary/industrial sources and agriculture and reporting air quality data for the SJVAB. The SJVAPCD also regulates indirect sources and has limited authority over transportation sources through the implementation of transportation control measures (TCM).

Sensitive Receptors. Sensitive receptors are defined as land uses that typically accommodate sensitive population groups such as long-term health care facilities, rehabilitation centers, retirement homes, convalescent homes, residences, schools, childcare centers, and playgrounds.

Sensitive Population Groups. Sensitive population groups are a subset of the general population that are at greater risk than the general population to the effects of air pollution. These groups include the elderly, infants and children, and individuals with respiratory problems, such as asthma.

Sulfur Dioxide (SO_2). Sulfur dioxide belongs to the family of SOx. These gases are formed when fuel containing sulfur (mainly coal and oil) is burned, and during metal smelting and other industrial processes.

Stationary Source. A stationary emission source is a non-mobile source, such as a power plant, refinery, or manufacturing facility.

Sulfates. Sulfates occur as microscopic particles (aerosols) resulting from fossil fuel and biomass combustion. SOx can form sulfuric acid in the atmosphere that in the presence of ammonia forms ammonium sulfate particulates, a small but important component of PM10 and PM2.5. Sulfates increase the acidity of the atmosphere and form acid rain.

Transportation Conformity. A federal requirement for transportation plans and projects to demonstrate that they will not result in emissions that exceed attainment plan emission budgets or exceed air quality standards.

Transportation Control Measures (TCMs). Any measure that is identified for the purposes of reducing emissions or concentrations of air pollutants from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions.

Transportation Management Agencies. Transportation Management Agencies are private, non-profit, member-controlled organizations that provide transportation services in a particular area, such as a commercial district, mall, medical center, or industrial park. Transportation Management Agencies are appropriate for any geographic area where there are multiple employers or businesses clustered together that can benefit from cooperative transportation management or parking brokerage services. Regional and local governments, business associations, and individual businesses can all help establish Transportation Management Agencies.

Transportation Management Associations (TMAs). Groups of employers uniting together to work collectively to manage transportation demand in a particular area.

Tulare County Association of Governments (TCAG). TCAG is the Transportation Planning Agency (TPA) for Tulare County. TCAG is also designated as a Metropolitan Planning Organization (MPO), the agency responsible for preparing long range Regional Transportation Plans and demonstrating Transportation Conformity with air quality plans.

Wood-burning Devices. Wood-burning devices are designed to burn “solid fuels” such as cordwood, pellet fuel, manufactured logs, or any other non-gaseous or non-liquid fuels.

Existing Conditions Overview

Unlike other air basins in California, the pollution in the San Joaquin Valley Air Basin (SJVAB) is not produced by large urban areas. Instead, emissions are generated by many moderate sized communities and rural uses. Emission levels in the Central Valley have been decreasing overall since 1990. This can be primarily attributed to motor vehicle emission controls that reduce the amount of vehicle emissions and controls on industrial/stationary sources. In spite of these improvements, the San Joaquin Valley is still identified as having some of the worst air quality in the nation.

The main source of CO and NO_x emissions is motor vehicles. The major contributors to ROG emissions are mobile sources and agriculture. ROG emissions from motor vehicles have been decreasing since 1985 due to stricter standards, even though the vehicle miles have been increasing. Stationary source regulations implemented by the SJVAPCD have also substantially reduced ROG emissions. ROG from

natural sources (mainly from trees and plants) is the largest source of this pollutant in Tulare County. Atmospheric modeling accomplished for recent ozone planning efforts has found that controlling NOx is more effective at reducing ozone concentrations than controlling ROG. However, controls meeting RACT and BACT are still required for SJVAPCD plans.

The SJVAB has been ranked the 2nd worst in the United States for O_3 levels, even though data shows that overall O_3 has decreased between 1982 and 2001.

Direct PM10 emissions have decreased between the years 1975 and 1995 and have remained relatively constant since 2000. The main sources of PM10 in the SJVAB are from vehicles traveling on unpaved roads and agricultural activities. Regional Transportation Planning Agencies must implement BACM for sources of fine particulate matter (PM10) to comply with federal attainment planning requirements for PM10.

Attainment status is based on air quality measurements throughout the entire SJVAB. A violation at a single air monitoring station anywhere in the air basin leads to a non-attainment designation for the entire air basin. In summary, the attainment status of Tulare County is as follows:

- **O_3. 1-hour Ozone**. In 2005 EPA revoked the 1-hour ambient air quality standard so there is no federal designation. Although the standard was revoked, the SJVAPCD was required to continue to implement many of the 1-hour planning requirements. The SJVAB is currently classified as non-attainment/severe for the State standard. The California Air Resources Board submitted the 2004 Extreme Ozone Attainment Demonstration Plan to the EPA on November 15, 2004. On August 21, 2008, the District adopted Clarifications for the 2004 Extreme Ozone Attainment Demonstration Plan for 1-hour Ozone. On June 30, 2009, EPA proposed approval and partial disapproval of San Joaquin Valley's 2004 Extreme Ozone Attainment Plan for 1-hour ozone

  8-hour Ozone. Attainment status is designated non-attainment for the State. On April 30, 2007 the Governing Board of the San Joaquin Valley Air Pollution Control District voted to request the EPA to reclassify the San Joaquin Valley Air Basin as nonattainment/extreme for the federal 8-hour ozone standard. The California Air Resources Board, on June 14, 2007, approved this request and forwarded it to the EPA for action on November 16, 2007. The reclassification would become effective upon EPA final rule making after a notice and comment process and is not yet in effect..

- **PM10**. Federal attainment status for the County is Attainment as of September 28, 2008. The SJVAB and the County are designated nonattainment for the State.

- **PM2.5**. The County is classified as non-attainment for both State and federal standards.

- **Carbon Monoxide: CO**. Tulare County is in attainment/unclassified for both State and federal standards.

- **Nitrogen Dioxide: NO_2**. Tulare County is attainment/unclassified at the federal level and classified attainment at the State level.

- **Sulfur Dioxide: SO_2**. Tulare County is in attainment/unclassified at the federal level, and classified attainment at the State level.

- **Sulfates (no federal standard)**. Tulare County is classified attainment at the State level.

- **Lead (no federal designation)**. Tulare County is classified attainment at the State level.

- **Hydrogen Sulfide: H_2S (no federal standard)**. Unclassified by the State.

- **Visibility Reducing Particles (no federal standard)**. Unclassified by the State.

- **Vinyl Chloride (no federal standard)**. Tulare County is classified attainment at the State level.

The County is subject Assembly Bill (AB) 170, Section 65302.1 of the California Government Code, which requires all 59 cities and 8 counties within the boundaries of the San Joaquin Valley Air Pollution Control District to include Air Quality Elements or air quality goals, policies, and implementation strategies in other elements of their General Plans. Tulare County has opted to provide a separate Air Quality Chapter in the General Plan as a means to highlight the importance of this issue to County residents and to convey the interconnectedness of land use, transportation, and air quality in a single location in the General Plan. AB 170 also requires a Background Report describing local air quality conditions including air quality monitoring data, emission inventories, lists of significant source categories, attainment status and designations, and applicable State and Federal air quality plans and transportation plans. This information is provided in Section 6 of the General Plan Background Report.

In addition, at the time of preparation of this General Plan update, there is growing concern regarding indications of global climate changes due to greenhouse gases (such as CO_2, N_2O, CH_4, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) emissions. On June 1, 2005, Governor Schwarzenegger issued Executive Order S-3-05 recognizing global warming and its impacts, establishing targets for greenhouse gas emissions, requiring a biennial assessment of climate change impacts and the development of impact mitigation/adaptation plans, and requiring the formation or an interagency team to implement the Order. Additionally, the State of California adopted the Global Warming Solutions Act of 2006 (commonly referred to as Assembly Bill (AB) 32), Health and Safety Code Sections 38501 et seq., directing the California Air Resources Control Board (CARB) to develop and adopt statewide greenhouse gas emission limits designed to achieve statewide emission levels equivalent to those in 1990 by 2020, along with regulations to require reporting and verification of greenhouse gas emissions and to monitor and enforce compliance with this program. CARB adopted the Climate Change Scoping Plan in December 2008. The Scoping Plan proposes a set of actions designed to reduce overall carbon emissions in California to meet the target emission levels. The Scoping Plan states that local governments are “essential partners” in the effort to reduce greenhouse gas emissions, and that they have “broad influence and, in some cases, exclusive jurisdiction” over activities that contribute to greenhouse gas emissions.

It is the County’s intention to comply with State law requirements and to pursue goals and policies that enhance the quality of life and public welfare of County residents. To this end, a number of the goals and policies in this Element, as well as other elements including Chapter 2-Planning Framework, Chapter 4-Land Use, Chapter 5-Economic Development, Chapter 8-Environmental Resources Management, Chapter 13-Transportation and Circulation, and Chapter 14-Public Facilities and Services, seek to reduce the impacts of air pollution, air pollution sources, and greenhouse gas emissions. Some of the featured policies and implementation measures direct growth into compact areas such as urban development boundaries or corridors, incorporate smart growth and healthy community principles, encourage energy efficiency, promote development of renewable energy sources, and use of energy conservation measures. Additional Policies and Implementation Measures include promoting green building practices in design, construction and renovation, and incorporating efficiency in transportation and circulation design to reduce or minimize vehicle trips.

9.1 Regional Perspective

AQ-1 To improve air quality through a regional approach and interagency cooperation.

AQ-1.1 Cooperation with Other Agencies
The County shall cooperate with other local, regional, Federal, and State agencies in developing and implementing air quality plans to achieve State and federal Ambient Air Quality Standards. The County shall partner with the SJVAPCD, Tulare County Association of Governments (TCAG), and the California Air Resource Board to achieve better air quality conditions locally and regionally.

AQ-1.2 Cooperation with Local Jurisdictions
The County shall participate with cities, surrounding counties, and regional agencies to address cross-jurisdictional transportation and air quality issues.

AQ-1.3 Cumulative Air Quality Impacts
The County shall require development to be located, designed, and constructed in a manner that would minimize cumulative air quality impacts. Applicants shall be required to propose alternatives as part of the State CEQA process that reduce air emissions and enhance, rather than harm, the environment.

AQ-1.4 Air Quality Land Use Compatibility
The County shall evaluate the compatibility of industrial or other developments which are likely to cause undesirable air pollution with regard to proximity to sensitive land uses, and wind direction and circulation in an effort to alleviate effects upon sensitive receptors.

AQ-1.5 California Environmental Quality Act (CEQA) Compliance
The County shall ensure that air quality impacts identified during the CEQA review process are consistently and reasonable mitigated when feasible.

AQ-1.6 Purchase of Low Emission/Alternative Fuel Vehicles
The County shall encourage County departments and agencies to replace existing vehicles with low emission/alternative fuel vehicles as appropriate.

AQ-1.7 Support Statewide Climate Change Solutions
The County shall monitor and support the efforts of Cal/EPA, CARB, and the SJVAPCD, under AB 32 (Health and Safety Code §38501 et seq.), to develop a recommended list of emission reduction strategies. As appropriate, the County will evaluate each new project under the updated General Plan to determine its consistency with the emission reduction strategies.

AQ-1.8 Greenhouse Gas Emissions Reduction Plan/Climate Action Plan
The County will develop a Greenhouse Gas Emissions Reduction Plan (Plan) that identifies greenhouse gas emissions within the County as well as ways to reduce those emissions. The Plan will incorporate the requirements adopted by the California Air Resources Board specific to this issue. In addition, the County will work with the Tulare County Association of Governments and other applicable agencies to include the following key items in the regional planning efforts.

1. Inventory all known, or reasonably discoverable, sources of greenhouse gases in the County,

2. Inventory the greenhouse gas emissions in the most current year available, and those projected for year 2020, and
3. Set a target for the reduction of emissions attributable to the County's discretionary land use decisions and its own internal government operations.

AQ-1.9 Support Off-Site Measures to Reduce Greenhouse Gas Emissions
The County will support and encourage the use of off-site measures or the purchase of carbon offsets to reduce greenhouse gas emissions.

AQ-1.10 Alternative Fuel Vehicle Infrastructure
County shall support the development of necessary facilities and infrastructure needed to encourage the use of low or zero-emission vehicles (e.g. electric vehicle charging facilities and conveniently located alternative fueling stations, including CNG filling stations.

9.2 Transportation Design

AQ-2 To improve air quality by reducing air emissions related to transportation.

AQ-2.1 Transportation Demand Management Programs
The County shall coordinate and provide support for County Transportation Demand Management programs with other public and private agencies, including programs developed by the TCAG and the SJVAPCD.

AQ-2.2 Indirect Source Review
The County shall require major development projects, as defined by the SJVAPCD, to reasonably mitigate air quality impacts associated with the project. The County shall notify developers of SJVAPCD Rule 9510 – Indirect Source Review requirements and work with SJVAPCD to determine mitigations, as feasible, that may include, but are not limited to the following:

1. Providing bicycle access and parking facilities,
2. Increasing density,
3. Encouraging mixed use developments,
4. Providing walkable and pedestrian-oriented neighborhoods,
5. Providing increased access to public transportation,
6. Providing preferential parking for high-occupancy vehicles, car pools, or alternative fuels vehicles, and
7. Establishing telecommuting programs or satellite work centers.

AQ-2.3 Transportation and Air Quality
When developing the regional transportation system, the County shall work with TCAG to comprehensively study methods of transportation which may contribute to a reduction in air pollution in Tulare County. Some possible alternatives that should be studied are:

1. Commuter trains (Light Rail, Amtrak, or High Speed Rail) connecting with Sacramento, Los Angeles, and San Francisco, with attractive services scheduled up and down the Valley,

2. Public transportation such as buses and light rail, to serve between communities of the Valley, publicly subsidized if feasible,
3. Intermodal public transit such as buses provided with bicycle racks, bicycle parking at bus stations, bus service to train stations and airports, and park and ride facilities, and
4. Community transportation systems supportive of alternative transportation modes, such as cycling or walking trails, with particular attention to high-density areas.

AQ-2.4 Transportation Management Associations
The County shall encourage commercial, retail, and residential developments to participate in or create Transportation Management Associations (TMAs) that may assist in the reduction of pollutants through strategies that support carpooling or other alternative transportation modes.

AQ-2.5 Ridesharing
The County shall continue to encourage ridesharing programs such as employer-based rideshare programs.

9.3 Land Use/Design

AQ-3 To improve air quality and minimize impacts to human health and the economy of the County through smart land use planning and design.

AQ-3.1 Location of Support Services
The County shall encourage the location of ancillary employee services (including, but not limited to, child care, restaurants, banking facilities, convenience markets) near major employment centers for the purpose of reducing midday vehicle trips.

AQ-3.2 Infill Near Employment
The County shall identify opportunities for infill development projects near employment areas within all unincorporated communities and hamlets to reduce vehicle trips.

AQ-3.3 Street Design
The County shall promote street design that provides an environment which encourages transit use, biking, and pedestrian movements.

AQ-3.4 Landscape
The County shall encourage the use of ecologically based landscape design principles that can improve local air quality by absorbing CO_2, producing oxygen, providing shade that reduces energy required for cooling, and filtering particulates. These principles include, but are not limited to, the incorporation of parks, landscaped medians, and landscaping within development.

AQ-3.5 Alternative Energy Design
The County shall encourage all new development, including rehabilitation, renovation, and redevelopment, to incorporate energy conservation and green building practices to maximum extent feasible. Such practices include, but are not limited to: building orientation and shading, landscaping, and the use of active and passive solar heating and water systems.

AQ-3.6 Mixed Land Uses
The County shall encourage the clustering of land uses that generate high trip volumes, especially when such uses can be mixed with support services and where they can be served by public transportation.

9.4 Air Pollution Control

AQ-4 To implement the best available controls and monitoring necessary to regulate air emissions.

AQ-4.1 Air Pollution Control Technology
The County shall utilize the BACM and RACM as adopted by the County to support SJVAPCD air quality attainment plans to achieve and maintain healthful air quality and high visibility standards. These measures shall be applied to new development approvals and permit modifications as appropriate.

AQ-4.2 Dust Suppression Measures
The County shall require developers to implement dust suppression measures during excavation, grading, and site preparation activities consistent with SJVAPCD Regulation VIII – Fugitive Dust Prohibitions. Techniques may include, but are not limited to, the following:

1. Site watering or application of dust suppressants,
2. Phasing or extension of grading operations,
3. Covering of stockpiles,
4. Suspension of grading activities during high wind periods (typically winds greater than 25 miles per hour), and
5. Revegetation of graded areas.

AQ-4.3 Paving or Treatment of Roadways for Reduced Air Emissions
The County shall require that all new roads be paved or treated to reduce dust generation where feasible as required by SJVAPCD Regulation VIII, Rule 8061- Paved and Unpaved Roads. For new projects with unpaved roads, funding for roadway maintenance shall be adequately addressed and secured.

AQ-4.4 Wood Burning Devices
The County shall require the use of natural gas where service is available or the installation of low-emission, EPA-certified fireplace inserts in all open hearth fireplaces in new homes as required under the SJVAPCD Rule 4901– Woodburning Fireplaces and Woodburning Heaters. The County shall promote the use of natural gas over wood products in space heating devices and fireplaces in all existing and new homes.

AQ-4.5 Public Awareness
The County shall promote public awareness of the seriousness and extent of the existing air quality problems.

AQ-4.6 Asbestos Airborne Toxic Control and Dust Protection

Asbestos is of concern to Tulare County because it occurs naturally in surface deposits of several types of ultramafic materials (materials that contain magnesium and iron and a very small amount of silica). Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining. See Implementation Measure 15.

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9.5 Work Plan/Implementation Measures

The following table documents the Implementation Measures included with the General Plan to implement the goals and policies included in this Element.

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
1. The County shall work with TCAG to develop an enhanced public information program aimed at reducing trips and improving air quality awareness.	AQ-1.1 AQ-4.5	RMA	■			
2. The County shall investigate the feasibility of providing financial or other incentives to hamlets and communities in the County that practice air quality sensitive development.	AQ-1.1 AQ-1.2 AQ-1.3	RMA		■		
3. The County shall review all discretionary permit applications to consider cumulative air impacts through the CEQA process, and require the preparation of an EIR with alternatives if a fair argument can be made that there will be significant impacts on air quality.	AQ-1.3	RMA, Planning				■
4. The County, in coordination with the SJVAPCD, shall consider standard methods for determining and mitigating project air quality impacts and related thresholds of significance for use in environmental documents.	AQ-1.3 AG-1.4 AQ-1.5	RMA, Planning	■			
5. The County shall continue to provide services for the removal of debris/materials after wind and/or rain runoff as per Regulation VIII of the SJVAPCD.	AQ-1.3 AQ-4.2	RMA				■
6. The County shall continue to provide water trucks at its refuse sites to stabilize unpaved access roads to prevent fugitive dust emissions and shall conduct a periodic review of the effectiveness of this measure to reduce dust and other air pollution impacts.	AQ-4.1 AQ-4.2 AQ-4.3	RMA				■
7. The County shall conduct a periodic review of the performance and maintenance records of its existing hybrid and alternative fuels vehicles fleet to the Board of Supervisors.	AQ-1.6	RMA				■
8. The County shall continue to increase expansion and enhancement of existing public transit services.	AQ-2.2 AQ-2.3	RMA; Transit				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
9. The County shall develop and implement an outreach program to inform major employers (100 or more employees) of the Commuter Choice Program, a federal law that compliments parking cash-outs and SJVAPCD Rule 9410 – Employer Based Trip Reduction. The Commuter Choice Program provides for benefits that employers can offer to employees to commute to work by certain methods and Rule 9410 requires employers to implement a Trip Reduction Implementation Plan.	AQ-2.2 AQ-2.3 AQ-2.4 AQ-2.5	RMA				■
10. The County shall continue to evaluate and implement flextime programs (non-traditional work hour programs) for County employees to limit County staff commuting during peak hours.	AQ-2.2 AQ-2.4 AQ-2.5	RMA				■
11. The County shall identify opportunities for infill sites in all new community updates, hamlet plans, and redevelopment project area plans as they are prepared over time.	AQ-3.2	RMA				■
12. The County shall encourage LEED and LEED- ND certification for new development or similar rating system that promotes energy conservation and sustainability.	AQ-3.5 LU-7.15	RMA				■
13. The County will work with TCAG in refining and maintaining a current set of RACM and BACM that can be used in reviewing and conditioning transportation and circulation projects with air emissions.	AQ-4.1	RMA, Planning				■
14. In order to reduce the dust impacts of new development on adjoining residences, the County shall require adequate watering and dust control measures to prevent visible emissions exceeding 20 percent opacity from construction sites and roads as a condition of approval.	AQ-4.3	RMA, Dev. Services				■
15. The County shall require the following regulated activities including construction or digging on a site containing naturally occurring asbestos in rock or soils and the sale or use of serpentine	AQ-4.6	RMA, Planning				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
material or rock containing asbestos materials for surfacing to conform with the asbestos-related regulations and programs, including implementation of Title 17, Section 93105 and 93106 of the California Code of Regulations (Asbestos Airborne Toxic Control Measure-Asbestos-Containing Serpentine) and Rule 4002 and Rule 7050 as implemented and enforced by the SJVAPCD.						
16. The County shall develop and maintain a climate action plan. The climate action plan shall include the following elements: an emissions inventory, emission reduction targets, applicable greenhouse gas control measures, and monitoring and reporting plan.	AQ 1.8	RMA, Planning	■			■
17. The County may inspect County facilities to evaluate energy use, the effectiveness of water conservation measures, production of GHGs, use of recycled and renewable products and indoor air quality to develop recommendations for performance improvement or mitigation. The County shall update the audit periodically and review progress towards implementation of its recommendations.	AQ 1.9	RMA, Planning	■			■

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10. Health and Safety

The Health and Safety Element is divided into the following sections:

- General (Section 10.1)
- Geologic and Seismic Hazards (Section 10.2)
- Airport Hazards (Section 10.3)
- Hazardous Materials (Section 10.4)
- Flood Hazards (Section 10.5)
- Urban and Wildland Fire Hazards (Section 10.6)
- Emergency Response (Section 10.7)
- Noise (Section 10.8)
- Healthy Communities (Section 10.9)
- Work Plan/Implementation Measures (Section 10.10)

Key Terms

The following terms are used throughout this Element to describe health and safety issues:

"A" Weighted Sound Level. Means a sound level in decibels as measured with a sound level meter using the "A" weighted network (scale) at slow meter response. The unit of measurement is referred to herein as dB. The "A" weighted network responds to the frequency content of noise in a manner similar to the human ear.

CNEL. Means Community Noise Equivalent Level. The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and after addition of ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m. Nighttime and evening penalties are intended to compensate for the increased potential for annoyance during these more sensitive times of the day or night.

Critical Facilities. Facilities housing or serving many people, that are necessary in the event of an earthquake or flood, such as hospitals, fire, police, and emergency service facilities, utility "lifeline" facilities, such as water, electricity, and gas supply, sewage disposal, and communications and transportation facilities.

Decibel (dB). A unit of measurement describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure (which is 20 micronewtons per square meter).

Equivalent Energy Level, "L_{eq}". Means the sound level corresponding to a steady state sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is typically computed over 1, 8, and 24-hour sample periods.

Fault. A fault is a fracture in the Earth's crust that is accompanied by displacement between the two sides of the fault. An active fault is defined as a fracture that has shifted in the last 10,000 to 12,000 years (Holocene Period). A potentially active fault is one that has been active in the past 1.6 million years (Quaternary Period). A sufficiently active fault is one that shows evidence of Holocene displacement on one or more of its segments or branches.

Floodplain. Land adjacent to a stream, slough, or river that is subject to flooding or inundation from a storm event. Federal Emergency Management Administration (FEMA) defines the floodplain to be the area inundated by a 100-year flood.

Floodway. The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

Hazardous Materials. A hazardous material is defined by the California Code of Regulations (CCR) as a substance that, because of physical or chemical properties, quantity, concentration, or other characteristics, may either (1) cause an increase in mortality or an increase in serious, irreversible, or incapacitating illness; or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or deposed of (*CCR, Title 22, Division 4.5, Chapter 10, Article 2, § 66260.10*).

L_{dn}. Means Day/Night Average Level. The average equivalent A-weighted sound level during a 24-hour day, obtained after the addition of ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m. to account for increased human sensitivity during these hours.

L_{max}. Means the maximum A-weighted noise level recorded during a noise event.

Noise Sensitive Land Use. Noise sensitive receptors that include residential areas, hospitals, convalescent homes and facilities, schools, and other similar land uses.

Existing Conditions

Tulare County has many health and safety concerns, both human-made and naturally occurring, from noise, airport hazards, and hazardous materials, to flooding, and fires. The following figures address Flooding, Groundwater Recharge, and Fire Threat and are identified as follows: Figure 10-1 Flood Hazards and Faults, Figure 10-2 Fire Threat, 10-3 Designated Floodways, Figure 10-6 and Figures (10-6 A-G Areas Vulnerable to Flooding after Wildfires, and Figure 10-7 Map of Areas for Groundwater Recharge.

Tulare County is divided into two major physiographic and geologic provinces: the Sierra Nevada Mountains and the Central Valley. There are no known active faults in Tulare County. Tulare County rarely feels the effects of even the largest earthquakes from the nearest major fault line, the San Andreas Fault. Seismic and Geologic Hazards are identified in Figure 10-1 Flood Hazards and Faults, Figure 10-4 Ground Shaking and Landslide Potential for Tulare County, and Figure 10-5 Seismic/Geologic Hazards and Microzone.

Tulare County also has human-made hazards such as airports, hazardous materials, and noise. Tulare County utilizes the Comprehensive Airport Land Use Plan (CALUP) to minimize danger to the public

while still providing aviation services for public use airports in the County. Hazardous wastes are handled according to State and Federal law and the County's Hazardous Waste Management Plan.

Tulare County's noise producers include highways and roads, railroads, manufacturing plants, airports, and agricultural operations.

Land use, the built environment, and transportation options can also effect communities and contribute to the health, safety, and quality of life. One of the many means of preventing premature death is through crime prevention and promoting healthy lifestyles by means of community design.

Tulare County has a long history of flooding along its major rivers: the Kings, Kaweah, and Tule Rivers. In 1997, flooding occurred in Three Rivers, Springville, Lindsay, and Earlimart. In 2006, flooding occurred in Cutler-Orosi. Recent improvements to raise the elevation of the spillway at Terminus Dam and planned improvements to the Lake Success Dam will help to minimize future flood risk.

Tulare County has both urban and wildland fire hazards, creating the potential for injury, loss of life, and property damage. It is important to note that although some structures are located in fire hazard areas, active fire prevention measures are not only included in this Health and Safety Element, but are also addressed in the following plans and programs:

1) The 2011 Multi-Jurisdictional Local Hazard Mitigation Plan (LHMP) for the Tulare Operational Area (County and all cities and special districts) was developed in accordance with the Disaster Mitigation Act of 2000 (DMA 2000) and followed FEMA's 2008 Local Hazard Mitigation Plan guidance. The LHMP incorporates a process where hazards are identified and profiled, the people and facilities at risk are analyzed, and mitigation actions are developed to reduce or eliminate hazard risk. The implementation of these mitigation actions, which include both short- and long-term strategies, involve planning, policy changes, programs, projects, and other activities. http://tularecounty.ca.gov/oes/index.cfm/mitigation/.

2) The Tulare County Emergency Operations Plan (EOP) establishes an emergency management organization and assigns functions and tasks consistent with California's Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS). The plan provides for the integration and coordination of planning efforts of the County with those of the cities, special districts, and Tule River Tribe comprising the Operational Area, as well as neighboring jurisdictions and the State. The content of this plan is based on guidance provided by the State of California's Governor's Office of Emergency Services, the Federal Emergency Management Agency, and the US Department of Homeland Security. The intent of the EOP is to facilitate coordinated emergency response and post emergency short-term recovery by providing a framework for response to all significant emergencies, regardless of the nature of the event. http://tularecounty.ca.gov/oes/index.cfm/response/.

3) The CAL FIRE Tulare Unit Strategic Fire Plan is a product of the implementation of the California State Fire Plan. The Plan is a local road map to create and maintain defensible landscapes in order to protect vital assets. The Fire Plan seeks to reduce firefighting cost and property loss, increase public and firefighter safety, minimize wildfire risk to communities and contribute to ecosystem health. The Plan identifies pre-suppression projects including opportunities for reducing structural ignitability, and the identification of potential fuel reduction projects and techniques for minimizing those risks. The central goals that are critical to reducing and preventing the impacts of fire revolve around both suppression efforts and fire prevention efforts. http://cdfdata.fire.ca.gov/fire_er/fpp_planning_plans_details?plan_id=241
Major components are:

- Improved availability and use of information on hazard and risk assessment.

- Land use planning: including general plans, new development, and existing developments.
- Shared vision among communities and the multiple fire protection jurisdictions, including county-based plans and community-based plans such as Community Wildfire Protection Plans (CWPP).
- Establishing fire resistance in assets at risk, such as homes and neighborhoods.
- Shared vision among multiple fire protection jurisdictions and agencies.
- Levels of fire suppression and related services.
- Post fire recovery.

4) Community Wildfire Protection Plans (CWPP) for the northern and southern half of Tulare County implemented by the Tulare County Resource Conservation District-Sequoia Fire Safe Council. The Objective of the CWPP is to heighten cooperation, collaboration and commitment to watershed protection and fire prevention through the CWPP planning effort. http://www.tularecountyrcd.com/Home_Page.html

Tulare County is served by several public safety and emergency response agencies. The County works closely with these agencies to ensure emergency preparedness. The following are local, state and federal agencies including special districts and the Tulare County Office of Emergency Services (TCOES) that provide fire and emergency response protection in Tulare County.

Local County and City

Tulare County Fire Department (TCFD), Visalia City Fire Department, Tulare City Fire Department, Porterville City Fire Department, City of Lindsay Public Safety, Farmersville Fire Department, Dinuba Fire Department, Woodlake Fire District, Strathmore Fire Protection District (Fire protection contracted through TCFD), City of Exeter Fire (Fire protection contracted through TCFD), TCOES.

Within the Tulare Operational Area (OA), the local government Emergency Management Organization (EMO) level encompasses Tulare County's Emergency Operation Center (EOC) and Department Operations Center (DOCs), City DOCs and EOCs, and tribal and special district EOCs, which deploy and direct their respective resources in accordance with their individual needs and priorities. For services typically provided by the County and local agencies, units are deployed based on Countywide needs and priorities as follows:

FIELD RESPONSE UNITS, including Law Enforcement, Fire and Rescue, Hazardous Materials (Hazmat), Emergency Medical Services (EMS), Public Health, Environmental Health, Public Works (Roads, Engineering), and Utilities personnel from the county, cities, special districts and utility companies, assess, secure and mitigate the effects of the incident.

MULTI-AGENCY COORDINATION GROUP (MAC GROUP), consisting of the members of the Operational Area Emergency Council (as defined by Tulare County Ordinance), provides incident and resource prioritization, and coordinates response to the incident by all local units and jurisdictions.

SUPPORT AGENCIES, including schools, non-government organizations (NGOs), such as the American Red Cross (ARC), Salvation Army (SA), and similar agencies, provide critical support services to the County/OA EMO.

At the field level, the Tulare County departments respond to emergency incidents within County unincorporated areas. Some of these departments, including Public Health and Environmental Health

Services (EHS), provide services on a countywide basis and, therefore, respond to emergency incidents in incorporated cities as well as in unincorporated areas. County field response units report status and findings to the appropriate EOC representatives, either through a Department Operations Center (DOC) or via a discipline-specific or assigned Communications/Dispatch Center, or directly if no intermediary level exists.

The Tulare County Sheriff's Office (TCSO) and Tulare County Fire Department (TCFD) provide contract services to a number of incorporated cities and respond within those jurisdictions, as well as within unincorporated areas. In such cases, these County departments continue to report to their respective Communications/Dispatch Center, but also report to the City EOC via the Incident Commander (IC).

Cities with their own police and/or fire departments provide first-in response at the field level within their respective jurisdictions and may request mutual aid response by TCSO and/or TCFD, when necessary. When the service territory of a special district is contained within the boundaries of one incorporated city, the district typically assigns an Agency Representative to the City EOC, which reports to the County Operational Area EOC on behalf of both local governments. More often, special district service territories overlap more than one jurisdiction (two or more cities or cities and unincorporated areas) and a special district EOC is established, which reports directly to the County/OA EOC.

Depending on the nature, scope and location of the incident, multiple disciplines and jurisdictions may respond to an incident at the field level and all utilize the Incident Command System (ICS). The response agencies at this level serve as an Emergency Response Team (ERT) organized under an integrated Incident Command System (ICS) structure comprised of the five ICS/SEMS functions – Command, Operations, Planning/Intelligence, Logistics and Finance/Administration. The appropriate jurisdiction and discipline assumes the Incident Commander (IC) role, or a Unified Command (UC) structure may be established, including representatives from those jurisdictions and/or disciplines having some primary responsibility for the incident.

State

CAL FIRE Tulare Unit, Cal-OES-Region V, Caltrans-District 6.

CAL FIRE provides personnel and equipment, including conservation camp crews in fire suppression, rescue and cleanup, communications, radiological monitoring and personnel care, as emergencies may require and dependent upon their normally assigned fire protection responsibility.

The CAL FIRE Tulare Unit is located in Central California and makes up part of the San Joaquin Valley. It consists of 793,716 acres of state responsibility land under direct CAL FIRE protection, and 1,429,881 acres of lands under Federal Government Protection. The combined total of 2,224,697 acres .The Unit is bordered on the east by Sequoia and Kings Canyon National Parks, and the Sequoia National Forest. The counties of Kern, Kings and Fresno border to the South, West, and North respectively. The elevation of Tulare Unit land receiving direct protection by CAL FIRE ranges from 200 feet along the county's western boundary to a highest point of 9,300 feet on Moses Mountain to the East. The entire county elevations range from 200 feet on the West side to the highest point in the contiguous United States, Mt. Whitney at 14,495 on the eastern boundary. The majority of the population in the state responsibility area is located along two east-west highways. Highway 198 which leads to the Sequoia / Kings Canyon National Parks and Highway 190 which accesses a significant portion of the Sequoia National Forest / Giant Sequoia National Monument.

The State level coordinates statewide operations, including providing mutual aid and support to local governments and using multi-agency or inter-agency coordination to facilitate decisions regarding

overall statewide emergency response activities. When necessary, the state redirects essential supplies and other resources to priority areas.

The State Operations Center (SOC) is activated when a Regional Emergency Operations Center (REOC) is activated, upon the Governor's proclamation of a State of Emergency, or upon the Governor's proclamation of an earthquake or volcanic prediction. The Cal OES Secretary, other Cal OES staff, and representatives from state agencies are responsible for staffing the SOC, which is organized consistent with the five SEMS functions, similar to all other levels of the EMO.

The SOC establishes communications and coordination links with the activated REOCs, state level DOCs, and, when required by the nature and scope of the emergency, with other states and federal agencies. Access to state assistance by the Tulare OA EOC occurs via the Northern REOC.

The Caltrans District 6 Emergency Operations Center (DEOC) in Fresno is responsible for all aspects of the District's response, including developing the Action Plan objectives and action period. The DEOC Liaison is responsible for serving as the point of contact for all outside agency representatives that come to the DEOC to ensure that the work is coordinated with the DEOC Action Plan; and to coordinate any outside agency requests for Caltrans assistance. Caltrans DEOC personnel can be contacted when the State Highway System is involved in dealing with any disaster. The Public Information office (PIO) is responsible for developing and releasing incident information to the news media, incident personnel, and other appropriate agencies and organizations.

Federal

USFS-Sequoia National Forest, Bureau of Land Management, National Park Service (NPS), Bureau of Indian Affairs-Tule River Tribe.

Depending on the nature of the incident, the type of assistance provided by federal agencies, and the level of response at which such assistance is provided, federal resources will be integrated into the local ICS-based organization, consistent with SEMS and NIMS. Military assets will remain under the direction and control of the military.

A federal Joint Field Office (JFO) may be established locally to provide a central location for federal, state and local representatives with responsibility for incident oversight, direction and/or assistance to coordinate the efforts of their respective agencies/jurisdictions. In addition, a Joint Information Center (JIC) may be established to provide one location from which public information officials from all participating agencies, jurisdictions, and EMO levels can coordinate all incident-related public information efforts.

The Governor may request a Presidential Disaster Declaration when the scope of the incident is of such a magnitude that federal resources are needed to supplement local and state resources. The State Operations Center (SOC) coordinates and communicates with the Federal Emergency Management Agency (FEMA) and/or Department of Homeland Security (DHS) to request emergency response assistance from federal agencies and/or military assets.

The Forest Service, a federal agency in the U.S. Department of Agriculture, administers the Sequoia National Forest which consists of three ranger districts. The Giant Sequoia National Monument has two separate sections; the northern portion located on the Hume Lake Ranger District near Dunlap, California, and the southern portion on the Western Divide Ranger District just east of Springville, California. The Kern River Ranger District lies at the southern end of the forest near Lake Isabella. The Forest Service Fire Management Program utilizes Ground and Aviation crews and is on the cutting

edge with aviation technology, computer simulated fire management programs and sophisticated resource tracking systems.

The Bureau of Land Management Fire and Aviation (FA) program works with seven other federal agencies to manage wildland fire in the United States. BLM's fire and aviation program has three organizational levels: 1) the national office provides leadership and oversight, and develops policy, procedures and budgets for the fire and aviation program; 2) state offices are responsible for coordinating policies and interagency activities within their state; and 3) field offices are responsible for on-the-ground fire management and aviation activities, often partnering with other agencies to maximize rapid initial attack.

The BLM undertakes a broad range of activities to safely protect the public, the natural landscape, wildlife habitat and recreational areas for our country's citizens. The program includes fire suppression, preparedness, predictive services, fuels management, fire planning, community assistance and protection, prevention and education, and safety.

The U.S. government and the State of California recognize that the Sequoia and Kings Canyon National Parks (SEKI) areas within Tulare County are the responsibility of the U.S. government for the protection and preservation of life, property and the environment on these lands. As part of this responsibility, SEKI will respond to and coordinate any emergency operations within those lands.

SEKI maintains various levels of emergency preparedness, coordination, communication and collaboration with federal, state and local governments. When there is a threat of an emergency or actual emergency, SEKI has the authority to take appropriate actions to cope with the situation.

The state and its political subdivisions make every effort to support SEKI in their response and recovery efforts. As conditions require and local government resources will, in accordance with prior arrangements and as authorized by law, be committed to SEKI lands to protect life, property and the environment.

SEKI has its own law enforcement, EMS, all risk dispatching, fire services, maintenance department and administration to operate the parks. SEKI has an emergency management team that will run under the guidance of the Park's superintendent. In the event of a major emergency, the Washington Office may appoint a Park Service national emergency management team to manage the incident for the parks.

SEKI emergency management teams will respond to emergencies on park lands and provide status reports to the Tulare County/OA EOC as warranted. For emergencies limited to the park, requests for mutual aid will be made via internal channels and to local and state agencies via existing mutual aid systems and agreements as indicated. SEKI may request mutual aid outside existing mutual aid systems via the County/OA EOC.

Tribal governments maintain various levels of emergency preparedness, coordination, communication and collaboration with federal, state and local governments. When there is threat of an emergency or actual emergency tribal authorities must take the appropriate actions to cope with the situation and activate their tribal emergency preparedness procedures and plans.

The U.S. government recognizes tribes as domestic, independent nations with the right to self-governance, tribal sovereignty and self-determination. Tribal governments are responsible for the protection and preservation of life, property and the environment on tribal lands. Responsibilities may include deploying field-level emergency response personnel, activating emergency operations centers, and issuing orders to protect the public.

The state and its political subdivisions make every effort to support the tribal communities in their response and recovery efforts. The Tule River Tribe is recognized as a full participant in the Tulare Operational Area Emergency Management Organization. The Tribe, having the rights enumerated above, may choose to participate in the OA EMO at any time, or may opt to coordinate directly with the State and Federal levels.

As conditions require, and upon request from the tribe, the available and appropriate federal, state and local government resources will, in accordance with prior arrangements and as authorized by law, be committed to tribal lands to protect lives, property and the environment.

STATE BOARD OF FORESTRY AND FIRE PROTECTION (BOARD) RECOMMENDATIONS

The State Board of Forestry and Fire Protection (Board) is required to review and make recommendations for the safety element of general plan updates in accordance with Government Code (GC) 65302.5. The review and recommendations apply to those general plans with State Responsibility Area (SRA) (Public Resources Code (PRC) 4125) or Very High Fire Hazard Severity Zone Local Responsibility Area (VHFHSZ LRA) (GC 51177(i), PRC 4125). The Board reviewed the proposed Tulare County 2016 Health and Safety Element Update at their meeting on November 1, 2016 and provided comments and recommendations to the County on November 4, 2016. The Fresno CAL FIRE office facilitated several preliminary reviews of our Draft Tulare County 2016 Health and Safety Element Update document.

The Tulare County 2016 Health and Safety Element Update has incorporated the final recommendations from the (Board) with the exception of the following topics which will be evaluated for inclusion into the Local Hazard Mitigation Plan as per Health and Safety Element Implementation Measures Number 28 and Number 29:

A. Identification and actions for substandard fire safe housing and neighborhoods relative to fire hazard area.

1. Identify and map existing housing structures that do not conform to contemporary fire standards in terms of building materials, perimeter access, and vegetative hazards in VHFHSZ or SRA by fire hazard zone designation.

2. Identify plans and actions to improve substandard housing structures and neighborhoods. Plans and actions should include structural rehabilitation, occupancy reduction, demolition, reconstruction, neighborhood –wide fuels hazard reduction projects, community education, and other community based solutions.

3. Identify plans and actions for existing residential structures and neighborhoods, and particularly substandard residential structures and neighborhoods, to be improved to meet current fire safe ordinances pertaining to access, water flow, signing, and vegetation clearing.

B. Conservation and Open Space

1. Develop plans and action items for vegetation management that provides fire damage mitigation and protection of open space values. Plans should address protection of natural resource financial values, establishment of fire resilient natural resources, protection of watershed qualities, and protection of endangered species habitats. Actions should consider prescribed burning, fuel breaks, and vegetation thinning and removal.

C. Post Fire Safety, Recovery and Maintenance

1. Develop burn area recovery plans that incorporate strategic fire safe measures developed during the fire suppression, such as access roads, fire lines, safety zones, and fuelbreaks, and helispots.

2. Develop burn area recovery plans, evaluation processes and implementation actions that encourage tree and biomass salvage, reforestation activities, create resilient and sustainable landscapes, and restore functioning ecosystems.

3. Incorporate native species habitat needs as part of long term fire protection and fire restoration plans.

D. Terrorist and homeland security impacts on wildfire protection

1. Identify and prioritize protection needs for assets at risk in the absence of response forces.

2. Establish fire defense strategies (such as fire ignition resistant areas) that provide adequate fire protection without dependency on fire resources (both air and ground) and could serve as safety zones for the public or emergency support personnel.

3. Tulare County's Local Hazard Mitigation Plan gives awareness to Terrorist and Homeland Security however it is recommended that the LHMP should show mitigating factors or reference where this information can be found.

As the Stafford Act Hazard Mitigation Program provides broad direction that specifically allows for the protection of private property both as mitigation activities in an LHMP and as eligible grant projects, it is recommended that the items A-D as mentioned above are appropriate for inclusion in the LHMP based on FEMA's guidance. The key guidance is contained in publications FEMA FY 15 Hazard Mitigation Assistance Guidance and its FEMA FY15 Hazard Mitigation Assistance Guidance Addendum.

Assembly Bill 162 (2007 Ca.Stats. 369) and Senate Bill 5 (2007 Ca.Stats. 364)

Assembly Bill 162 (AB 162), adopted in 2007, amended Government Code Section 65302(d)(3) and (g)(2) to require cities and counties to identify information regarding flood hazards upon revision of the jurisdiction's housing element on or after January 1, 2009. The requirements of Government Code Section 65302 (d)(3) and (g)(2)(A) are addressed in this General Plan Update as follows:

Figure 10-1 (Flood Hazards and Faults) displays information based on historic and current data regarding flood waters. Figure 10-1 shows:

1) The flood hazard zones (i.e. 100 and 500 Year Flood Zones) from the National Flood Insurance Rate maps published by Federal Emergency Management Agency (FEMA) which includes updated information from 2014;
2) The dam failure inundation maps prepared pursuant to Section 8589.5 that are available from California Emergency Management Agency;
3) The California Department of Water Resources (DWR) Awareness Floodplain Mapping Program maps.
4) General Information pertaining to FEMA zones including flood related materials presented in the adopted community plans that are contained in Part III of the General Plan can also be found at the following website:

http://tularecounty.ca.gov/rma/index.cfm/public-works/flood-hazard-information/

Figure 10-2 (Fire Threat) The California Department of Forestry and Fire Protection (CAL FIRE) has developed a rating of wildland fire threat based on the combination of potential fire behavior (Fuel Rank) and expected fire frequency (Fire Rotation). Figure 10-2 shows:

1) Data from the CAL FIRE on areas vulnerable to wildfire including historical fires, and;
2) Urban development boundaries, hamlet development boundaries, and mountain service centers where existing and planned development will occur including structures, roads, utilities, and essential public facilities.
3) General Information related to wildland fire threat and fire hazards are available from the CAL FIRE: Fire and Resource Assessment Program (FRAP) http://frap.fire.ca.gov/index. Please note that fire hazard severity zone mapping is currently being updated and is anticipated to be available in 2017.The FRAP website is updated periodically and any questions related to the data available on the website can be directed to the following email address: frapwebmaster@fire.ca.gov.

Figure 10-6 shows areas where FEMA flood zones, 30 percent slope and fire hazards overlap to identify areas vulnerable to flooding after wildfires. Figures 10-6 A-G include identical information as presented in Figure 10-6, but provide a greater level of detail in the following locations: Figure 10-6A Redwood Mountain/Badger Area, Figure 10-6B Three Rivers Area, Figure 10-6C Upper Balch Park Area, Figure 10-6D Springville Area, Figure 10-6E Great Western Divide North Half Area, Figure 10-6F Great Western Divide South Half/Posey Area, and Figure 10-6G Kennedy Meadows Area. Fire Hazard is a way to measure the physical fire behavior in order to predict the damage a fire is likely to cause. Fire hazard measurement includes the speed at which a wildfire moves, the amount of heat the fire produces, and most importantly, the burning fire brands that the fire sends ahead of the flaming front. The fire hazard model considers the wildland fuels. Fuel is that part of the natural vegetation that burns during the wildfire. The model also considers topography, especially the steepness of the slopes. Fires burn faster as they burn up-slope. Weather (temperature, humidity, and wind) has a significant influence on fire behavior. The Fire Hazard model recognizes that some areas of California have more frequent and severe wildfires than other areas. Finally, the model considers the production of burning fire brands (embers) how far they move, and how receptive the landing site is to new fires. The Figure shows where flood hazard zones are located, including the location of historical fires which are also presented on the map. In addition, the general location and distribution of existing and planned uses of land in fire hazard severity zones in state responsibility areas, including structures, roads, utilities, and essential public facilities are identified on the map. The map includes the Three Rivers and Springville UDB's, mountain service center boundaries, foothill development corridors and the Mountain Plan Sub-Area Plan boundaries.

Figure 10-7 identifies major recharge areas, rivers, creeks, streams, flood corridors, riparian habitats, and land that may accommodate floodwater for purposes of groundwater recharge; and stormwater management and retention feasibility areas. The map identifies existing and proposed stormwater retention and detention basins. The significant rivers and streams located in Tulare County are the Kings, Kaweah, Tule, Kern (mountain areas only), White River, and Deer Creek (for additional information see Figure 11-1: Tulare County Valley Watersheds and Figure 11-2:Tulare County Foothill and Mountain Watersheds located in the Water Resources Element).

Senate Bill 5 (SB 5), also adopted in 2007, authorized the State Department of Water Resources (DWR) to develop the Best Available Maps (BAM) displaying 100- and 200-year floodplains for areas located within the Sacramento-San Joaquin (SAC-SJ) Valley watershed. SB 5 requires that these maps contain the best available information on flood hazards and be provided to cities and counties in the SAC-SJ Valley watershed. This effort was completed by DWR in 2008. Tulare County is not in the SAC-SJ Valley watershed, and 200-year floodplains for Tulare County were not included as a part of that study. The DWR has two Levee Flood Protection Zone (LFPZ) maps within the Sacramento River

Basin and the San Joaquin River Basin. According to the San Joaquin River Basin map there is no LFPZ for the Tulare County area. Furthermore, the County has not designated any levee protection zones. Areas subject to inundation in the event of the failure of the levees or floodwalls in proximity to the City of Visalia are included in the FEMA information set forth in Figures 10-1 and 8-1, "FEMA 100 Year Flood Zone" and "FEMA 500 Year Flood Zone."[1]

The designated floodway maps from the former Reclamation Board, a predecessor to the Central Valley Flood Protection Board with a larger study area, were used to establish the Tulare County Flood Prevention Ordinance (Ordinance Code of Tulare County, Part VII, Chapter 27) Flood Plain zones. The Ordinance defines "floodway" as:

"FLOODWAY" means the channel of a river or other watercourse and the adjacent land area that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot. The floodway is delineated on the Flood Boundary Floodway Map, on maps adopted by the State Reclamation Board when acting within its jurisdiction, and/or on the County Zoning Map (signified by the F-1, Primary Flood Plain Zone). The designated floodway maps are provided in General Plan Figure 10-3.

In addition, the Tulare County Flood Control Master Plan (FCMP) was adopted by the Tulare County Board of Supervisors in 1972 upon the recommendations of the Tulare County Flood Control District. This Element of the General Plan addresses issues particularly related to flood control along natural watercourses in Tulare County. This adopted Element is incorporated into this General Plan Update document as Chapter 15. The FCMP (Tulare County General Plan Chapter 15) was reviewed for consistency with the proposed changes to the Safety Element policies. The FCMP document (1972) is generally consistent with the Health and Safety Element, but the FCMP pre-dates the FEMA maps utilized by the County, therefore, mitigation requirements as required by FEMA are not addressed in the FCMP. A work program is currently being developed to update the FCMP which is discussed below in greater detail.

The Tulare County Flood Control Master Plan also contains historical data on flooding, including locally prepared maps of areas subject to flooding, and sites that have been repeatedly damaged by flooding. Historical information about flood hazards from the United States Army Corps of Engineers (USACE) is also included in the Flood Control Master Plan as noted in its selected bibliography on page 58. According to the Army Corp of Engineers Cal EMA now controls authorship of any studies used to process flood information from the USACE by 1986. Furthermore, information from the Cal EMA website included in Figure 10-1, states that its information is based upon information from the USACE.[2] In July 2012 the County contacted the USACE by phone and by email, but has received no additional relevant information.

In accordance with 65302 (g) (2) (B and C) the County has included Policies (Section 10.5 Flood Hazards and 10.6 Urban and Wildland Fire Hazards) and Implementation Measures in sections 10.10 based upon the above information. The General Plan Policies and implementation measures used in

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[1] The levees in the Visalia area were not certified at the time of publication of the updated Visalia area Flood Insurance Rate Maps (FIRMs) in 2008. Uncertified levees are therefore not relied upon in mapping flood information, as discussed under 44 CFR § 65.10 or the previous freeboard policy in place since February 10, 1981 (51 Fed. Reg. 30305 (August 25, 1986)). FEMA guidance also notes that "Decertified and uncertified levees will not be depicted on flood maps as providing the required level of protection. The areas behind these levees will be mapped as a high-risk areas and flood insurance will be required for buildings behind the levee with a federally backed mortgage." (FEMA, The NFIP and Levees Frequently Asked Questions, October 2006, page 3.)

[2] See http://myplan.calema.ca.gov/ under "Flood/CA Specific" noting that "100-Year Floodplains" information is based in part upon "USACE Comprehensive Study."

conjunction with the County's zoning and flood ordinances provide a reasonable protection of county uses from unreasonable risk of flooding.

Existing and planned development in flood hazard zones can be viewed in Figures 10-1, 10-3, 10-6, and by comparing Figures 10-1 and Figure 4-1. Local, state, and federal agencies with responsibility for flood protection include; California Department of Water Resources, US Department of Interior, Geological Survey, Corp of Engineers, Department of the Army, Tulare County Flood Control District, Tulare County Planning Division, Three Rivers Soil Conservation District, Natural Resource Soil Conservation Service Department of Agriculture, Division of Soil Conservation State of California, Bureau of Reclamation, Southern San Joaquin Valley Flood Control and Water Conservation Association, California Regional Water Quality Control Board, Central Valley Region, California Department of Conservation, Kings River Conservation District, California Water Resources Control Board, and the Kaweah Delta Water Conservation District.

Flood Control Status Update and Proposed Projects

The following information is presented to discuss the effects that the “El Nino” winter rains had on flooding and related issues in Tulare County that were experienced between October 2015 and May 2016. Additionally, information is provided regarding the current status of existing and proposed Tulare County Flood Control District studies and projects within Tulare County.

2015/2016 Storm Season Discussion

Prior to the winter storm season of 2015/2016 Tulare County and the majority of California had been in a period of extended drought. Precipitation during the previous three years had been well below average. Expectations and hopes were elevated for increased precipitation resulting from the predicted El Nino affected winter storms. Records from previous El Nino weather patterns demonstrate that the Tulare County region has historically seen fluctuations of overall precipitation accumulation during El Nino events. While there have been relatively high amounts of precipitation noted during previous El Nino years, the trends show that El Nino events tend to have a limited impact on average precipitation amounts in this region. The long range weather forecasts prior the 2015/2016 winter season predicted that there was a fifty percent (50%) chance of above average rainfall in the Tulare County region.

Actual rain and snow accumulations for 2015/2016 were below historical averages for the Tulare County region. As of the end of April 2016, snowpack in the southern sierra region was at about 50% of normal for that date. As of June 1 snowpack in the region was at about 16% of normal for that date. During the months of October through May, Visalia received approximately 8.5 inches of precipitation compared to a historical average of around 10 inches.

Looking ahead, climate patterns show signs of a possible La Nina weather cycle predicted for the 2016/2017 storm season. La Nina patterns, caused by general cooling of certain pacific ocean currents can have an impact on seasonal precipitation fluctuations in the region, with a general trend toward drier than average years in southern California. It is however too early in the year to predict with high levels of certainty what the possible weather trends may be during the 2016/2017 wet season.

Storm Season Flooding Effects and Response

Flooding issues experienced throughout Tulare County during the wet season of 2015/2016 can generally be described as manageable and non-emergency in nature. Between the months of October 2015 and May 2016 there were 24 days with storm events resulting measureable amounts of rainfall located within the Tulare County Region.

Nuisance flooding of low areas along roadways and shoulders were experienced during periods of heavy precipitation. However periods of relatively dry and warm days occurred between most storm cycles allowing the saturated ground to dry and channels to empty.

Tulare County Resource Management Agency (RMA) received a few reports from private parties that observed ponding or drainage issues on their property, or onto their property from neighbors. It is believed that this increase in reports of private party flooding was primarily caused by developments or improvements that had been constructed over the previously dry years and not identified until the recent rains. These minor issues are typically private concerns that the County or the Flood Control District do not have jurisdiction over. Frequently these issues are remedied by minor on site regrading of property to redirect water flows.

General response to roadway and community flooding issues is provided by the RMA road crews from the Public Works Department. Crews are on-call and available at all times. Response to road issues typically is provided within one hour of notification depending upon location. RMA crew's most frequent response action this storm season was to place "Roadway Flooded" signs in areas where standing water occurred on or near the roadway or the shoulder. Other specific actions include drainage inlet clearing in communities, downed tree removal, snow removal, and mud and rockslide removal. On a few occasions, RMA crews effectively coordinated with crews from neighboring cities (Lindsay and Porterville) to provide roadway drainage infrastructure clearing work to prevent flooding in County/City boundary areas.

<u>Status of Flood Control Projects (flood control projects that will reduce potential for flood risks)</u>

Juvenile Detention Facility – Cottonwood Creek

Scope: The proposed Cottonwood Creek Realignment project will consist of realigning about 6,300 feet of the creek to near its original alignment. The reconstructed channel will have a 40-foot wide bottom with 3:1 (H:V) bank slopes. The bottom of the channel will be about 5 to 6 feet below the surrounding natural grade. Berms will be constructed above grade to produce the final south bank height of 12 feet and north bank height of 6.5 feet. The project will also include 5 to 6 foot high berms along the west, south, and east sides of the County road maintenance sand pit and the east and south sides of road-mix preparation pad. This project is developed to provide flood protection for the County's Juvenile Detention Facility and Records Storage Facility located north of Avenue 368. In addition, this project will provide groundwater recharge benefits by establishing retention areas allowing floodwaters to percolate into the aquifer below the site.

Estimate and Budget: The Preliminary Cost estimate for this project is approximately $2 million dollars. This project is included in the current FY17 budget for the Flood Control District. RMA staff has submitted a grant pre-application, received comment and will be submitting a grant application to the State of California for funding under the Proposition 1 Stormwater Program. If this project is not awarded grant funding, staff is prepared to proceed with construction utilizing Flood Control District funds.

Status: The design of this project is 90% completed and can be quickly finalized for advertisement and bidding. Property acquisition is not an issue, as the entire project is located on County owned property. The environmental (CEQA) clearance and permitting with CDFW has been completed.

Schedule (proposed): Staff is prepared to complete the PS&E package by fall 2016 pending comments from the DWR regarding grant funding. If grant funding is allocated, construction could be started in 2018. If grant funding is not obtained, the project could be constructed between June and October of 2017.

Study: A required aspect of the grant for construction funding is the completion of a Stormwater Management Plan for the drainage basin associated with each proposed project. Staff is currently working with a stormwater expert (Consultant) to prepare this required plan. The plan will identify stormwater flows, conveyance methods and beneficial uses of the stormwaters.

Alternative: An alternative to the full JDF-Cottonwood Creek re-alignment project was constructed for short term flood protection mitigation. This alternative includes a temporary berm located immediately south of the existing Cottonwood Creek channel. This berm, in conjunction with a new berm located around the County sand pit to the northeast of the JDF and the existing berm system located immediately north of the JDF and records facility provides adequate flood protection for reasonably anticipated floodwaters along the Cottonwood Creek. This alternative was constructed prior to the 2015/2016 rain season.

Seville Sontag Ditch

Scope: The proposed project will consist of constructing a new 24-inch culvert pipe with canal gate from Sontag Ditch on the north side of SR 201 to an existing junction box constructed with the Stone Corral Watershed Project in 1978. The project will also include the construction of a new 24-inch culvert pipe with a canal gate from Sontag Ditch on the south side of SR 201 to daylight into the Stone Corral Ditch on the east side of Sontag Ditch. The purpose of this project is intended to direct high flows from Sontag Ditch to the Stone Corral Ditch during heavy rain events. The diverted water will flow into Stone Corral Irrigation District's detention basin located approximately two miles to the south, just north of Cottonwood Creek, therefore, alleviating flooding in the Seville area.

Estimate and Budget: The Cost estimate for this project is approximately $78,000 dollars. This project is included in the proposed FY17 budget for the Flood Control District.

Status: The design of this project is complete. Two pipeline easements are required prior to construction. Staff has secured these easements. An encroachment agreement is required by Alta Irrigation District. Staff expects this agreement to be approved before construction. The environmental (CEQA) clearance and permitting with CDFW has been completed.

Schedule (proposed): Staff is prepared to advertise the project for construction bids in summer of 2016 and be ready to begin construction by September 2016. The project is expected to be completed before mid-October 2016.

Yettem Button Ditch

Scope: The Yettem Button ditch project has been recently re-analyzed with a focus on potential use of flood waters for beneficial uses. As such, the project is in the process of being re-scoped from a conveyance capacity increasing project to a water retention project. The current concept includes obtaining flood easement rights north of the community of Yettem adjacent to the Button Ditch. This will provide comparable flood protection with the added benefit of groundwater recharge.

Estimate and Budget: The Preliminary Cost estimate for this project is being developed and will depend upon the location and costs associated with the flood easements. Construction of this project is not included in the current FY16 budget for the Flood Control District. RMA staff has been exploring grant opportunities as a potential source of funding for the project.

Status: The environmental (CEQA) clearance and permitting for this project with CDFW has been completed. An agreement with Alta Irrigation District would be required to construct a facility within their ditch property. Property (easement) acquisition would be required. This project will be further developed as part of the proposed Tulare-Fresno Unit Flood Control Master Plan Update described below.

Schedule (proposed): Staff is prepared to complete the project concept during FY17. It is anticipated that the easements could be in place by June 2017 and Construction could be started immediately thereafter to be completed by October 2017.

Flood Control Master Plan Update Tulare-Fresno Unit

Scope: The Tulare County Flood Control District currently utilizes a Flood Control Master Plan prepared in 1971. This plan has become somewhat dated due to recent drought conditions that have impacted valley ground elevations caused by subsidence. Additionally, flood waters that were previously seen as a nuisance, now must be considered a resource and be treated correspondingly. Recent and forthcoming regulations on groundwater will necessitate the judicious use of floodwaters as a potential source of groundwater recharge. County staff recognizes that available sources for funding flood control projects now must have sustainable water management strategies incorporated. It is anticipated that these requirements currently associated only with grant funding may become State mandates in the future. Flood Control Units have been established to better encompass areas whose flood control problems in general are closely related either by source, conveyance or ultimate disposal of flood flows or by physical plans for control. The northernmost unit in Tulare County is the Tulare-Fresno Unit. This unit covers the area generally north of the Kaweah River irrigation service area and includes the Cottonwood Creek drainage basin.

Estimate and Budget: Cost estimate for this update is approximately $350,000. This will include accurate topographic surveys of the Unit, hydrographic and hydraulic analysis of the drainage basins and conveyance channels within the Unit, and proposed flood control projects consistent with current and anticipated regulations and theories of flood control management.

Status: With authorization, staff is prepared to issue an RFP and proceed with preparation of the Flood Control Master Plan Update for the Fresno-Tulare Unit. It is expected that this update will take approximately nine (9) months. Upon satisfactory completion of the update for this unit, staff proposes to move forward with updates for the other units.

Schedule (proposed): Staff is prepared to undertake and complete the update during FY17.

Annual Maintenance

RMA staff performs annual maintenance throughout the County in preparation for the storm season. This reoccurring inspection and repair procedure ensures that the County's flood control facilities are fully operational and prepared for potential rain events. The following is a description of the activities that RMA staff consisting of personnel from Public Works Management Groups I and III perform prior to the rain season.

Potential Flood Hazard Areas (Hot Spots)

Through a systematic analysis of Countywide facilities, RMA staff has identified certain locations that have historically been problem areas where flooding has, or is likely, to occur. These locations were identified as part of a County Flood Risk Assessment. At the end of the storm season, RMA staff is performing an end of season analysis to update the "Hot Spot" data.

Flood Basin Inspections and Maintenance

The Tulare County Flood Control District maintains nearly 70 flood control basins located throughout the County. These are typically located in the community areas and provide retention facilities for storm water runoff from the roadway and residential subdivisions. These basins require maintenance that

includes weed abatement, fence repair, and drainage inlet flushing. RMA staff coordinates with the County Probation Department and Management Group I operations staff to maintain these basins throughout the year. County Encroachment Permit Inspectors are trained to visit, inspect and report basin deficiencies throughout the course of their daily inspections around the county. This work will be undertaken during the dry season this year.

Constructed Conveyance Inspections and Maintenance (Pipes, Culverts Drain Inlets, Pumps etc.)

The County maintains a network of 28 permanently located flood control pumps. Prior to the storm season, County operations staff from Management Group I will inspect and cycle these flood control pumps to ensure functionality. The basins and channels within the immediate proximity of the pumps are cleared of shrubs and debris to minimize potential blockage during operation. If required, staff contracts with local pump repair contractors to service the equipment.

As part of the 3,000 plus miles of the County roadway system, numerous bridges and culverts have been constructed over and across rivers, streams, channels, ditches, and floodplains County staff inspects these culverts and bridges in preparation for storm events. The annual inspection is typically performed by the Roads District Supervisor or delegated staff. Inspectors look for damage to the bridge or culvert, shrubs, overgrowth or debris that could potentially cause blockages, blocked culverts, and any other facilities that could be impacted by the rain event, or is not fully functional.

Channel Clearing Efforts

Numerous County roads cross rivers, streams, channels and ditches. The Public Works Management Group I operations staff currently inspects and clears channels that may cause flood damage to these bridges and culverts. This clearing activity within a streambed requires a permit with the CDFW. Current permits and operational policy directs staff to limit channel clearing activities to 300-feet upstream and downstream of the culvert or bridge.

Additional Groundshaking, Landslide, and Liquefaction Information Resources

Tulare County is characterized as Severity Zone “Nil” and “Low” groundshaking with zero (no) declared landslides according to the updated report “State of California Multi-Hazard Mitigation Plan Chapter 6 - Other Hazards: Risks and Strategies” (published in October 2010) by the California Geological Survey, Department of California. This report does provide very general statewide maps of both "Landslide Hazard Potential" and "Declared Landslide (1950 to 2009) Events" and so is an additional resource for information that can be used in site specific project analysis in addition to Figure 10-4 Ground Shaking and Landslide Potential for Tulare County in this chapter. The referenced mapping specific to ground shaking and earthquake shaking potential within Tulare County taken from the Department of Conservation website indicate that Tulare County is located some distance from known, active faults and will experience lower levels of shaking less frequently. In most earthquakes, only weaker, masonry buildings would be damaged. However, very infrequent earthquakes could still cause strong shaking within Tulare County.

Ground settlement and soil compaction may occur as a result of seismic ground shaking. When unconsolidated valley sediments are saturated with water, water is forced to the ground surface, where it emerges in the form of mud spouts or sand boils. If soil liquefies in this manner (liquefaction), it loses its supporting capacity, which can result in the minor displacement to total collapse of structures. These types of unconsolidated sediments represent the poorest kind of soil condition for resisting seismic shock waves. No specific countywide assessments to identify liquefaction hazards have been performed in Tulare County. Areas where groundwater is less than 30 feet below the surface occur primarily in the San Joaquin Valley portion of the County. However, soil types in the area are not conducive to liquefaction because they are either too coarse or too high in clay content. Areas subject

to 0.3g acceleration or greater are located in a small section of the Sierra Nevada Mountains along the Tulare-Inyo County boundary. However, the depth to groundwater in such areas is greater than in the valley, which would minimize liquefaction potential as well. Detailed geotechnical engineering investigations would be necessary to more accurately evaluate liquefaction potential in specific areas and to identify and map the areal extent of locations subject to liquefaction. A liquefaction analysis is conducted as part of all bridge and bridge replacement projects.

Tree Mortality Removal Plan

Tulare County and the State of California have experienced below normal levels of precipitation since 2011. The County proclaimed a Local Emergency due to the drought on February 4, 2014 and additionally proclaimed a Local Emergency due to widespread and increasing tree mortality in Tulare County on October 6, 2015.

The severe conditions have increased fire, and consequently, public safety and air quality risks. Cal Fire reports more than 300,000 acres burned statewide from January 2015 through September 26, 2015, an 89% increase over the same period in 2014. Tulare County has been impacted by these conditions.

Additionally, National Parks and Forests have instituted wildfire-related closures fueled by tree mortality in a number of areas. These include major portions of Sequoia & Kings Canyon National Parks and Sequoia National Forest damaged by the Rough Fire in August 2015, and the on-going closure of the Trail of 100 Giants located within Sequoia National Forest due to tree mortality-related hazards. These closures have negatively impacted local businesses that rely on spring and summer tourism.

The immediate and long-term ramifications of the tree mortality are likely to have a significant impact on the economy of Tulare County and pose a danger to the health and welfare of our residents. These conditions warrant the monthly renewal of the Proclamation of Local Emergency, enabling Tulare County to take all necessary measures to combat the impacts of tree mortality on our citizens.

Tulare County is one of six counties that initially proclaimed a local emergency due to critical tree mortality issues. Tulare County currently sits on the State-wide task force. Tulare County is eligible for California Disaster Assistance Act (CDAA) funding. To qualify for funding, Cal OES requires each eligible County, City or Special District to submit a Tree Removal Plan and receive plan approval before any reimbursements for tree removal expenses take place. In addition, the State Task Force and Cal OES has requested that all tree-mortality impacted Counties create (1) - a Local Task Force; and (2)- a Tree Removal Plan, in order to strengthen the State's case for a Presidential Declaration of Major Disaster and FEMA funding.

On April 4, 2016, a local Tree Mortality Task Force was formed, comprised of County of Tulare Staff, Cal Fire, Sierra and Sequoia National Forests, Caltrans, PG&E, Southern California Edison and other stakeholders to examine the immediate threat from tree mortality and outline objectives in response to the local emergency. Opportunities to coordinate resources among potential partners were identified and encouraged. The Task Force provides a platform to ensure on-going communication and coordination between government agencies and other local stakeholders.

The Local Tree Mortality Task Force Operations group (consisting of Cal Fire, County Fire, and RMA) has identified three initial priority locations within Tulare County and the State Responsibility Area (SRA) outside of Federal lands (National Parks and National Forests). These locations are, in order:

Balch Park Road, Bear Creek Road and environs surrounding Mountain Home Demonstration State Forest and County-owned Balch Park.

Old Stage and Sugarloaf Roads leading to Posey, Idlewild, Balance Rock, Peso Park and Panorama Heights. Hot Springs Road and environs around California Hot Springs, Pine Flat and Sugarloaf.

The Resource Management Agency has analyzed all available aerial surveys of Tree Mortality impacted areas within Tulare County- approximately 60 miles of right of way along county maintained roads - and determined there are likely more than 29,300 dead trees located within 100 feet on either side of the road centerline.

Several Registered Professional Forester (RPF), including a Unit Forester with Cal Fire, have recommended applying a growth factor of at least 25% to reflect the likelihood of additional trees dying and/or becoming diseased in the months ahead and thus needing to be removed. Application of a 25% growth factor to a 29,300 base would place the total number of trees to be removed related to County owned infrastructure at 29,300 x 1.25 = 36,625 trees.

The cost to fall, remove, and clean-up debris for 36,625 trees is significant. After discussing potential costs with a local arborist and local forester, a planning figure of $1,000 per tree will be used to establish an initial, order of magnitude cost. Thus, removal of 36,625 trees at $1,000 each would place the potential cost for trees to be removed related to County-owned infrastructure at $36,625,000.

On May 24, 2016 the Tulare County Board of Supervisors approved a Draft Tree Mortality Plan. The draft Tulare County Tree Mortality Removal plan was submitted to Cal OES to ensure the plan contains all the pertinent details and information required for approval. The Draft Plan includes a Right of Entry Permit that mirrors that in use by other Counties. This permit is intended to assist in the process of removing hazard trees that threaten public infrastructure from private land.

Under CDAA, the State will fund 75% of all eligible costs with the remaining 25% share to be borne by the responsible local government. Therefore, given the scope of work outlined above, the share of cost for trees to be removed related to County owned infrastructure alone would be as follows:

State $27,243,750 (75%)
County $9,081.250 (25%)
$36,625,000

It should be noted that these costs are expected to be borne over several years, given the time it will take to remove and dispose of the large quantity of the related material. As the drought appears to be ongoing, more trees are expected to die and/or become diseased. For context, PG&E is just concluding a ten year effort to remove trees that died during a widespread bark beetle infestation that occurred in the late 1990s.

With Cal OES approval of the County's Tree Mortality Removal Plan, staff will begin developing tree removal projects that are actionable based on available resources, rules, regulatory approvals and available funding.

Historical Data on Wildfires

The Table below contains a summary of historical information regarding recorded wildfires in Tulare County that occurred between 1910 and 2014. A total of 610 wildfires that burned approximately 1,328,000 acres were recorded during this 104 year time period. The following causes represent approximately 95% of the 610 recorded wildfires (approximately 1.3 million acres), and are included as follows, miscellaneous 36% (532,800 acres), lightning 27% (309,000 acres), unknown or unidentified

14% (97,000 acres), Arson 8% (63,300 acres), equipment use 5% (43,500 acres), smoking 3% (53,400 acres), and Campfires 2% (184,600 acres). The remaining causes which include escaped prescribed burns, debris, vehicles, structures, powerlines, railroads and playing with fire account for the remaining 5% (44,400 acres) of the recorded wildfires. The locations of these wildfires are displayed in Figures 10-2 and 10-6. The complete list of Recorded Historical Wildfires is included in the General Plan as Appendix E.

Summary of Historical Recorded Wildfires in Tulare County 1910 to 2014

Cause	Number of Recorded Fires	Total Acres	Percentage of all Recorded Fires
Miscellaneous	220	532,800	36%
Lightning	165	309,000	27%
Unknown or unidentified	84	97,000	14%
Arson	49	63,300	8%
Equipment Use	28	43,500	5%
Smoking	19	53,400	3%
Campfires	17	184,600	2%
Escaped prescribed burns, debris, vehicles, structures, powerlines, railroads and playing with fire	28	44,400	5%
Total	610	1,328,000	100%

10.1 General

HS-1 To protect County residents and visitors from injury and damage resulting from natural catastrophes, man-made events, and hazardous conditions.

HS-1.1 Maintain Emergency Public Services
The County shall ensure that during natural catastrophes and emergency situations, the County can continue to provide essential emergency services.

HS-1.2 Development Constraints
The County shall permit development only in areas where the potential danger to the health and safety of people and property can be mitigated to an acceptable level.

HS-1.3 Hazardous Lands
The County shall designate areas with a potential for significant hazardous conditions for open space, agriculture, and other appropriate low intensity uses.

HS-1.4 Building and Codes
Except as otherwise allowed by State law, the County shall ensure that all new buildings intended for human habitation are designed in compliance with the latest edition of the California Building Code, California Fire Code, and other adopted standards based on risk (e.g., seismic hazards, flooding), type of occupancy, and location (e.g., floodplain, fault).

HS-1.5 Hazard Awareness and Public Education
The County shall continue to promote awareness and education among residents regarding possible natural hazards, including soil conditions, earthquakes, flooding, fire hazards, and emergency procedures.

HS-1.6 Public Safety Programs
The County shall promote public safety programs, including neighborhood watch programs, child identification and fingerprinting, public awareness and prevention of fire hazards, and other public education efforts.

HS-1.7 Safe Housing and Structures
The County shall continue to seek grant funding for the rehabilitation of deteriorated and dilapidated structures and provide available information regarding housing programs and other public services including the identification of existing nonconforming building construction specific to building codes that apply in the Very High Fire Hazard Safety Zones.

HS-1.8 Response Times Planning in GIS
The County shall utilize its Geographic Information Systems (GIS) technology to track fire and law enforcement responses times and provide technical assistance to fire and law enforcement agencies.

HS-1.9 Emergency Access
The County shall require, where feasible, road networks (public and private) to provide for safe and ready access for emergency equipment and provide alternate routes for evacuation.

HS-1.10 Emergency Services Near Assisted Living Housing
In approving new facilities, such as nursing homes, housing for the elderly and other housing for the mentally and physically infirm, to the extent possible, the County shall

ensure that such facilities are located within reasonable distance of fire and law enforcement stations.

See also Chapter 14-Public Facilities and Services, Policy PFS-7.5: Fire Staffing and Response Time Standards and Policy PFS -7.9: Sheriff Response Time.

HS-1.11 Site Investigations
The County shall conduct site investigations in areas planned for new development to determine susceptibility to landslides, subsidence/settlement, contamination, and/or flooding.

HS-1.12 Addressing
The County shall seek to expand the Street Names and House Numbering Ordinance to all areas of the County, including private roads, for emergency 911 purposes.

Please also see the following regarding visibility for street signs and addressing:

a) Tulare County Ordinance Code Section 7-19-1530 REQUIRED POSTING:
Every person owning, controlling, occupying or using any house, store, storeroom or building situate on premises fronting on any public or private thoroughfare in the County of Tulare shall, within thirty (30) days after issuance of a house number, install permanently on such premises the number issued, subject to the following provisions:

(a) An accessory building need not be numbered but, if located on a separate unit of frontage as defined in section 7-19-1515 of this Article, it may be assigned a number if requested by the owner or proprietor of the principal establishment to which such building is accessory.
(b) The numbers shall be made of a durable material.
(c) All such numbers shall be of such type and so placed as to be easily visible and legible from the thoroughfare upon which said premises front.
(d) The numbers shall be not less than four (4) inches in height.

b) Tulare County Ordinance Code Section 7-19-1535 REQUIRED POSTING WITHIN STATE RESPONSIBILITY AREAS:
All numbers and addresses, whether on a public or private thoroughfare, issued within a State Responsibility Area shall also be permanently posted at each driveway entrance, subject to the following standards:

(a) The address shall be posted at the beginning of construction and shall be maintained thereafter.
(b) The address shall be visible and legible from the road on which the address is located. Where multiple addresses are required at a single driveway, the addresses shall be mounted on a single post at the driveway entrance. Where the roadway provides access solely to a single commercial or industrial business, the address shall be posted at the nearest road intersection providing access to that site.
(c) All numbers shall be a minimum of four (4) inches in height with an one half inch (¾") width and shall be of a reflective color that contrasts sharply with the background. (Amended by Ord. 3254, effective 3-31-01.)

c) January 1, 2016 California Code of Regulations Title 14 Natural Resources Division 1.5 Department of Forestry Chapter 7 - Fire Protection Subchapter 2 SRA Fire Safe

Regulations Article 3. Signing And Building Numbering § 1274.00. Intent § 1274.01. Size of Letters, Numbers and Symbols for Street and Roads Signs § 1274.02. Visibility and Legibility of Street and Road Signs § 1274.03. Height of Street and Road Signs § 1274.04. Names and Numbers on Street and Road Signs § 1274.05. Intersecting Roads, Streets and Private Lanes § 1274.06. Signs Identifying Traffic Access Limitations § 1274.07. Installation of Road, Street and Private Lane Signs § 1274.08. Addresses for Buildings § 1274.09. Size of Letters, Numbers and Symbols for Addresses § 1274.10. Installation, Location and Visibility of Addresses.

d) Tulare County Ordinance Code Section 7-19-1545 Signs Identifying Thoroughfares.

10.2 Geologic and Seismic Hazards

HS-2 To reduce the risk to life and property and governmental costs from seismic and geologic hazards.

HS-2.1 Continued Evaluation of Earthquake Risks
The County shall continue to evaluate areas to determine levels of earthquake risk.

ⓘ *See Figure 10-4 Ground Shaking and Landslide Potential for Tulare County and Figure 10-5: Seismic/Geologic Hazard and Microzones Map.*

ⓘ *Please note that all of the following maps can be viewed in greater detail on the County of Tulare General Plan website by using the Marquee Zoom function when viewing the document on-line. http://generalplan.co.tulare.ca.us/index.asp*

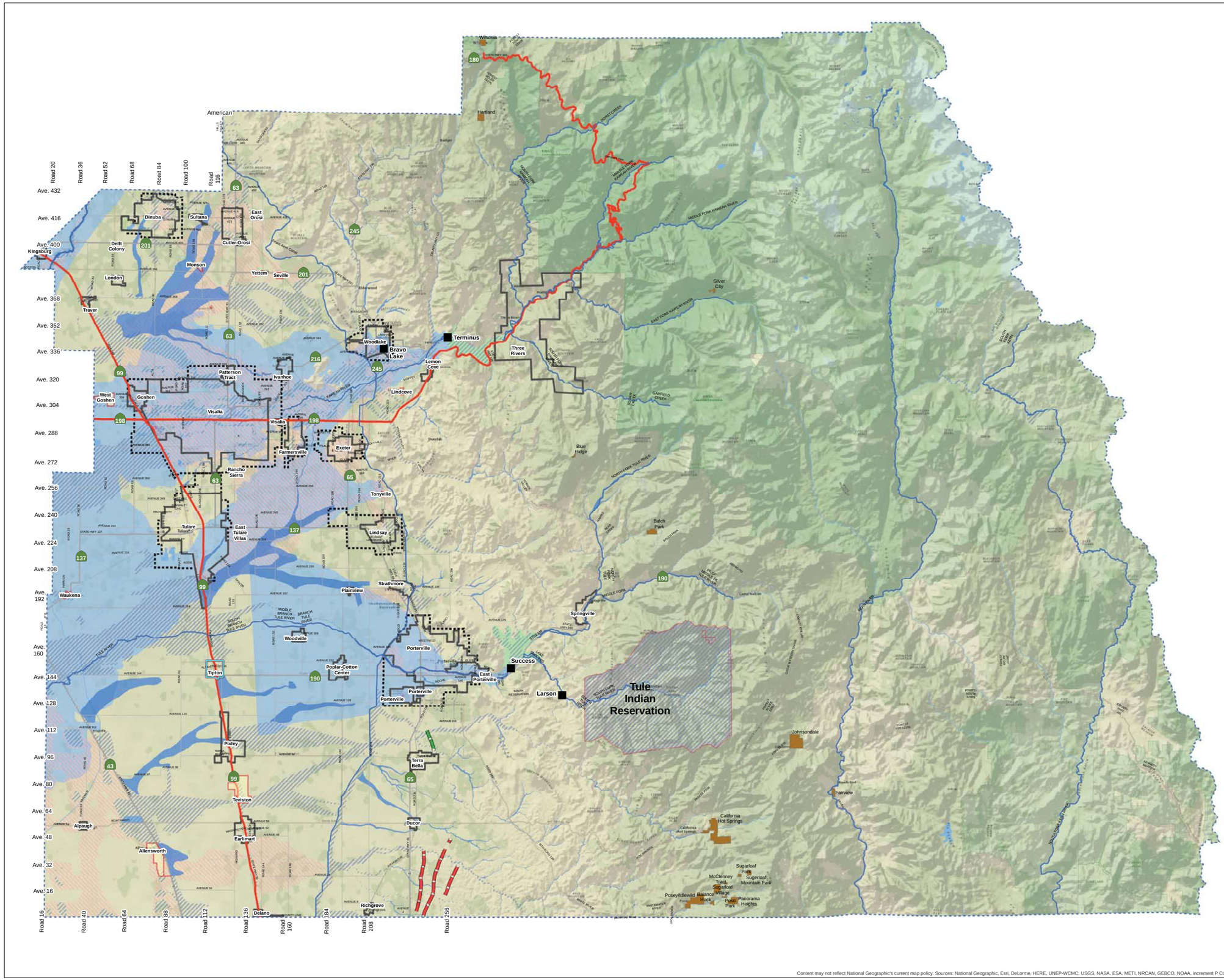

Figure 10-1

Flood Hazards and Faults

Back of fold out

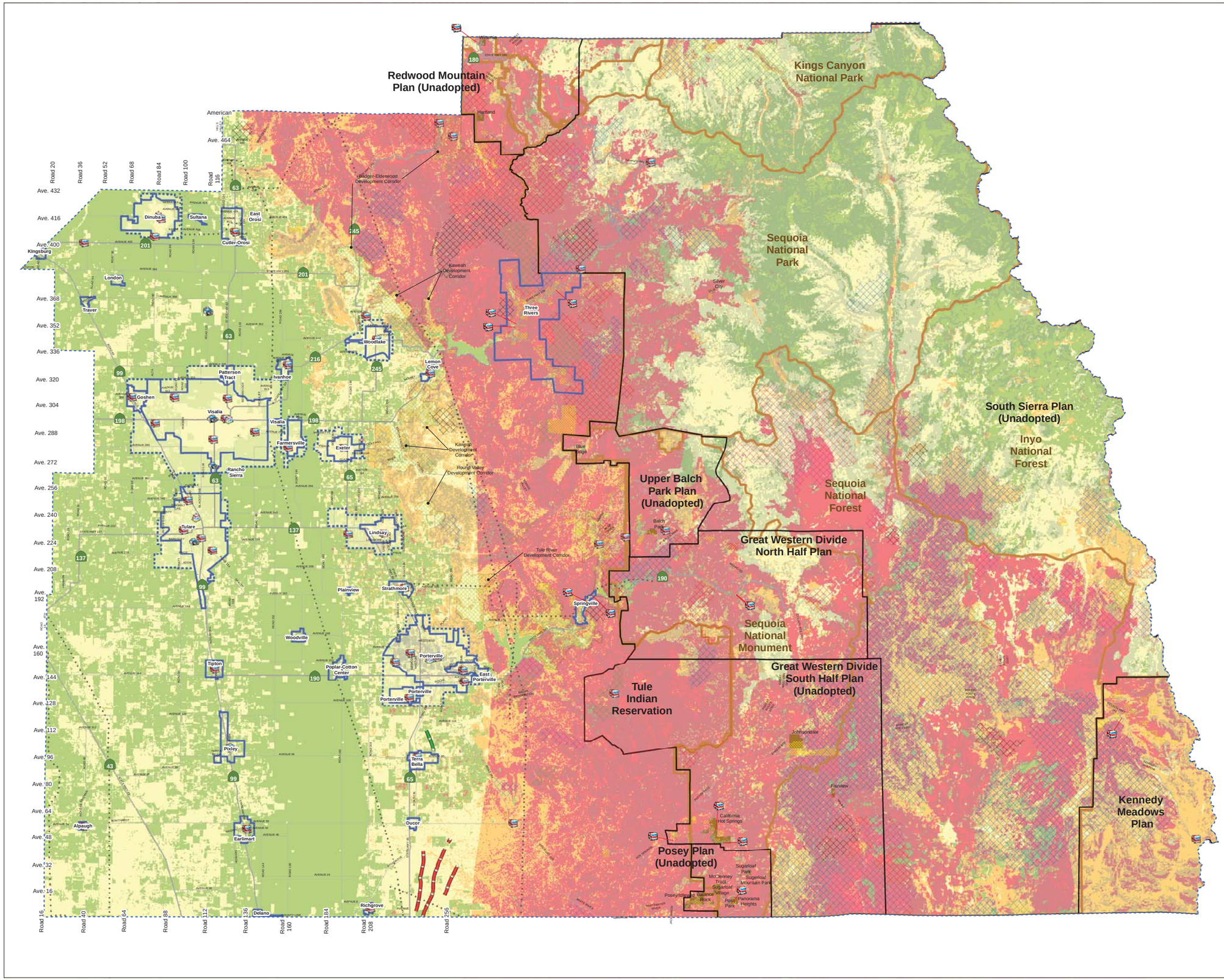

Figure 10-2

Fire Threat

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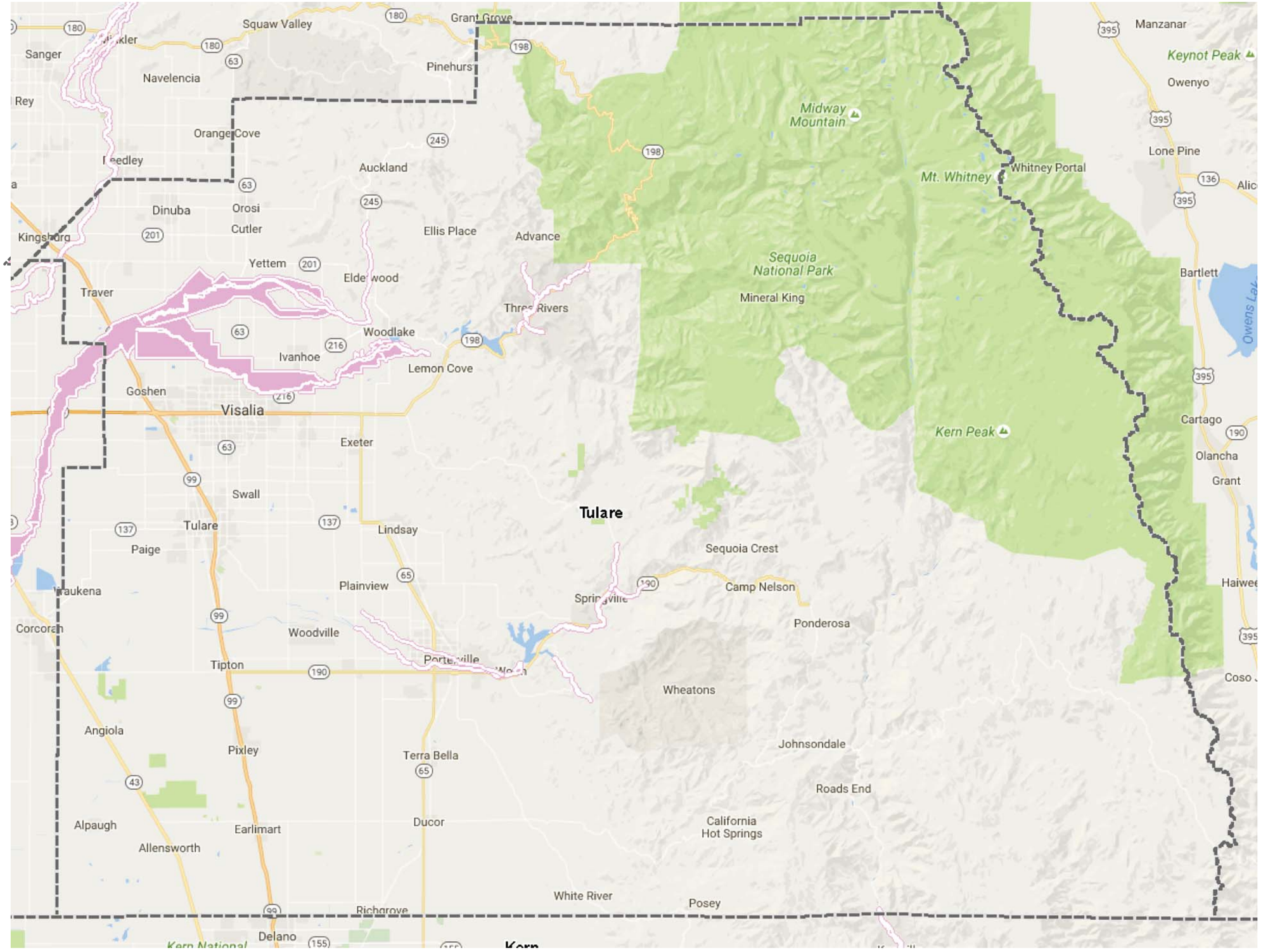


Tulare County General Plan Update

Not to Scale

Legend

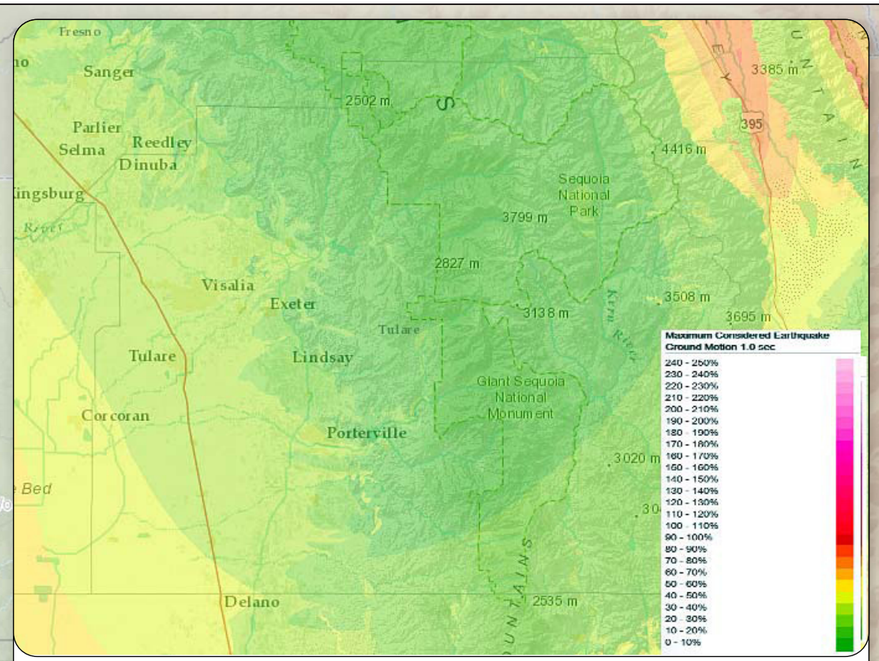
County Boundary

Designated Floodways

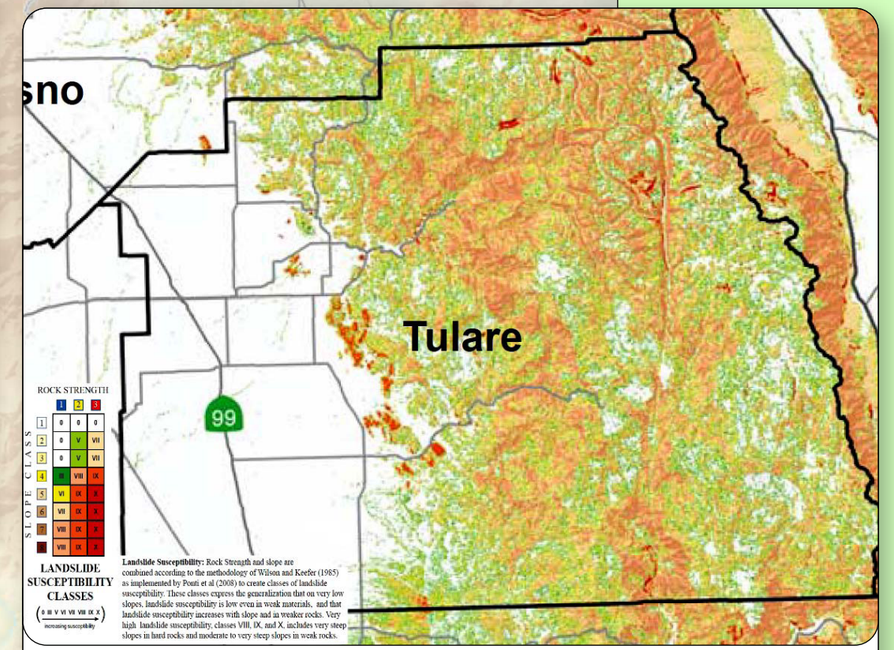
Figure 10-3

Designated Floodways

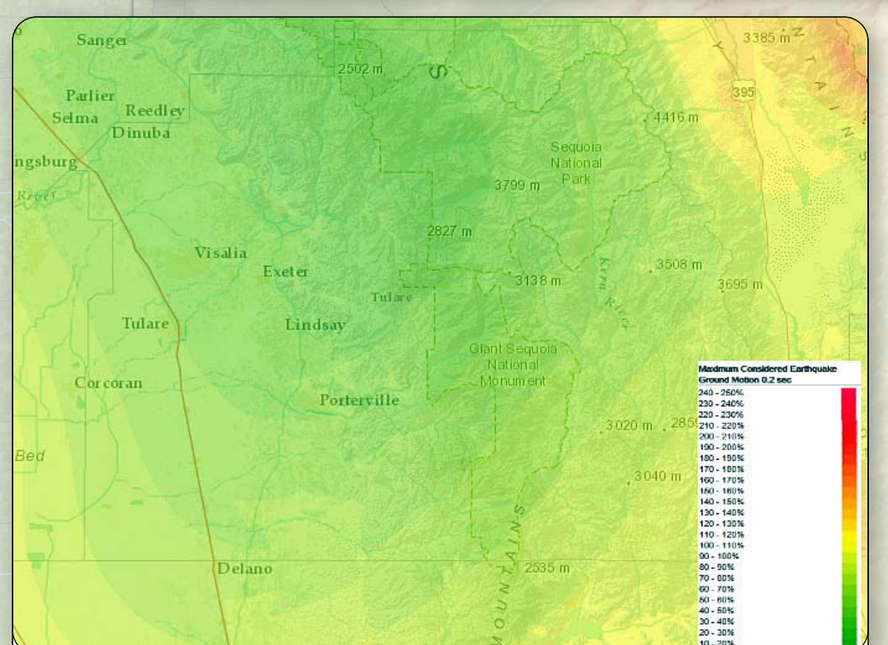
Back of fold out



This figure represents shaking hazard (ground acceleration in % gravity) potential for tall structures. As shown, ground motion activity in the County ranges from 0-50%, which is on the low end of the motion spectrum. More detailed information is provided by the California Geological Survey at http://myplan.calema.ca.gov/



A combinatin of rock strength and slope data is used to create classes of landslide susceptibility. Tulare County's susceptibility ranges from 0 (no susceptibility) to IX (very high susceptibility) depending on the topography of a given area. As expected, areas considered to be highly susceptible are in the mountanous eastern portion of the County. More detailed information is provided at http://www.conservation.ca.gov/cgs/information/publications/ms/Documents/MS58.pdf



This figure represents shaking hazard (ground acceleration in % gravity) for low structures. Tulare County ranges between 0-110%, which is low to medium on the ground motion spectrum. More detailed information is provided by the California Geological Survey at http://myplan.calema.ca.gov/

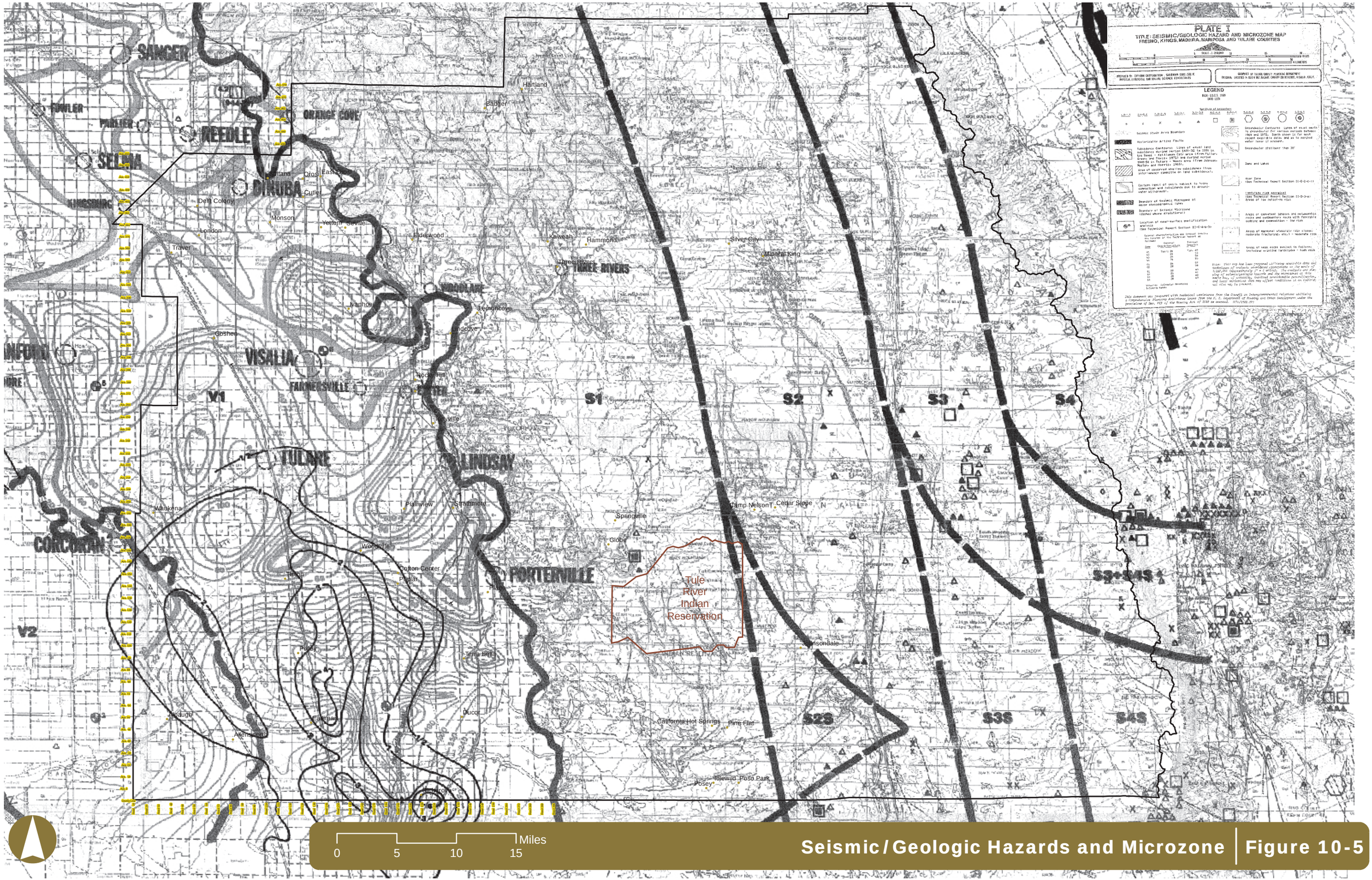
N

SOURCE: USGS, 1999, 2010; CA OES, 1972-2007; CDMG, 2000; DWR, 2002; ESRI, 2007; FEMA, 2008; Tulare County, 2008; and ESA, 2012

Figure 10-4

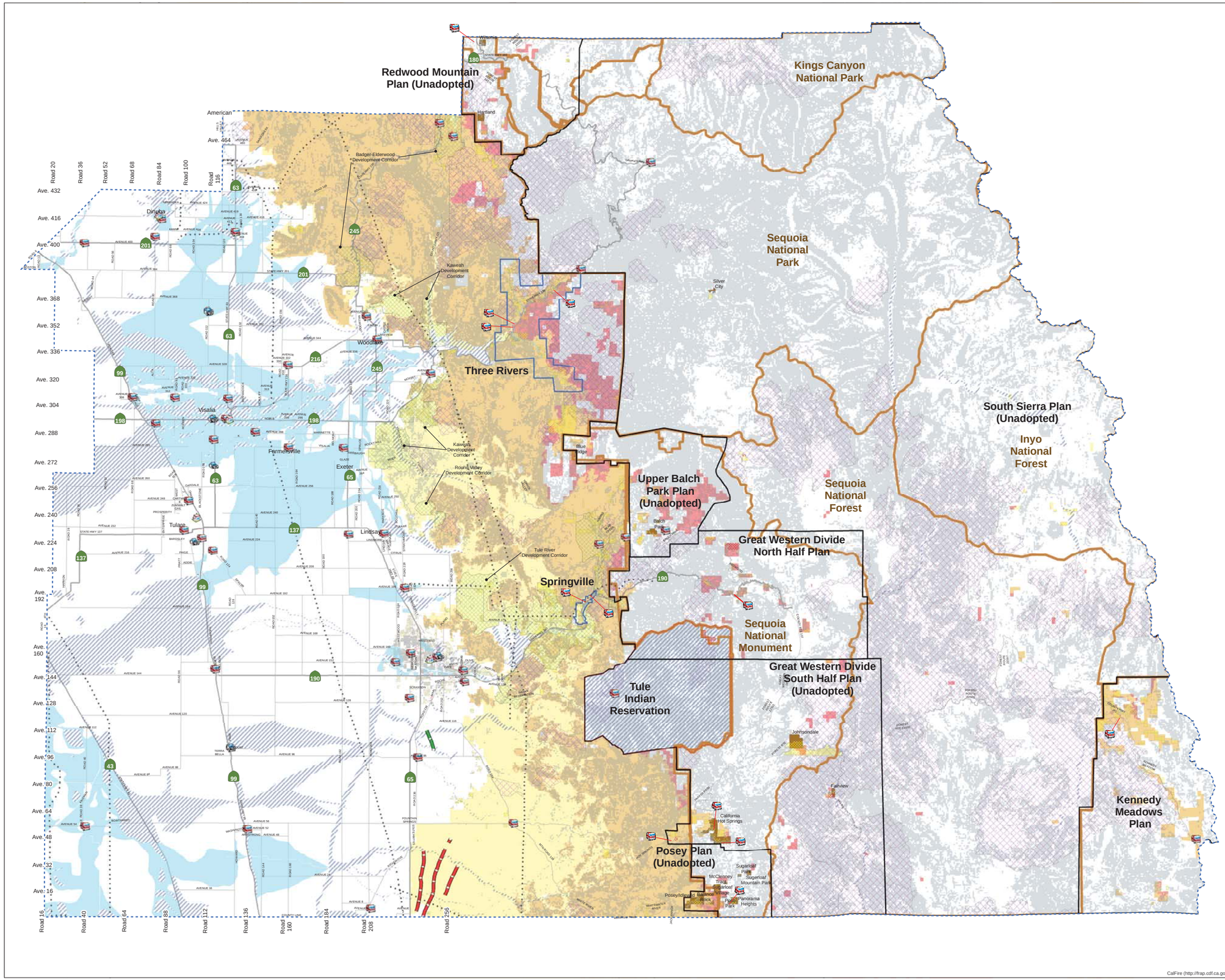
Ground Shaking and Landslide Potential for Tulare County

Back of fold out



Seismic/Geologic Hazards and Microzone | Figure 10-5

Back of foldout



CalFire (http://frap.cdf.ca.gov/)

Tulare County General Plan Update

0 5 10 Miles

Legend

- Hospitals
- Sheriff Stations
- Fire Stations
- Power Transmission Lines

Quaternary Faults

- Moderately Constrained (>150 YR)
- Well Constrained (>150 YR)

Boundaries

- Sub Area Plan Boundaries
- Tule Indian Reservation
- National Parks & Forests
- Urban Development Boundary
- Mountain Service Centers
- Development Corridors
- 30% + Slopes
- Tulare County Boundary

2014 FEMA Flood Zones

- FEMA 100 YR Flood Zone
- FEMA 500 YR Flood Zone

Developed Parcels Land Use

Land Use

- Residential
- Commercial

Historic Fires

- 1878-2013

State Responsibility Areas (2007) Fire Hazard Severity Zones

- SRA, Very High
- SRA, High
- SRA, Moderate

Figure 10-6

Areas Vulnerable to Flooding After Wildfires

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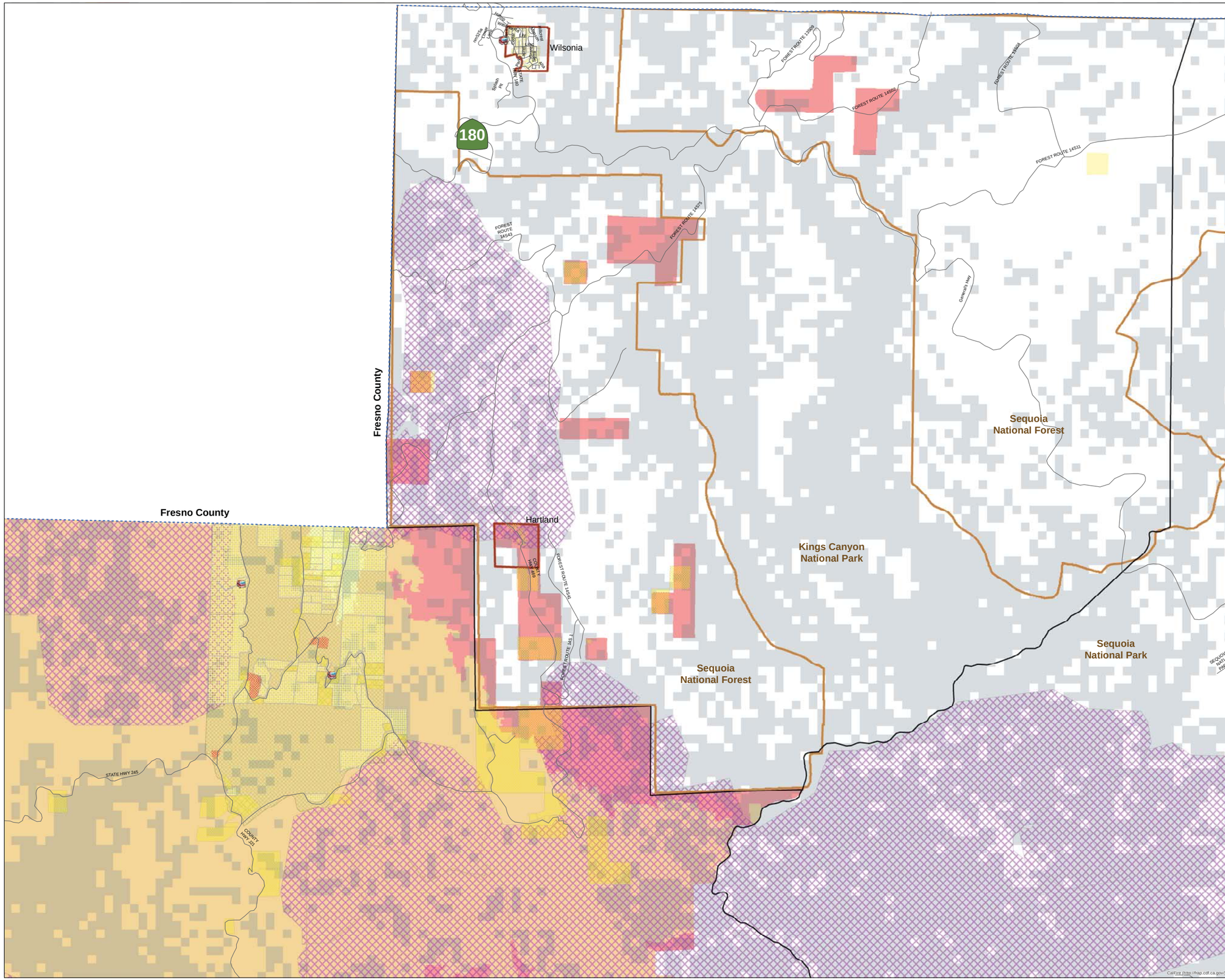

Tulare County General Plan Update

0 0.75 1.5 Miles

Legend

Fire Stations

Power Transmission Lines

Boundaries

- Sub Area Plan Boundaries
- Urban Development Boundary
- National Parks & Forests
- Mountain Service Centers
- Development Corridors
- 30% + Slopes
- Tulare County Boundary

Developed Parcels Land Use

Land Use

- Residential
- Commercial

Planned Land Use Parcels

Zoning Districts

- Residential
- Commercial

Historic Fires

- 1878-2013

State Responsibility Areas (2007)
Fire Hazard Severity Zones

- SRA, Very High
- SRA, High
- SRA, Moderate

Figure 10-6A
Areas Vulnerable to
Flooding after Wildfires
Redwood Mountain/Badger Area

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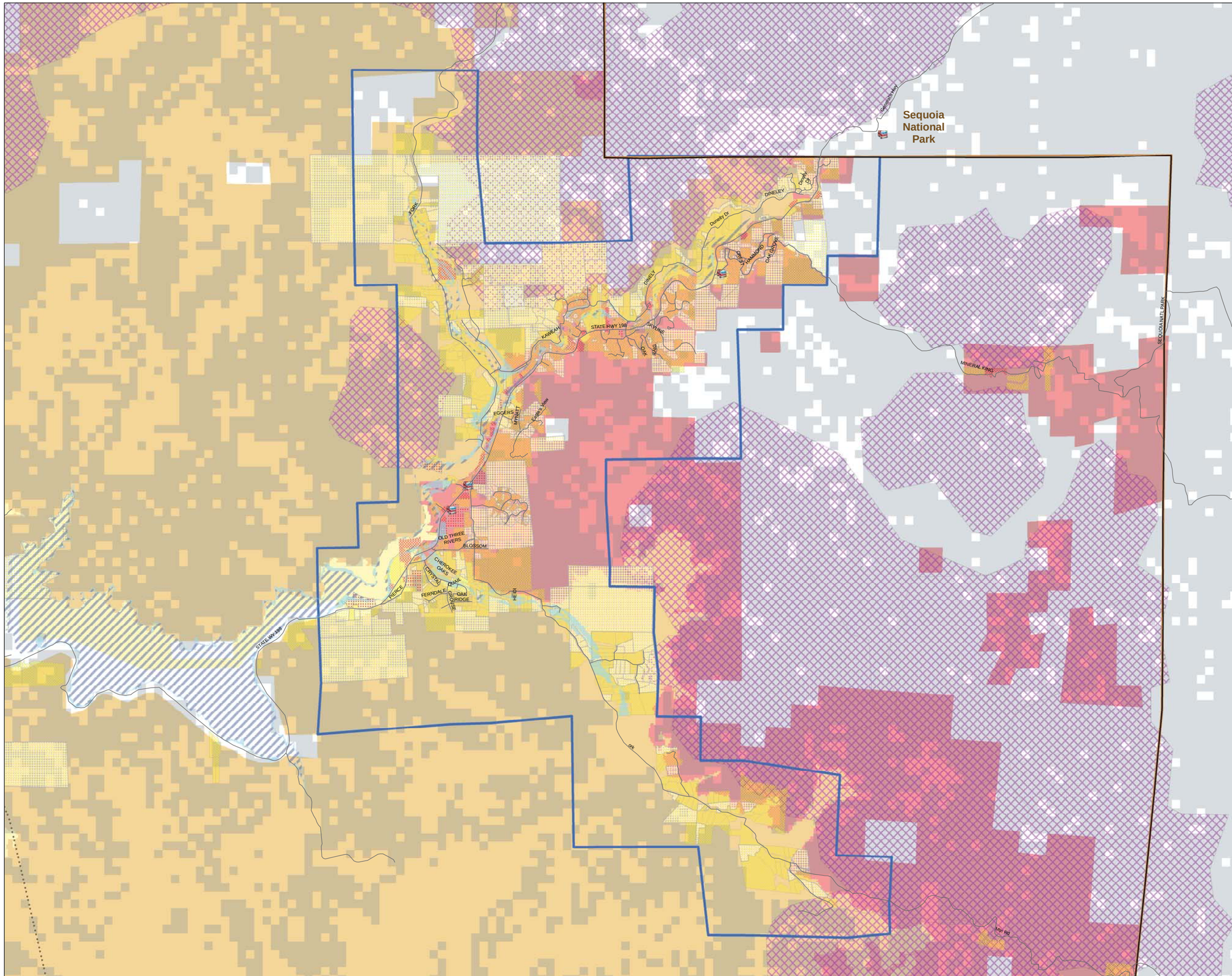


Tulare County General Plan Update

0 0.75 1.5 Miles

Legend

Fire Stations

Power Transmission Lines

Boundaries

Sub Area Plan Boundaries

Urban Development Boundary

National Parks & Forests

Development Corridors

30% + Slopes

Tulare County Boundary

2014 FEMA Flood Zones

FEMA 100 YR Flood Zone

FEMA 500 YR Flood Zone

Developed Parcels Land Use

Land Use

Residential

Commercial

Planned Land Use Parcels

Zoning Districts

Residential

Commercial

Historic Fires

1878-2013

State Responsibility Areas (2007) Fire Hazard Severity Zones

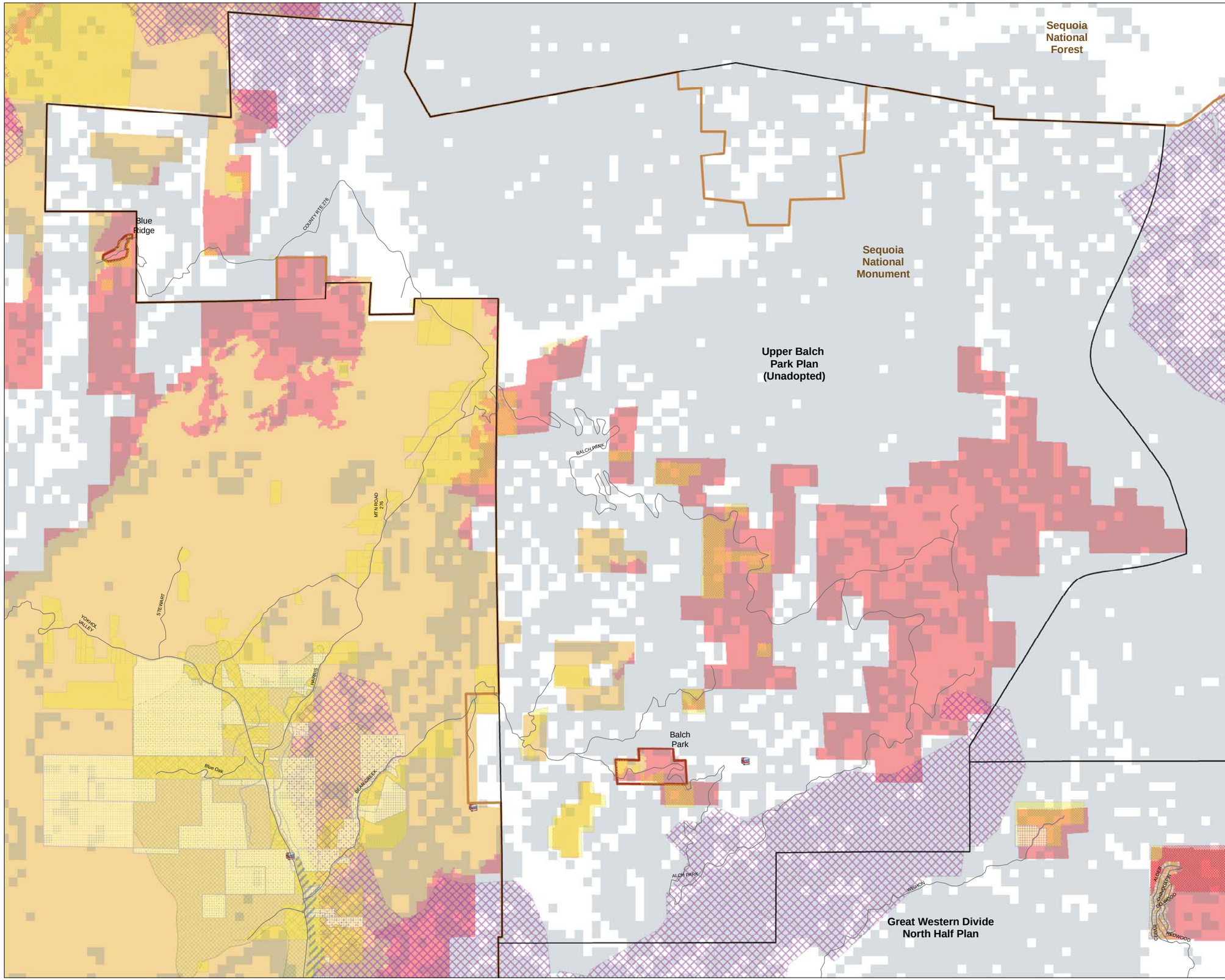
SRA, Very High

SRA, High

SRA, Moderate

Figure 10-6B
Areas Vulnerable to Flooding after Wildfires
Three Rivers Area

Back of foldout



Tulare County General Plan Update

0 0.75 1.5 Miles

Legend

- National Parks & Forests
- Fire Stations

Boundaries

- Sub Area Plan Boundaries
- Urban Development Boundary
- Mountain Service Centers
- Development Corridors
- 30% + Slopes
- Tulare County Boundary

2014 FEMA Flood Zones

- FEMA 100 YR Flood Zone

Developed Parcels Land Use

Land Use

- Residential
- Commercial

Planned Land Use Parcels

Zoning Districts

- Residential
- Commercial

Historic Fires

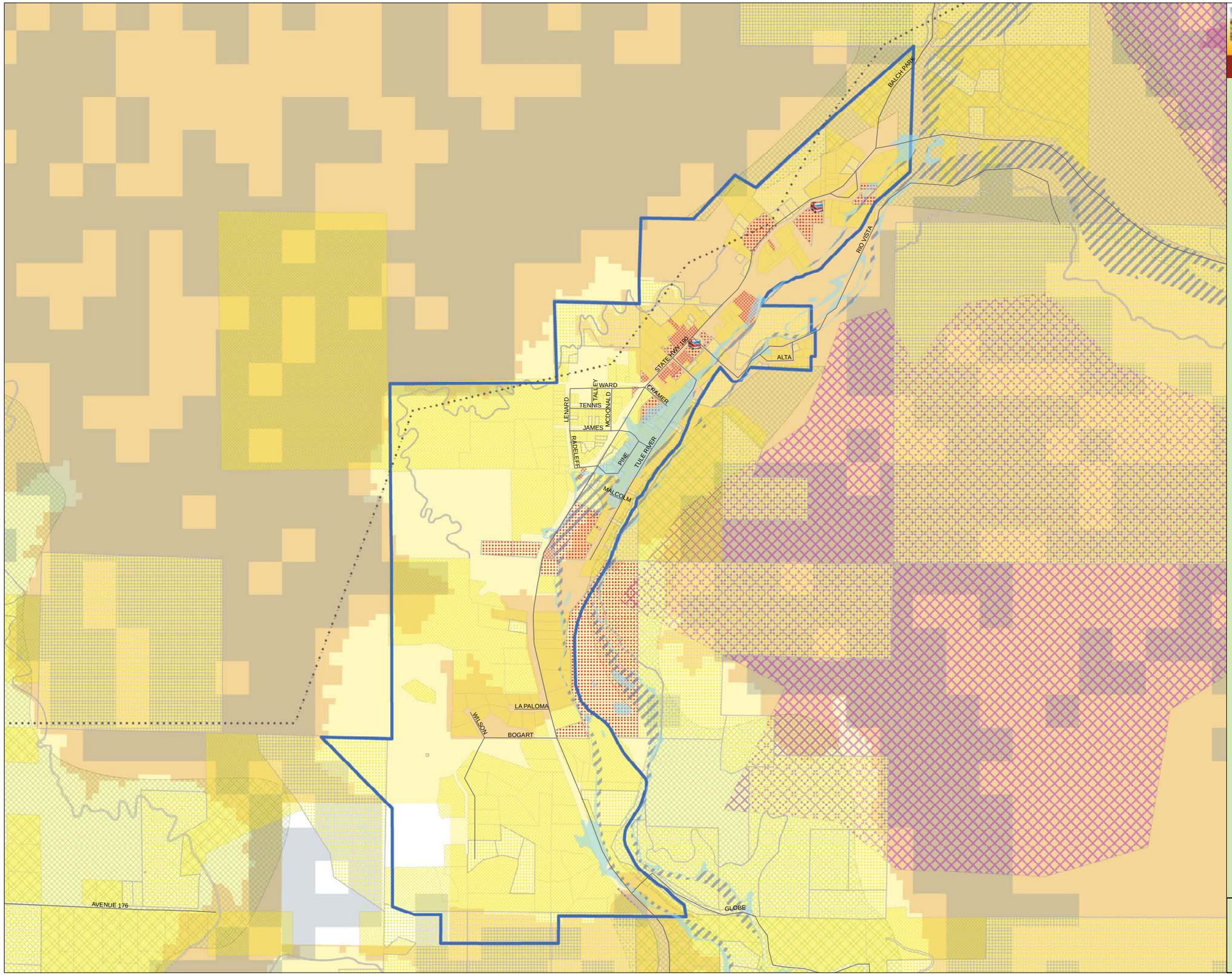
- 1878-2013

State Responsibility Areas (2007) Fire Hazard Severity Zones

- SRA, Very High
- SRA, High
- SRA, Moderate

Figure 10-6C
Areas Vulnerable to Flooding after Wildfires
Upper Balch Park Area

Back of foldout



Tulare County General Plan Update

0 0.175 0.35 Miles

Legend

- Fire Stations
- Power Transmission Lines
- Urban Development Boundary
- Development Corridors
- 30% + Slopes
- Tulare County Boundary

2014 FEMA Flood Zones

- FEMA 100 YR Flood Zone
- FEMA 500 YR Flood Zone

Developed Parcels Land Use

Land Use

- Residential
- Commercial

Planned Land Use Parcels

Zoning Districts

- Residential
- Commercial

Historic Fires

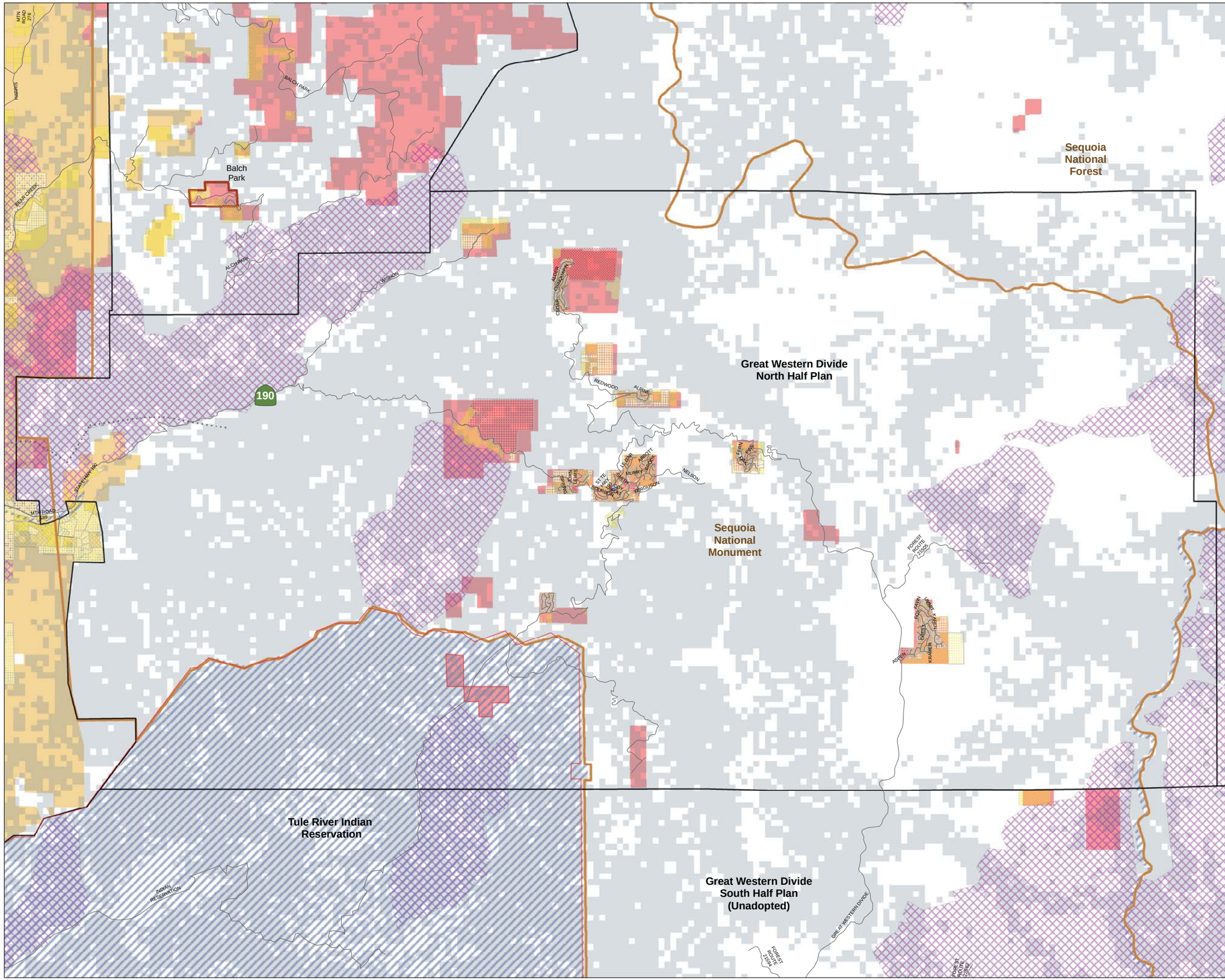
- 1878-2013

State Responsibility Areas (2007) Fire Hazard Severity Zones

- SRA, Very High
- SRA, High
- SRA, Moderate

Figure 10-6D
Areas Vulnerable to Flooding after Wildfires Springville Area

Back of foldout



Tulare County General Plan Update

0 1 2 Miles

Legend

Fire Stations

Power Transmission Lines

Boundaries

Sub Area Plan Boundaries

Tule Indian Reservation

Urban Development Boundary

National Parks & Forests

Mountain Service Centers

Development Corridors

30% + Slopes

Tulare County Boundary

2014 FEMA Flood Zones

FEMA 100 YR Flood Zone

Developed Parcels Land Use

Land Use

Residential

Commercial

Planned Land Use Parcels

Zoning Districts

Residential

Commercial

Historic Fires

1878-2013

State Responsibility Areas (2007) Fire Hazard Severity Zones

SRA, Very High

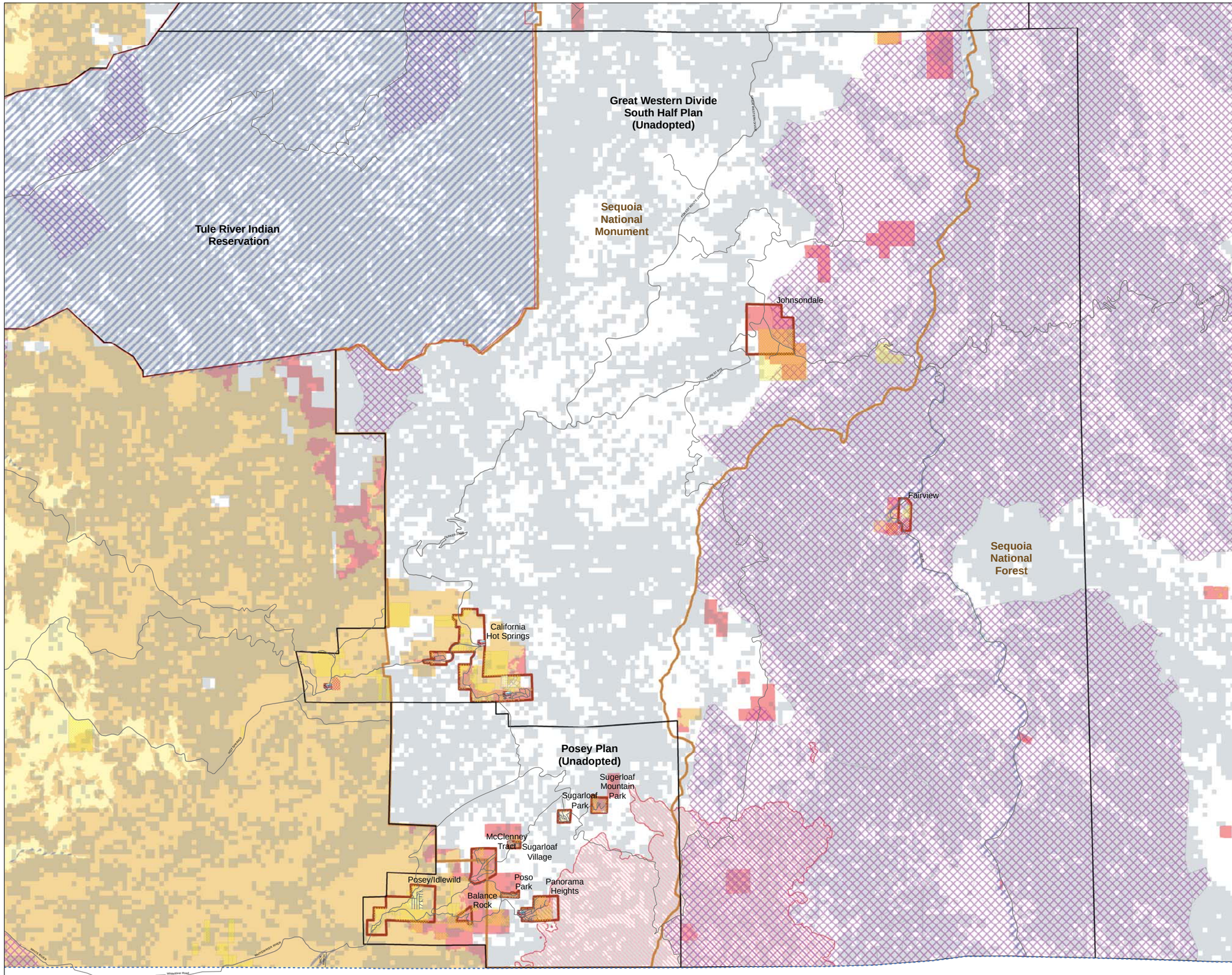
SRA, High

SRA, Moderate

Figure 10-6E

Areas Vulnerable to Flooding after Wildfires Great Western Divide North Half-Area

Back of foldout



Tulare County General Plan Update

0 1.25 2.5 Miles

Legend

Fire Stations

Boundaries

- Sub Area Plan Boundaries
- Tule Indian Reservation
- Urban Development Boundary
- Cedar Fire 2016
- National Parks & Forests
- Mountain Service Centers
- 30% + Slopes
- Tulare County Boundary

2014 FEMA Flood Zones

- FEMA 100 YR Flood Zone

Developed Parcels Land Use

Land Use

- Residential
- Commercial

Planned Land Use Parcels

Zoning Districts

- Residential
- Commercial

Historic Fires

- 1878-2013

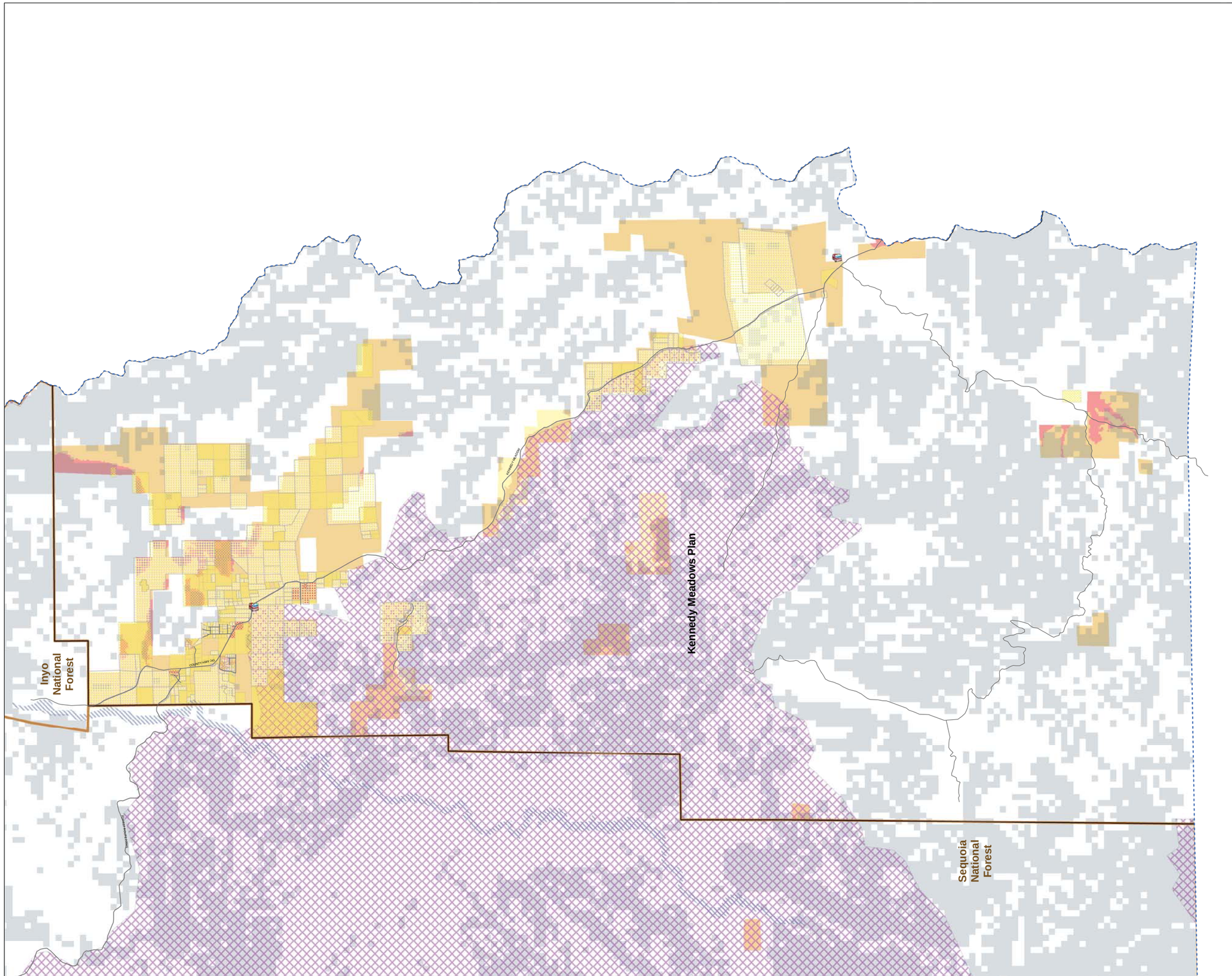
State Responsibility Areas (2007) Fire Hazard Severity Zones

- SRA, Very High
- SRA, High
- SRA, Moderate

Figure 10-6F

Areas Vulnerable to
Flooding after Wildfires
Great Western Divide South Half-Posey Area

Back of foldout



Tulare County General Plan Update

0 1 2 Miles

Legend

Fire Stations

Boundaries

- Sub Area Plan Boundaries
- National Parks & Forests
- 30% + Slopes
- Tulare County Boundary

2014 FEMA Flood Zones

- FEMA 100 YR Flood Zone

Developed Parcels Land Use

Land Use

- Residential
- Commercial

Planned Land Use Parcels

Zoning Districts

- Residential
- Commercial

Historic Fires

- 1878-2013

State Responsibility Areas (2007) Fire Hazard Severity Zones

- SRA, Very High
- SRA, High
- SRA, Moderate

Figure 10-6G
Areas Vulnerable to Flooding after Wildfires Kennedy Meadows Area

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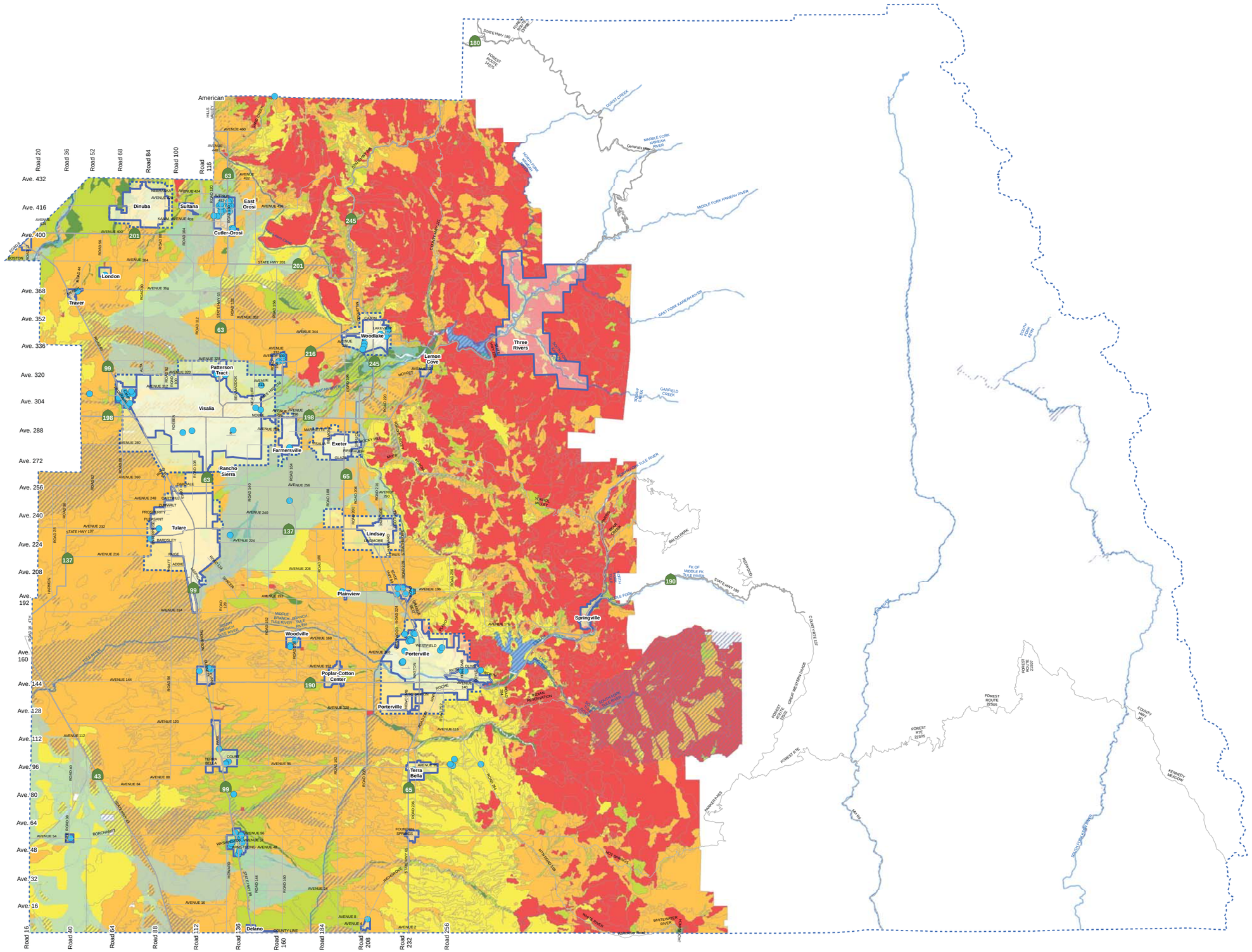


Tulare County General Plan Update

0 5 10 Miles

Legend

- Groundwater Recharge Basin Locations
- Tulare County Boundary
- Urban Development Boundaries
- Urban Area Boundaries
- Rivers and Streams
- Lakes

2014 FEMA Flood Zones

- FEMA 100 YR Flood Zone
- FEMA 500 YR Flood Zone

Soil Permeability

- Rock
- Slow
- Moderate
- Rapid
- Very Rapid

Note: Mountain Areas are not currently mapped for Soil Type by Natural Resources Conservation Service

Figure 10-7

Areas for Groundwater Recharge

Back of foldout

HS-2.2 Landslide Areas
The County shall not allow development on existing unconsolidated landslide debris.

HS-2.3 Hillside Development
The County shall discourage construction and grading on slopes in excess of 30 percent.

HS-2.4 Structure Siting
The County shall permit development on soils sensitive to seismic activity permitted only after adequate site analysis, including appropriate siting, design of structure, and foundation integrity.

HS-2.5 Financial Assistance for Seismic Upgrades
The County shall request Federal and State financial assistance to implement corrective seismic safety measures required for existing County buildings and structures.

HS-2.6 Seismic Standards for Dams
The County shall continue to address seismic standards of dam safety as promulgated by the State Division of Safety of Dams, as applicable to all new and existing structures.

HS-2.7 Subsidence
The County shall confirm that development is not located in any known areas of active subsidence. If urban development may be located in such an area, a special safety study will be prepared and needed safety measures implemented. The County shall also request that developments provide evidence that its long-term use of ground water resources, where applicable, will not result in notable subsidence attributed to the new extraction of groundwater resources for use by the development.

HS-2.8 Alquist-Priolo Act Compliance
The County shall not permit any structure for human occupancy to be placed within designated Earthquake Fault Zones (pursuant to and as determined by the Alquist-Priolo Earthquake Fault Zoning Act; Public Resource code, Chapter 7.5) unless the specific provision of the Act and Title 14 of the California Code of Regulations have been satisfied.

10.3 Airport Hazards

HS-3	To minimize the possibility of the loss of life, injury, or damage to property as a result of airport hazards.

HS-3.1 Airport Land Use Compatibility Plan
The County shall require that development around airports is consistent with the safety policies and land use compatibility guidelines contained in the adopted Tulare County Comprehensive Airport Land Use Plan (CALUP).

ⓘ	*Complete rules and regulations for ensuring airport land use compatibility are found in the Tulare County Comprehensive Airport Land Use Plan (PUC Section 21675(a)).*

HS-3.2 Compliance with Federal Aviation Administration (FAA) Regulations
The County shall ensure that development within the airport approach and departure zones is in compliance with Part 77 of the FAA Regulations *(FAA regulations that address objects affecting navigable airspace).*

10.4 Hazardous Materials

HS-4 To protect residents, visitors, and property from hazardous materials through their safe use, storage, transport, and disposal.

HS-4.1 Hazardous Materials
The County shall strive to ensure hazardous materials are used, stored, transported, and disposed of in a safe manner, in compliance with local, State, and Federal safety standards, including the Hazardous Waste Management Plan, Emergency Operations Plan, and Area Plan.

HS-4.2 Establishment of Procedures to Transport Hazardous Wastes
The County shall continue to cooperate with the California Highway Patrol (CHP) to establish procedures for the movement of hazardous wastes and explosives within the County.

HS-4.3 Incompatible Land Uses
The County shall prevent incompatible land uses near properties that produce or store hazardous waste.

HS-4.4 Contamination Prevention
The County shall review new development proposals to protect soils, air quality, surface water, and groundwater from hazardous materials contamination.

HS-4.5 Increase Public Awareness
The County shall work to educate the public about household hazardous waste and the proper method of disposal.

HS-4.6 Pesticide Control
The County shall monitor studies of pesticide use and the effects of pesticide on residents and wildlife and require mitigation of the effects wherever feasible and appropriate.

HS-4.7 Coordination of Materials on Public Lands
The County shall work jointly with State and Federal land managers to coordinate the handling and disposal of hazardous materials on public lands.

HS-4.8 Hazardous Materials Studies
The County shall ensure that the proponents of new development projects address hazardous materials concerns through the preparation of Phase I or Phase II hazardous materials studies for each identified site as part of the design phase for each project. Recommendations required to satisfy federal or State cleanup standards outlined in the studies will be implemented as part of the construction phase for each project.

HS-4.9 Pesticide Use
The County shall support an integrated pest management program which includes the biological control methods overseen by the Tulare County Agricultural Commissioner's Office.

10.5 Flood Hazards

HS-5 To minimize the possibility for loss of life, injury, or damage to property as a result of flood hazards.

HS-5.1 Development Compliance with Federal, State, and Local Regulations
The County shall ensure that all development within the designated floodway or floodplain zones conforms with FEMA regulations and the Tulare County Flood Damage Prevention Ordinance.

New development and divisions of land, especially residential subdivisions, shall be developed to minimize flood risk to structures, infrastructure, and ensure safe access and evacuation during flood conditions.

HS-5.2 Development in Floodplain Zones
The County shall regulate development in the 100-year floodplain zones as designated on maps prepared by FEMA in accordance with the following:

1. Critical facilities (those facilities which should be open and accessible during emergencies) shall not be permitted.
2. Passive recreational activities (those requiring non-intensive development, such as hiking, horseback riding, picnicking) are permissible.
3. New development and divisions of land, especially residential subdivisions, shall be developed to minimize flood risk to structures, infrastructure, and ensure safe access and evacuation during flood conditions.

ⓘ *See also the Tulare County Flood Control Master Plan (Chapter 15).*

HS-5.3 Participation in Federal Flood Insurance Program
The County shall continue to participate in the National Flood Insurance Program (NFIP).

HS-5.4 Multi-Purpose Flood Control Measures
The County shall encourage multipurpose flood control projects that incorporate recreation, resource conservation, preservation of natural riparian habitat, and scenic values of the County's streams, creeks, and lakes. Where appropriate, the County shall also encourage the use of flood and/or stormwater retention facilities for use as groundwater recharge facilities.

HS-5.5 Development in Dam and Seiche Inundation Zones
The County shall review projects for their exposure to inundation due to dam failure. If a project presents a direct threat to human life, appropriate mitigation measures shall be taken, including restriction of development in the subject area.

HS-5.6 Impacts to Downstream Properties
The County shall ensure that new County flood control projects will not adversely impact downstream properties or contribute to flooding hazards.

HS-5.7 Mapping of Flood Hazard Areas
The County shall require tentative and final subdivision maps and approved site plans to delineate areas subject to flooding during a 100-year flood event.

HS-5.8 Road Location
The County shall plan and site new roads to minimize disturbances to banks and existing channels and avoid excessive cuts and accumulations of waste soil and vegetative debris near natural drainage ways.

HS-5.9 Floodplain Development Restrictions
The County shall ensure that riparian areas and drainage areas within 100-year floodplains are free from development that may adversely impact floodway capacity or characteristics of natural/riparian areas or natural groundwater recharge areas.

HS-5.10 Flood Control Design
The County shall evaluate flood control projects involving further channeling, straightening, or lining of waterways until alternative multipurpose modes of treatment, such as wider berms and landscaped levees, in combination with recreation amenities, are studied.

HS-5.11 Natural Design
The County shall encourage flood control designs that respect natural curves and vegetation of natural waterways while retaining dynamic flow and functional integrity.

HS-5.12 Consultation Policies and Protocols
The following Consultation Policies and Protocols as adopted by the Tulare County Board of Supervisors on October 13, 2015 are incorporated by reference into the Tulare County General Plan Health and Safety Element as follows:

a) Establishing a Process for Use in the Review of Development Projects Requiring County of Tulare Discretionary Land Use Entitlements to Identify any Impacts on Potential Groundwater Recharge Areas.

b) Establishing a Policy for Use in the Review of Development Projects to be Located in particular flood prone Areas and Requiring County of Tulare Discretionary Land Use Entitlements.

c) Establishing a Recommendation to the Tulare County Flood Control Commission Regarding Adoption of a Public Notice Policy to Allow Increased Public Participation in its Process To Select Proposed Flood Control Projects For Referral to the Board of Supervisors.

ⓘ *See also Figures 10-1 Flood Hazards and Faults, Figure 10-2 Fire Threat, Figure 10-3 Designated Floodways, Figure 10-6 and Figures 10-6 A-G Areas Vulnerable to Flooding after Wildfires.*

10.6 Urban and Wildland Fire Hazards

HS-6 To minimize the exposure of County residents, visitors, and public and private property to the effects of urban and wildland fires.

HS-6.1 New Building Fire Hazards
The County shall ensure that all building permits in urban areas, as well as areas with potential for wildland fires, are reviewed by the County Fire Chief. The following minimum requirements should be met to review developments or uses within areas of varying fire hazards:

a. Very High Hazard – Extreme caution should be used in allowing development, particularly critical facilities.

b. High Hazard – Strict compliance with existing State statutes and local ordinances should provide adequate fire protection.

c. Moderate Hazard – Development should be allowed, with recommendations for mitigation of hazard by Fire Warden.

HS-6.2 Development in Fire Hazard Zones

The County shall ensure that development in very high or high fire hazard areas is designed and constructed in a manner that minimizes the risk from fire hazards and meets all applicable State and County fire standards. This shall include promoting the use of fire resistant materials designed to reduce fire vulnerability within high or very high fire hazard areas through use of Article 86-A of the 2001 California Fire Code, SRA Fire Safe Regulations, and other nationally recognized standards, as may be updated periodically. Special consideration shall be given to the use of fire-resistant-materials and fire-resistant-construction in the underside of eaves, balconies, unenclosed roofs and floors, and other similar horizontal surfaces in areas with steep slopes. Ensure new development proposals contain specific fire protection plans, actions, and codes for fire engineering features for structures in Very High Fire Hazard Safety Zones including automatic sprinklers as required by applicable codes.

ⓘ

Government Code Section 66474.02: …(a) Before approving a tentative map, or a parcel map for which a tentative map was not required, for an area located in a state responsibility area or a very high fire hazard severity zone, as both are defined in Section 51177, a legislative body of a county shall make the following three findings:

(1) A finding supported by substantial evidence in the record that the design and location of each lot in the subdivision, and the subdivision as a whole, are consistent with any applicable regulations adopted by the State Board of Forestry and Fire Protection pursuant to Sections 4290 and 4291 of the Public Resources Code.

(2) A finding supported by substantial evidence in the record that structural fire protection and suppression services will be available for the subdivision through any of the following entities:

(A) A county, city, special district, political subdivision of the state, or another entity organized solely to provide fire protection services that is monitored and funded by a county or other public entity.

(B) The Department of Forestry and Fire Protection by contract entered into pursuant to Section 4133, 4142, or 4144 of the Public Resources Code.

(3) A finding that to the extent practicable, ingress and egress for the subdivision meets the regulations regarding road standards for fire equipment access adopted pursuant to Section 4290 of the Public Resources Code and any applicable local ordinance.

HS-6.3 Consultation with Fire Service Districts
The County shall consult the appropriate fire service district in areas identified as subject to high and very high fire hazard, for particular regulations or design requirements prior to issuance of a building permit or approval of subdivisions.

HS-6.4 Encourage Cluster Development
The County shall encourage cluster developments in areas identified as subject to high or very high fire hazard, to provide for more localized and effective fire protection measures such as consolidations of fuel build-up abatement, firebreak maintenance, firefighting equipment access, and water service provision.

HS-6.5 Fire Risk Recommendations
The County shall encourage the County Fire Chief to make recommendations to property owners regarding hazards associated with the use of materials, types of structures, location of structures and subdivisions, road widths, location of fire hydrants, water supply, and other important considerations regarding fire hazard that may be technically feasible but not included in present ordinances or policies.

ⓘ

Please also see the following regarding minimum road widths and standards:

a) Transportation and Circulation Element Part I Section 13.7 Implementation Program – Roadway Standards and Foothill Growth Management Plan Part II Section 3.12 Development Standards-Land Improvements: Streets.

b) Improvement Standards of Tulare County (Tulare County Ordinance Code Section 7-01-2025).

c) Tulare County Ordinance Code Part VII Land Use Regulations and Planning Chapter 1 Subdivision and Regulation of Land, Article 3 Design and Improvement Regulations, and Chapter 19 Regulations Concerning Streets and Highways Article 1. Building Line Setbacks and Article 3 Article 1. Building Line Setbacks.

d) January 1, 2016 California Code of Regulations Title 14 Natural Resources Division 1.5 Department of Forestry Chapter 7 - Fire Protection Subchapter 2 SRA Fire Safe Regulations Article 2. Emergency access and egress § 1273.01. Road width.

HS-6.6 Wildland Fire Management Plans
The County shall require the development of wildland fire management plans for projects adjoining significant areas of open space that may have high fuel loads.

HS-6.7 Water Supply System
The County shall require that water supply systems be adequate to serve the size and configuration of land developments, including satisfying fire flow requirements. Standards as set forth in the subdivision ordinance shall be maintained and improved as necessary.

HS-6.8 Private Water Supply
The County shall require separately developed dwellings with individual private water supply to provide an acceptable guaranteed minimum supply of water for fire safety, in addition to the amount required for domestic needs.

HS-6.9 Fuel Modification Programs
The County shall actively support fuel modification and reduction programs on public and private lands throughout the County, including vacant residential lots and greenbelts and, with the relevant partners, on adjacent private wildlands or federal lands with fire hazards that threaten the entity's jurisdiction as feasible and appropriate.

HS-6.10 Fuel Breaks
In the Foothill and Mountain Plan Areas, the County shall require fuel breaks of at least 100 feet around structures that are in a wildland fire area to limit the risk of fires and property loss. Secondary fuel breaks up to 200 feet in width shall be required when the County Fire Chief finds that additional precautions are necessary.

HS-6.11 Fire Buffers
The County shall strive to maintain fire buffers along heavily traveled roads within high and very high hazard zones by thinning, disking, or controlled burning. Parks, golf courses, utility corridors, roads, and open space areas shall be encouraged to locate so they serve a secondary function as a fuel break.

HS-6.12 Weed Abatement
The County shall continue to encourage weed abatement programs throughout the County in order to promote fire safety.

HS-6.13 Restoration of Disturbed Land
The County shall support the restoration of disturbed lands resulting from wildfires.

HS-6.14 Coordination with Cities
The County shall coordinate with cities to develop cohesive fire safety plans with overlapping coverage.

HS-6.15 Coordination of Fuel Hazards on Public Lands
The County shall work with local and Federal agencies to support efforts to reduce fuel related hazards on public lands.

HS-6.16 Consideration of Diverse Occupancies and their effects on Wildfire Protection
The County shall strive to ensure risks to uniquely occupied structures, such as seasonally occupied homes, multiple dwelling structures, or other structures with unique occupancy characteristics, are considered for appropriate and unique wildfire protection needs.

HS-6.17 Integration of Open Space into Fire Safety Effectiveness
The County shall strive to address the facilitation of safe fire suppression tactics, standards for adequate access for firefighting, fire mitigation planning with agencies/private landowners managing open space adjacent to the County jurisdictional area, water sources for fire suppression, and other fire prevention and suppression needs.

HS-6.18 Mitigation for unique pest, disease and other forest health issues leading to hazardous situations
The County shall strive to address unique pest, disease, exotic species and other forest health issues in open space areas for purposes of reducing fire hazard and supporting ecological integrity.

HS-6.19 Wildfire Risk Reduction related to Climate Change
The County shall strive to reduce the wildfire risk as it relates to climate change, such as the drought and it's relation to tree mortality by implementing the Tree Mortality Removal Plan.

HS-6.20 Fire Suppression Defense Zones
The County shall support the creation of wildfire defense zones for emergency services, including fuel breaks or other staging areas where WUI firefighting tactics could be most effectively deployed as appropriate consistent with the strategies identified in the Multi-Jurisdictional Local Hazard Mitigation Plan.

HS-6.21 Redevelopment of Structures in High and Very Hazardous Areas
In High and Very hazardous areas, the County shall strive to ensure that the redevelopment of structures utilize state of the art fire resistant building and development standards to improve past 'substandard" fire safe conditions as feasible and appropriate according to applicable codes.

HS-6.22 Long Term Maintenance of Fire Hazard Reduction Mitigation Projects
Consistent with the Multi-Jurisdictional Local Hazard Mitigation Plan, the County shall support maintenance of the post-fire-recovery projects, activities, or infrastructure as feasible and appropriate.

HS-6.23 Reassessment of Fire Hazards Following Wildfire Events
The County shall strive as reasonable and appropriate to adjust fire prevention and suppression needs for both short and long term fire protection in the reassessment of fire hazards following wildfire events.

HS-6.24 Consideration of Wildlife Habitat/Endangered Species in Developing Long Term Fire Area Recovery and Protection Plans
The County shall consider wildlife habitat/endangered species in developing long term fire area recovery and protection plans, including environmental protection agreements such as natural community conservation plans.

HS-6.25 Emergency Response Barriers
The County shall support the identification of vital access routes that if removed would prevent fire fighter access (bridges, dams, etc.) as included in the Multi-Jurisdictional Local Hazard Mitigation Plan to address emergency access planning for these areas.

10.7 Emergency Response

HS-7	To provide effective emergency response to natural or human-made hazards and disasters.

HS-7.1 Coordinate Emergency Response Services with Government Agencies
The County shall coordinate emergency response with local, State, and Federal governmental agencies, community organizations, volunteer agencies, and other response partners during emergencies or disasters utilizing SEMS and NIMS.

HS-7.2 Mutual Aid Agreement
The County shall participate in established local, State, and Federal mutual aid systems. Where necessary and appropriate, the County shall enter into agreements to ensure the

effective provision of emergency services, such as mass care, heavy rescue, hazardous materials, or other specialized function.

HS-7.3 Maintain Emergency Evacuation Plans
The County shall continue to create, revise, and maintain emergency plan for the broad range of natural and human-made disasters and response activities that could foreseeably impact Tulare County. This shall include, but not be limited to, flooding, dam failure, extreme weather, evacuation/transportation, mass care and shelter, and animal evacuation and sheltering. Emergency Planning projects shall be in line with the County's Strategic Plan and Emergency Operations Plan, and incorporate current guidance and initiatives from State and Federal Emergency Management Agencies.

HS-7.4 Upgrading for Streets and Highways
The County shall evaluate and upgrade vital streets and highways to an acceptable level for emergency services.

HS-7.5 Emergency Centers
The County shall require emergency backup systems to enable uninterrupted continuous operations as required by the California Essential Facilities Act.

HS-7.6 Search and Rescue
The County should continue to provide search and rescue operation capabilities for the Tulare County Sheriff's Department in mountainous areas, including those areas on the eastern side of the Sierra Nevada that are not served by all-weather roads.

HS-7.7 Joint Exercises
The County shall encourage fire, law enforcement, emergency medical services, resource management, public health, and other governmental and non-governmental response partners to periodically conduct joint training exercises with the goal of developing the best possible coordinated action in the event of a natural or human-made disaster across all local jurisdictions.

HS-7.8 Tulare County Multi-Jurisdiction Hazard Mitigation Plan
The County incorporates the adopted Tulare County Multi-Jurisdiction Hazard Mitigation Plan into the Tulare County General Plan Health and Safety Element. The plan provides guidance and insight into the hazards that exist in Tulare County and suggests possible mitigation projects. The plan should be consulted when addressing known hazards to ensure the general health and safety of Tulare County residents.

HS-7.9 Climate Adaptation and Resiliency
The County incorporates the Climate Adaptation and Resiliency strategies identified in California Government Code 65302 (g)(4) as adopted in the Tulare County Multi-Jurisdiction Hazard Mitigation Plan and Tulare County Climate Action Plan into the Tulare County General Plan Health and Safety Element.

10.8 Noise

HS-8	To protect County residents and visitors from the harmful effects of excessive noise while promoting the County economic base.

HS-8.1 Economic Base Protection
The County shall protect its economic base by preventing the encroachment of incompatible land uses on known noise-producing industries, railroads, airports, and other sources.

HS-8.2 Noise Impacted Areas
The County shall designate areas as noise-impacted if exposed to existing or projected noise levels that exceed 60 dB Ldn (or Community Noise Equivalent Level (CNEL)) at the exterior of buildings.

HS-8.3 Noise Sensitive Land Uses
The County shall not approve new noise sensitive uses unless effective mitigation measures are incorporated into the design of such projects to reduce noise levels to 60 dB Ldn (or CNEL) or less within outdoor activity areas and 45 dB Ldn (or CNEL) or less within interior living spaces.

HS-8.4 Airport Noise Contours
The County shall ensure new noise sensitive land uses are located outside the 60 CNEL contour of all public use airports.

HS-8.5 State Noise Standards
The County shall enforce the State Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the Uniform Building Code (UBC). Title 24 requires that interior noise levels not exceed 45 dB Ldn (or CNEL) with the windows and doors closed within new developments of multi-family dwellings, condominiums, hotels, or motels. Where it is not possible to reduce exterior noise levels within an acceptable range the County shall require the application of noise reduction technology to reduce interior noise levels to an acceptable level.

HS-8.6 Noise Level Criteria
The County shall ensure noise level criteria applied to land uses other than residential or other noise-sensitive uses are consistent with the recommendations of the California Office of Noise Control (CONC).

ⓘ *Table 10.1: Land Use Compatibility for Community Noise Environments (see next page), is provided as a reference concerning the sensitivity of different land uses to their noise environment. It is intended to illustrate the range of noise levels which will allow the full range of activities normally associated with a given land use.*

HS-8.7 Inside Noise
The County shall ensure that in instances where the windows and doors must remain closed to achieve the required inside acoustical isolation, mechanical ventilation or air conditioning is provided.

HS-8.8 Adjacent Uses

The County shall not permit development of new industrial, commercial, or other noise-generating land uses if resulting noise levels will exceed 60 dB Ldn (or CNEL) at the boundary of areas designated and zoned for residential or other noise-sensitive uses, unless it is determined to be necessary to promote the public health, safety and welfare of the County.

HS-8.9 County Equipment
The County shall strive to purchase equipment that complies with noise level performance standards set forth in the Health and Safety Element.

HS-8.10 Automobile Noise Enforcement
The County shall encourage the CHP, Sheriff's office, and local police departments to actively enforce existing sections of the California Vehicle Code relating to adequate vehicle mufflers, modified exhaust systems, and other amplified noise.

HS-8.11 Peak Noise Generators
The County shall limit noise generating activities, such as construction, to hours of normal business operation (7 a.m. to 7 p.m.). No peak noise generating activities shall be allowed to occur outside of normal business hours without County approval.

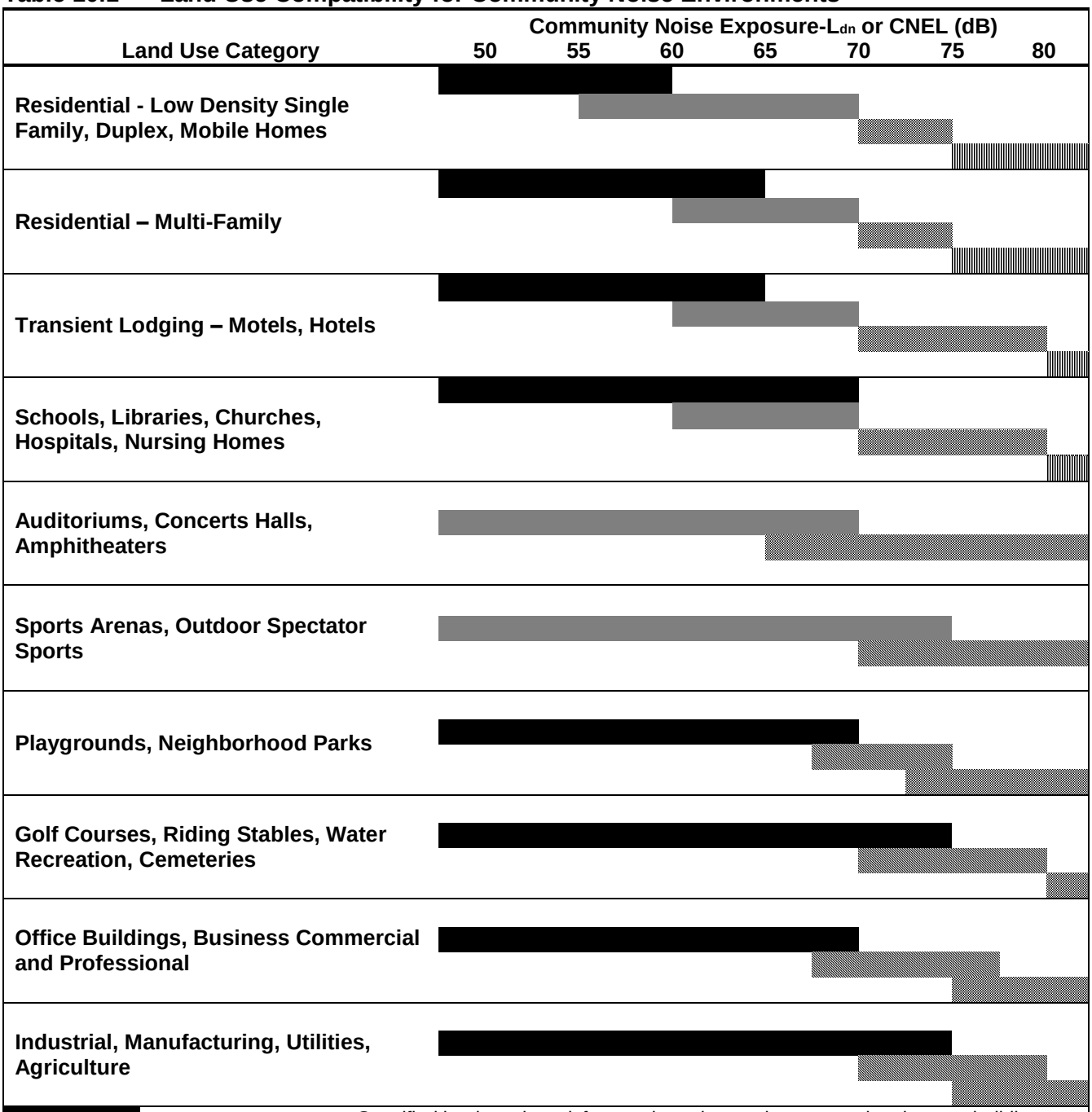
HS-8.12 Foothill and Mountain Noise
For areas designated by Tulare County as being within Foothill and Mountain Planning Areas and outside Foothill Development Corridors, the hourly Leq resulting from the development or new noise-sensitive land uses or new noise-generating sources shall not exceed 50 dB during the day (7:00 a.m.-10:00 p.m.) or 40 dB during the night (10:00 p.m.-7:00 a.m.) when measured at the boundary of areas containing or planned and zoned for residential or other noise-sensitive land uses. For these same areas and under the same circumstances, the maximum A-weighed noise level (Lmax) shall not exceed 70 dB during the day or 60 dB during the night.

HS-8.13 Noise Analysis
The County shall require a detailed noise impact analysis in areas where current or future exterior noise levels from transportation or stationary sources have the potential to exceed the adopted noise policies of the Health and Safety Element, where there is development of new noise sensitive land uses or the development of potential noise generating land uses near existing sensitive land uses. The noise analysis shall be the responsibility of the project applicant and be prepared by a qualified acoustical engineer (i.e., a Registered Professional Engineer in the State of California, etc.). The analysis shall include recommendations and evidence to establish mitigation that will reduce noise exposure to acceptable levels (such as those referenced in Table 10-1 of the Health and Safety Element).

HS-8.14 Sound Attenuation Features
The County shall require sound attenuation features such as walls, berming, heavy landscaping, between commercial, industrial, and residential uses to reduce noise and vibration impacts.

HS-8.15 Noise Buffering
The County shall require noise buffering or insulation in new development along major streets, highways, and railroad tracks.

Table 10.1 Land Use Compatibility for Community Noise Environments



	Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
	Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
	Normally Unacceptable	New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
	Clearly Unacceptable	New construction or development generally should not be undertaken.

[Source: Figure Noise-1. State Land Use Compatibility Standards for Community Noise Environment: California Governor's Office of Planning and Research, October 2003]

HS-8.16 State Noise Insulation
The County shall enforce the State Noise Insulation Standards (California Administrative Code, Title 24) and Chapter 35 of the Uniform Building Code.

HS-8.17 Coordinate with Caltrans
The County shall work with Caltrans to mitigate noise impacts on sensitive receptors near State roadways, by requiring noise buffering or insulation in new construction.

HS-8.18 Construction Noise
The County shall seek to limit the potential noise impacts of construction activities by limiting construction activities to the hours of 7 am to 7pm, Monday through Saturday when construction activities are located near sensitive receptors. No construction shall occur on Sundays or national holidays without a permit from the County to minimize noise impacts associated with development near sensitive receptors.

HS-8.19 Construction Noise Control
The County shall ensure that construction contractors implement best practices guidelines (i.e. berms, screens, etc.) as appropriate and feasible to reduce construction-related noise-impacts on surrounding land uses.

10.9 Healthy Communities

HS-9	To support healthy lifestyles among residents of Tulare County through the built environment and land use decisions that play an important role in shaping the pattern of community development, in either promoting or discouraging good health for its citizens.

HS-9.1 Healthy Communities
To the maximum extent feasible, the County shall strive through its land use decisions to promote community health and safety for all neighborhoods in the County by encouraging patterns of development that are safe and influence crime prevention, promote a high-quality physical environment and encourage physical activity by means such as sidewalks and walking and biking paths that discourage automobile dependency in existing communities.

HS-9.2 Walkable Communities
The County shall require where feasible, the development of parks, open space, sidewalks and walking and biking paths that promote physical activity and discourage automobile dependency in all future communities.

10.10 Work Plan/Implementation Measures

The following table documents the Implementation Measures included with the General Plan to implement the goals and policies included in this Element.

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
1. The County shall maintain a program for training County staff in disaster preparedness and response.	HS-1.1	OES				■
2. The County shall review and update the Public Health All Hazards Preparedness and Response Plan at least every 5 years.	HS-1.1	HHSA; PHEP				■
3. The County shall maintain an Emergency Services Program. The program shall perform comprehensive Emergency Management for the Tulare Operational Area, in the major categories of: a. Preparedness (Including grants, planning, training and exercises), b. Response (including coordination with all local, State Federal, non-governmental, and volunteer agencies through the Emergency Operations Center), c. Recovery (including cost recovery, and other disaster assistance programs), d. Mitigation (including Local Hazard Mitigation Programs) The Emergency Services Program shall perform additional functions as prescribed by State (SEMS/CalEMA) and Federal (NIMA/FEMA) guidelines, including monitoring the adoption of NIMA by local jurisdictions.	HS-1.1 HS-1.5	OES				■
4. The County shall create a program that trains volunteers to assist police, fire, and County sheriff personnel how to perform effectively after a natural or human-made disaster.	HS-1.1 HS-1.5 HS-1.6	RMA; CAL FIRE; County Fire Department				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
5. The County shall actively maintain the Emergency Council, as defined by County Ordinance (Part 1, Chapter 15). The Emergency Council shall perform various functions, including but not restricted to: a. Reviewing the preparation and progress of the cities and County in carrying out disaster and emergency services plan and functions. b. Coordination public agencies for efficiency in protection of public safety.	HS-1.1 HS-7.7	CAO HHSA				■
6. The County shall monitor and continue to seek funding to rehabilitate unsafe and dilapidated structures.	HS-1.7	RMA; CAL FIRE; County Fire Department; HHSA				■
7. The County shall develop standards for numbering buildings on private driveways to assist emergency service personnel in locating structures. (Standards are identified in Policy HS-1.12).	HS-1.4 HS-1.12	RMA		■		Implemented Program November 2016
8. The County shall develop a public education program to foster public awareness about fire hazards to reduce injury and loss of life and damage to property and degradation of the natural environment, particularly in conjunction with the public school system and "critical facility" personnel (The Tulare County Fire Department has established an on-going public education program implemented through the Fire Prevention Bureau. This function is carried out by the Public Fire Education programs delivered to the public that will reach and educate the general public, high-risk groups, children, elderly and the non-English speaking persons. This is done though programs such as juvenile fire-setters, a smoke alarm distribution and installation program, community first aid and CPR, NFPA Firewatch, Sparky the Dog and other programs that partner with public schools at the	HS-1.5 HS-1.6	RMA; CAL FIRE; County Fire; County Sheriff	■			Implemented Program November 2016

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
different grade levels. This would also include programs that are disseminated at community events such as the county fair and community festivals.						
9. The County shall pre-identify and periodically review evacuation routes in anticipation of an emergency. During an emergency requiring and evacuation, the County shall cooperatively select and publicize evacuation routes with the assistance of all involved agencies, based on the best – available information regarding the situation, in order to ensure a safe, orderly, and well-managed evacuation.	HS-1.5 HS-1.6 HS-1.9 HS-6.25	RMA; OES; CAL FIRE; County Fire Department				■
10. The County shall work with other local agencies, including cities within the County, to develop coordinated GIS planning that identifies and maps the location of all public facilities and emergency response agencies. Contingency plans for emergency response and recovery should be incorporated into this mapping system.	HS-1.8	RMA		■		
11. The County shall maintain a fire hazard severity map based on inputs from the Cal Fire and local fire districts within the County. The County shall use this map to determine if additional fire safety conditions should be applied as conditions of approval. If inside a fire hazard area, the County will consult with County Fire Department personnel, Cal Fire, and the U.S. Forest Service to determine appropriate protections. The County's fire hazard map will combine the following information: a. Number of fires by activity and area, b. Number of users in the area, c. Number of fires by ignition index in State responsibility areas, and d. Any other information request by the Emergency Council of	HS-1.8 HS-6.6	RMA; CAL FIRE; County Fire Department				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
the Tulare Operational Area as necessary.						
12. The County shall maintain its Hazardous Waste Management Plan and develop regulations for the placement of hazardous waste sites and develop standards for types of uses which would be compatible. Existing hazardous waste development requirements shall be enforced.	HS-4.1 HS-4.2 HS-4.3	RMA; HHSA, Env. Health			■	
13. The County shall develop standards for the type, location, and intensity of development adjacent to sites and facilities for the production, use, storage, and disposal of toxic and hazardous materials.	HS-4.3	RMA; CAL FIRE; County Fire Department			■	
14. The County shall maintain and annually update a Countywide database of FEMA flood plain maps to evaluate projects and provide to County residents, businesses, and developers.	HS-5.1 HS-5.2	RMA				■
15. The County shall adopt the following standards for use and development in areas of varying fire hazards and using the Fire Hazard Severity Scale as indicated below to review developments or uses within wildlands. The following minimum requirements should be met in relation to the three classes of Fire Hazard Severity as discussed within the context of the Health and Safety Element: a. Very high Hazard – Extreme caution should be used in allowing development, particularly critical facilities. b. High Hazard – Strict compliance with existing State statutes and local ordinances should provide adequate fire protection. c. Moderate Hazard – Development should be allowed, with recommendations for mitigation of hazard by Fire Warden. (The standards identified in this implementation measure are incorporated into Policy HS-6.1.	HS-6.1 HS-6.2	RMA; CAL FIRE; County Fire Department	■			**Implemented Program November 2016**

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
16. The County shall work with the Fire Chief to develop a natural hazard disclosure statement for wildland fires to be recorded along with all development approvals in all high and very high hazard areas.	HS-6.1 HS-6.2 HS-6.3	RMA; CAL FIRE; County Fire Department		■		
17. OES shall continue to conduct periodic emergency response exercises to ensure that all County departments respond efficiently and that emergency communications and other systems are to be properly maintained by RMA.	HS-7.1	OES; RMA				■
18. The County shall prepare and periodically update a set of measures and actions to comply with national and State Homeland Security standards for facility security.	HS-7.1	RMA; County Sheriff; CAL FIRE; County Fire Department				■
19. The County shall periodically update the Emergency Operations Plan to meet current Federal and State emergency requirements.	HS-7.3	OES				■
20. The County shall develop and implement procedures for acoustical analysis of development proposals.	HS-8.5	RMA				■
21. The County shall adopt the Tulare County Noise Ordinance to incorporate standards set forth in the Health and Safety Element.	HS-8.3	RMA		■		
22. The County should develop and adopt a peak noise standards ordinance to regulate the operation and use of peak noise generating uses throughout the County and ensure residents and visitors are not subject to excessive peak noise nuisances. (The feasibility of developing a peak noise standards ordinance is currently being evaluated in conjunction with the Three Rivers Community Plan Update).	HS-8.11	RMA	■			
23. The County shall work with the Tulare County Redevelopment Agency, special districts, private developers, and local communities to add health elements to community plans that promote physical activity.	HS-9.1	RMA; HHSA				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
24. Tulare County shall develop a healthy community checklist for new residential, commercial, office, and public developments that lists standards for land use, transportation, street design, parks, and open space.	HS-9.2	RMA; HHSA; Public Health Department				■
25. The County is to consider the preparation of a Healthy Communities Element in the General Plan.	HS-9.1	RMA; HHSA; Public Health Dept.		■		
26. The County shall maintain and periodically update the Hazardous Waste Management Plan, Emergency Operations Plan, and Area Plan as required by State and local regulations.	HS-4.1	HHSA				■
27. Adopt, and have certified by the BOF, local fire safe ordinances which meet or exceed standards in 14 CCR § 1270 for State Responsibility Area.	HS-6.2	RMA; CAL FIRE; County Fire Department				■
28. The State Board of Forestry and Fire Protection recommendations regarding the following topics: a. Consideration of Diverse Occupancies and their effects on Wildfire Protection. b. Integration of Open Space into Fire Safety Effectiveness. c. Mitigation for unique pest, disease and other forest health issues leading to hazardous situations. d. Wildfire Risk Reduction related to Climate Change. e. Fire Suppression Defense Zones. f. Redevelopment of Structures in High and Very Hazardous Areas. g. Long Term Maintenance of Fire Hazard Reduction Mitigation Projects. h. Reassessment of Fire Hazards Following Wildfire Events. i. Consideration of Wildlife Habitat/Endangered Species in Developing Long Term Fire Area Recovery and Protection Plans. shall be considered as feasible and appropriate in the	HS-6.16 HS-6.17 HS-6.18 HS-6.19 HS-6.20 HS-6.21 HS-6.22 HS-6.23 HS-6.24 HS-6.25	RMA; CAL FIRE; County Fire Department; OES				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
preparation and updates of Community Plans, Multi-Jurisdictional Local Hazard Mitigation Plan (LHMP), Tulare County Emergency Operations Plan, CAL FIRE Tulare Unit Strategic Fire Plan, and Community Wildfire Protection Plans.						
29. The State Board of Forestry and Fire Protection recommendations regarding the following topics shall be considered as feasible and appropriate in the preparation of the Multi-Jurisdictional Local Hazard Mitigation Plan (LHMP): a. Identification and actions for substandard fire safe housing and neighborhoods relative to fire hazard area. 1. Identify and map existing housing structures that do not conform to contemporary fire standards in terms of building materials, perimeter access, and vegetative hazards in VHFHSZ or SRA by fire hazard zone designation. 2. Identify plans and actions to improve substandard housing structures and neighborhoods. Plans and actions should include structural rehabilitation, occupancy reduction, demolition, reconstruction, neighborhood – wide fuels hazard reduction projects, community education, and other community based solutions. 3. Identify plans and actions for existing residential structures and neighborhoods, and particularly substandard residential structures and neighborhoods, to be improved to meet current fire safe ordinances pertaining to access, water flow, signing, and vegetation clearing. b. Conservation and Open Space. 1. Develop plans and action items for vegetation management that provides fire damage mitigation and protection of open space values. Plans should address protection of natural resource financial values,	HS-7.8	RMA; CAL FIRE; County Fire Department; OES		■		

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
establishment of fire resilient natural resources, protection of watershed qualities, and protection of endangered species habitats. Actions should consider prescribed burning, fuel breaks, and vegetation thinning and removal.						
c. Post Fire Safety, Recovery and Maintenance. 1. Develop burn area recovery plans that incorporate strategic fire safe measures developed during the fire suppression, such as access roads, fire lines, safety zones, and fuelbreaks, and helispots. 2. Develop burn area recovery plans, evaluation processes and implementation actions that encourage tree and biomass salvage, reforestation activities, create resilient and sustainable landscapes, and restore functioning ecosystems. 3. Incorporate native species habitat needs as part of long term fire protection and fire restoration plans.						
d. Terrorist and homeland security impacts on wildfire protection. 1. Identify and prioritize protection needs for assets at risk in the absence of response forces. 2. Establish fire defense strategies (such as fire ignition resistant areas) that provide adequate fire protection without dependency on fire resources (both air and ground) and could serve as safety zones for the public or emergency support personnel. 3. It is recommended that the LHMP should show mitigating factors or reference where Terrorist and Homeland Security information can be found.						

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11. Water Resources

The Water Resources Element is divided into the following sections:

- General (Section 11.1)
- Water Quality (Section 11.2)
- Water Supply (Section 11.3)
- Work Plan/Implementation Measures (Section 11.4)

Policies in this Element discussing the management of water resources are relative to the areas of water usage that the County has regulatory control, such as the approval of new land use development. The policies in this Element should not be construed to insert the County into the allocation or management of water resources. This is a complicated system over which the County does not have direct regulatory control.

Key Terms

The following terms are used throughout this Element to describe water resource issues.

Acre-foot. The amount of water needed to cover one acre with one foot of water, or approximately 325,851 gallons. In the course of a year the average three-person household uses 0.538 acre-feet of water based on the national average daily per capita water usage of 160 gallons.

Appropriated Right. The right to put to reasonable beneficial use, a quantity of water subordinate to the use thereof by prior appropriators and defined riparian diverters.

Aquifer. A geologic formation that stores water underground and yields significant quantities of water to wells or springs.

Central Valley Project (CVP). Authorized in 1933, the CVP, operated by the United States Bureau of Reclamation, is the largest water storage and delivery system in California, comprising 29 of the State's 58 counties. The project's features include 18 federal reservoirs and 4 additional reservoirs jointly owned with the State Water Project.

Class 1 Water. That supply of water stored in or flowing through Millerton Lake which, subject to defined contingencies, is available for delivery from Millerton Lake and the Friant-Kern and Madera Canals as a dependable water supply during each year.

Class 2 Water. That supply of water which can be made available, subject to defined contingencies, for delivery from Millerton Lake and Friant-Kern and Madera Canals in addition to the supply of Class 1 Water. Because of its uncertainty as to availability and time of occurrence, such water is undependable

in character and is furnished only if, as, and when it can be made available as determined by the Department of the Interior, Bureau of Reclamation.

Confined Aquifer. A water-bearing subsurface stratum that is bounded above and below by formations of impermeable, or relatively impermeable, soil or rock.

Groundwater Basin. A groundwater reservoir, defined by an overlying land surface and the underlying aquifers that contain water stored in the reservoir. In some cases, the boundaries of successively deeper aquifers may differ and make it difficult to define the limits of the basin.

Groundwater Export. An export of groundwater is defined as the extraction and transfer of groundwater, through natural waterways or man-made conveyance, of one (1) or more acre-feet per year of water to a use outside of Tulare County.

Groundwater Overdraft. The condition of a groundwater basin in which the amount of water withdrawn (by pumping) exceeds the amount of water that recharges the basin.

Groundwater Recharge. The natural or intentional infiltration of surface water into the zone of saturation (for example, into groundwater).

Non-Point Source Pollution (NPS). NPS is water pollution affecting a water body from diffuse sources, such as polluted runoff from agricultural areas draining into a river, or wind-borne debris blowing out to sea. Non-point source pollution can be contrasted with point source pollution, where discharges occur to a body of water at a single location, such as discharges from a chemical factory, urban runoff from a roadway storm drain, or from ships at sea.

Non-Transient System. A water system serving customers who will be exposed to the water supply for an extended period of time.

Reasonable Beneficial Use. This is the measure and limit of an appropriative right.

Safe Yield. The maximum dependable draft that can be made continuously on a source of groundwater supply during a period of years during which the probable driest period or period of greatest deficiency in water supply is likely to occur.

Transient System. A water system serving customers who will be exposed to the water supply for only a short period of time.

Safe Drinking Water Act (SDWA). The SDWA, administered by the U.S. Environmental Protection Agency (U.S. EPA) in coordination with the states, is the chief federal legislation regulating drinking water quality.

State Water Project (SWP). Authorized in 1960, the SWP facilities include 20 dams, 662 miles of aqueduct, and 26 power and pumping plants. Major facilities include the multi-purpose Oroville Dam and Reservoir on the Feather River, the California Aqueduct, South Bay Aqueduct, North Bay Aqueduct, and a share of the State-Federal San Luis Reservoir.

Tulare Lake Basin. The State Department of Water Resources (DWR) subdivides the State into ten hydrologic regions for planning purposes, corresponding to the State's major drainage basins. Tulare County is located entirely within the Tulare Lake Basin. This basin is closed in that it does not discharge into the ocean.

Unconfined Aquifer. An aquifer without an upper confining layer of impermeable soil or rock material. The water table is exposed to the atmosphere through a series of interconnected openings in the overlying permeable soil and/or rock layers and is in equilibrium with atmospheric pressure. Therefore, the groundwater is not under pressure, and the water level in a well is the same as the water table outside the well.

Existing Conditions Overview

Demands for water resources within Tulare County are met from four major sources: groundwater, local streams and rivers, imported surface water, and imported surface water by exchange.

Tulare County is located entirely within the Tulare Lake Basin, the closed drainage basin at the south end of the San Joaquin Valley, south of the San Joaquin River watershed, encompassing basins draining to Kern, Tulare, and Buena Vista Lakes.

Groundwater in the Valley portions of Tulare County occurs in an unconfined state throughout areas containing alluvial fans, and in a confined state beneath its western portion. Extensive alluvial fans associated with the Kings, Kaweah, and Tule Rivers provide highly permeable areas in which groundwater in the unconfined aquifer system is readily replenished. Interfan areas between the streams contain less permeable surface soils and subsurface deposits, impeding groundwater recharge and causing well yields to be relatively low. The mineral quality of groundwater in Tulare County is generally satisfactory for all uses.

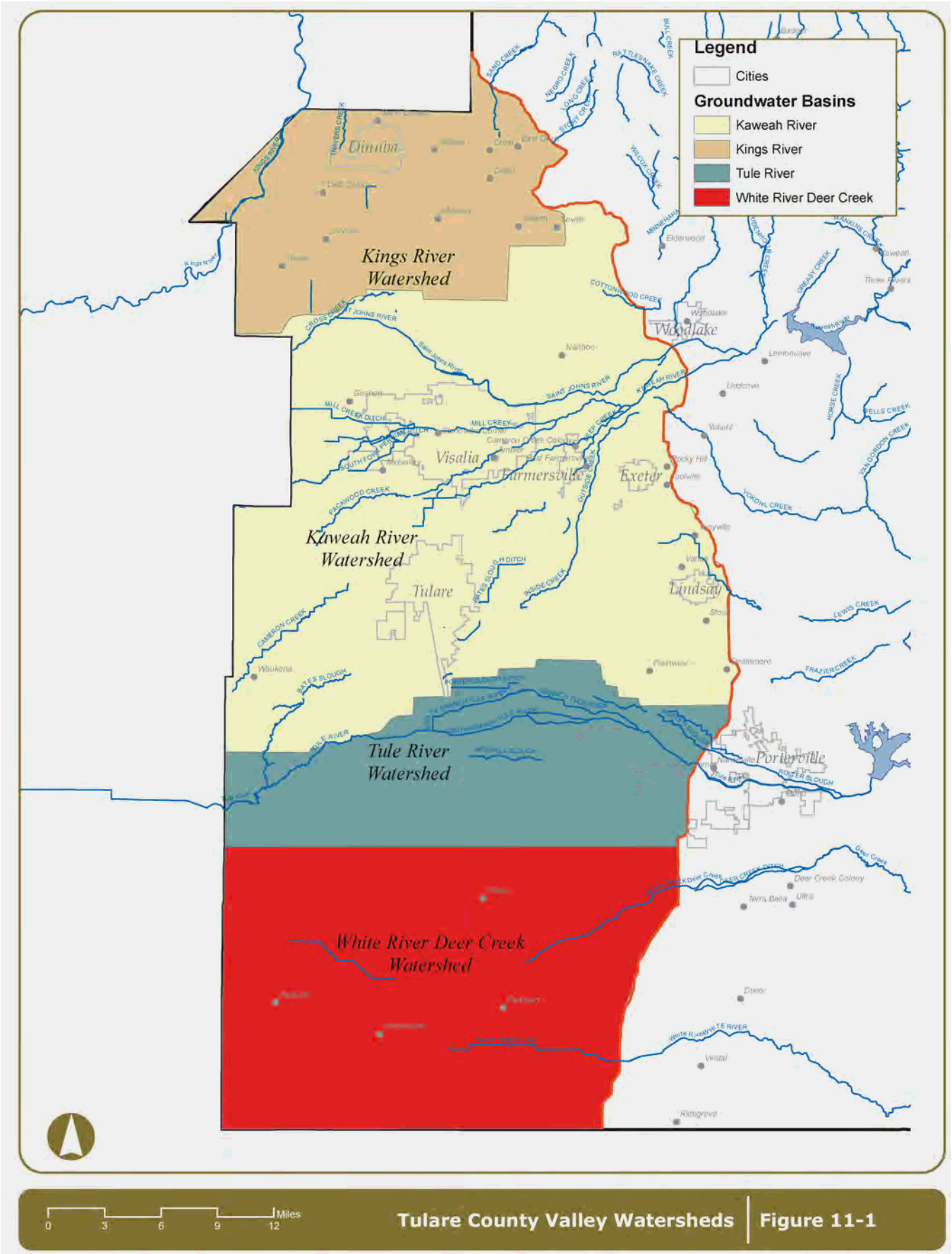
The DWR has estimated the groundwater overdraft by hydrologic region. For the Tulare Lake Basin, the total overdraft is estimated at 820,000 acre-feet per year, the greatest overdraft projected in the State, and 56 percent of the Statewide total overdraft. This overdraft is due to many factors including reductions of surface supplies in recent years by Delta export restrictions, Endangered Species Act requirements, and other factors.

The groundwater overdraft is most pronounced along the western boundary of the County, as manifested by a lowering of pressure levels in the confined aquifers. There is also a progressive lowering of ground water levels along the easterly margins of the Valley basin, particularly in the southerly part of the Kern-Tulare Water District. There are 19 entities in Tulare County with active programs of groundwater management.

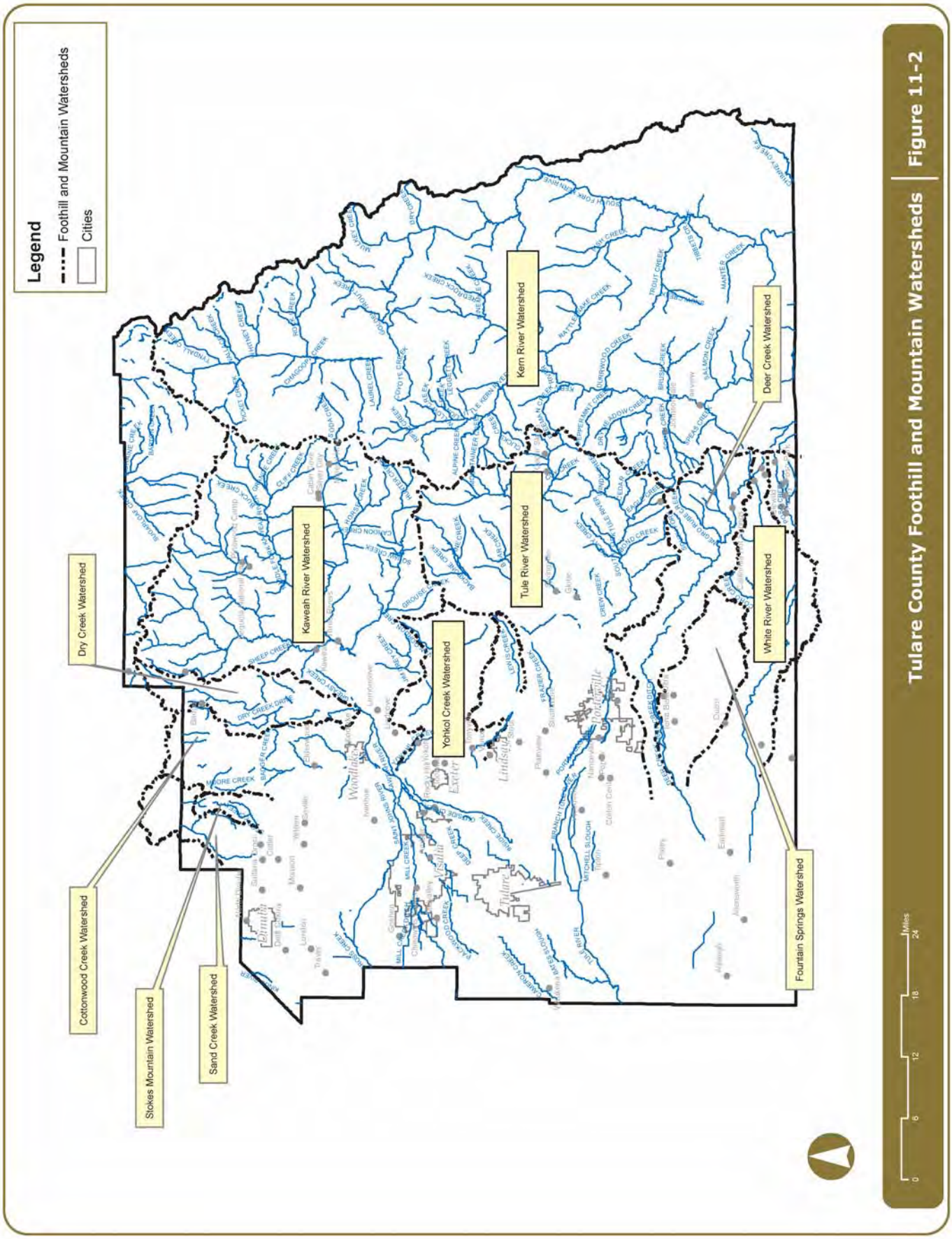
Surface water supplies for the Tulare Lake Basin include developed supplies from the CVP, the SWP, rivers, and local projects. In addition to water from the San Joaquin River delivered by the Friant-Kern Canal, other significant rivers and streams serving Tulare County are the Kings, Kaweah, Tule, Kern (mountain areas only), White River, and Deer Creek (see Figure 11-1: Tulare County Valley Watersheds and Figure 11-2:Tulare County Foothill and Mountain Watersheds).

The predominant water supply system providing service to the foothill and mountain regions of the County are individual systems. Principal among these systems are those which utilize groundwater which is, in most cases, untreated. There exist, however, some limited treatment systems, which are typically maintained by a commercial service contract.

The mineral quality of groundwater extracted for use in Tulare County is generally satisfactory for crop irrigation. The salinity of groundwater typically increases in a westward direction across the San Joaquin Valley. For the Kings River watershed, groundwater along the foothill fringe tends to be high in nitrates, reducing in intensity as the flow extends into the valley floor. The Kaweah River watershed tends to be high in chloride and nitrate concentrations, which also dilute as the groundwater flows into the valley area. The east side of the valley floor in the Tule River watershed contains the highest population of individuals impacted by lower quality groundwater of any area in the County. In the Deer



Tulare County Valley Watersheds | Figure 11-1



Tulare County Foothill and Mountain Watersheds | Figure 11-2

Creek/White River watershed, water quality along the foothills is characterized by diminished quality from nitrates, phenols, and salts. Like other areas, this impact decreases moving west from the foothills (General Plan Background Report 2010).

Responsible Agencies

The Environmental Health Services Division (EHSD) of the Tulare County Health and Human Services Agency (HHSA) works closely with the California Department of Public Health (CDPH) and the California Regional Water Quality Control Board (RWQCB) regarding water quality issues in Tulare County.

The California Department of Public Health (CDPH) provides direct regulatory oversight of all public water systems having 200 or more service connections. CDPH has delegated direct regulatory oversight of public water systems having less than 200 service connections to the Environmental Health Services Division (EHSD). The EHSD's water program provides a periodic inspection of the water source, usually a well, and the water storage components of a public water system. The water program oversees the sampling and analysis of water for bacteriological, inorganic, and organic chemical contamination. Sustainability factors such as source water protection and adequate storage capacity are also evaluated in this program.

Additionally, the EHSD requires sampling and analysis of all new individual domestic water wells in the county. Analysis for bacteria, nitrates, and DBCP are required for wells installed on the valley floor. Analysis for bacteria, nitrates, and radiological constituents are required for wells installed in foothill or mountain locations.

The Regional Water Quality Control Board (RWQCB) provides direct regulatory oversight of all activities that are deemed to have contaminated, or have the potential to contaminate, the waters of the state. The RWQCB has delegated direct regulatory oversight of activities pertaining to the storage of petroleum products to the EHSD. This program oversees the investigation and remediation of confirmed leaks from either underground or above ground storage tanks at gas stations and bulk gasoline storage facilities. A component of this program is designed to prevent storage tank leaks from occurring and minimizing the environmental impact should leakage occur.

11.1 General

WR-1 To provide for the current and long-range water needs of the County and for the protection of the quality and quantity of surface and groundwater resources.

WR-1.1 Groundwater Withdrawal
The County shall cooperate with water agencies and management agencies during land development processes to help promote an adequate, safe, and economically viable groundwater supply for existing and future development within the County. These actions shall be intended to help the County mitigate the potential impact on ground water resources identified during planning and approval processes.

WR-1.2 Groundwater Monitoring
The County shall support the collection of monitoring data for facilities or uses that are potential sources of groundwater pollution as part of project approvals, including residential and industrial development.

WR-1.3 Water Export Outside County

The County shall regulate the permanent export of groundwater and surface water resources allocated to users within the County to cities and service providers outside the County to the extent necessary to protect the public health, safety and welfare. The County shall strive for a "no net loss" where there may be water exchanges serving a public purpose.

WR-1.4 Conversion of Agricultural Water Resources

For new urban development, the County shall discourage the transfer of water used for agricultural purposes (within the prior ten years) for domestic consumption except in the following circumstances:

1. The water remaining for the agricultural operation is sufficient to maintain the land as an economically viable agricultural use,
2. The reduction in infiltration from agricultural activities as a source of groundwater recharge will not significantly impact the groundwater basin.

WR-1.5 Expand Use of Reclaimed Wastewater

To augment groundwater supplies and to conserve potable water for domestic purposes, the County shall seek opportunities to expand groundwater recharge efforts

WR-1.6 Expand Use of Reclaimed Water

The County shall encourage the use of tertiary treated wastewater and household gray water for irrigation of agricultural lands, recreation and open space areas, and large landscaped areas as a means of reducing demand for groundwater resources.

WR-1.7 Collection of Additional Groundwater Information

The County shall support additional studies focused on furthering the understanding of individual groundwater source areas and basins.

WR-1.8 Groundwater Basin Management

The County shall take an active role in cooperating in the management of the County's groundwater resources.

WR-1.9 Collection of Additional Surface Water Information

The County shall support the additional collection of water quality and flow information for the County's major drainages as part of project approvals.

WR-1.10 Channel Modification

Channel modification shall be discouraged in streams and rivers where it increases the rate of flow, rate of sediment transport, erosive capacity, have adverse effect on aquatic life or modify necessary groundwater recharge.

WR-1.11 Groundwater Overdraft

The County shall consult with water agencies within those areas of the County where groundwater extraction exceeds groundwater recharge, with the goal of reducing and ultimately reversing groundwater overdraft conditions in the County.

11.2 Water Quality

WR-2 To provide for the current and long-range water needs of the County and for the protection of the quality of surface water and groundwater resources.

WR-2.1 Protect Water Quality
All major land use and development plans shall be evaluated as to their potential to create surface and groundwater contamination hazards from point and non-point sources. The County shall confer with other appropriate agencies, as necessary, to assure adequate water quality review to prevent soil erosion; direct discharge of potentially harmful substances; ground leaching from storage of raw materials, petroleum products, or wastes; floating debris; and runoff from the site.

WR-2.2 National Pollutant Discharge Elimination System (NPDES) Enforcement
The County shall continue to support the State in monitoring and enforcing provisions to control non-point source water pollution contained in the U.S. EPA NPDES program as implemented by the Water Quality Control Board.

WR-2.3 Best Management Practices (BMPs)
The County shall continue to require the use of feasible BMPs and other mitigation measures designed to protect surface water and groundwater from the adverse effects of construction activities, agricultural operations requiring a County Permit and urban runoff in coordination with the Water Quality Control Board.

WR-2.4 Construction Site Sediment Control
The County shall continue to enforce provisions to control erosion and sediment from construction sites.

WR-2.5 Major Drainage Management
The County shall continue to promote protection of each individual drainage basin within the County based on the basins unique hydrologic and use characteristics.

WR-2.6 Degraded Water Resources
The County shall encourage and support the identification of degraded surface water and groundwater resources and promote restoration where appropriate.

WR-2.7 Industrial and Agricultural Sources
The County shall work with agricultural and industrial concerns to ensure that water contaminants and waste products are handled in a manner that protects the long-term viability of water resources in the County.

WR-2.8 Point Source Control
The County shall work with the Regional Water Quality Control Board to ensure that all point source pollutants are adequately mitigated (as part of the California Environmental Quality Act review and project approval process) and monitored to ensure long-term compliance.

WR-2.9 Private Wells
The County shall ensure that private wells are adequately constructed to provide protection from bacteriological and chemical contamination and do not provide a hazard as to contaminate the aquifer.

11.3 Water Supply

WR-3	To provide a sustainable, long-term supply of water resources to meet domestic, agricultural, industrial, and recreational needs and to assure that new urban development is consistent with available water resources.

ⓘ *Please see Chapter 2-Planning Framework, under Key Terms for the definition of Urban Development.*

WR-3.1 Develop Additional Water Sources
The County shall encourage, support and, as warranted, require the identification and development of additional water sources through the expansion of water storage reservoirs, development of groundwater banking for recharge and infiltration, and promotion of water conservation programs, and support of other projects and programs that intend to increase the water resources available to the County and reduce the individual demands of urban and agricultural users.

WR-3.2 Develop an Integrated Regional Water Management Plan
The County will participate with other agencies and organizations that share water management responsibilities in the County to enhance modeling, data collection, reporting and public outreach efforts to support the development and implementation of appropriate Integrated Regional Water Management Plans (IRWMP) within the County.

WR-3.3 Adequate Water Availability
The County shall review new development proposals to ensure the intensity and timing of growth will be consistent with the availability of adequate water supplies. Projects must submit a Will-Serve letter as part of the application process, and provide evidence of adequate and sustainable water availability prior to approval of the tentative map or other urban development entitlement.

WR-3.4 Water Resource Planning
The County shall continue participation in State, regional, and local water resource planning efforts affecting water resource supply and quality.

WR-3.5 Use of Native and Drought Tolerant Landscaping
The County shall encourage the use of low water consuming, drought-tolerant and native landscaping and emphasize the importance of utilizing water conserving techniques, such as night watering, mulching, and drip irrigation.

WR-3.6 Water Use Efficiency
The County shall support educational programs targeted at reducing water consumption and enhancing groundwater recharge.

WR-3.7 Emergency Water Conservation Plan
The County shall develop an emergency water conservation plan for County operated water systems to identify appropriate conservation policies that can be implemented during times of water shortages caused by drought, loss of one or more major sources of supply, contamination of one or more sources of supply, or other natural or man-made events.

WR-3.8 Educational Programs
The County shall encourage the development of educational programs, both by water purveyors and public agencies, in order to increase public awareness of water conservation

opportunities and the potential benefits of implementing conservation measures and programs including water quality.

WR-3.9 Establish Critical Water Supply Areas
The County shall designate Critical Water Supply Areas to include the specific areas used by a municipality or community for its water supply system, areas critical to groundwater recharge, and other areas possessing a vital role in the management of the water resources in the County, including those areas with degraded groundwater quality.

WR-3.10 Diversion of Surface Water
Diversions of surface water or runoff from precipitation should be prevented where such diversions may cause a reduction in water available for groundwater recharge.

WR-3.11 Policy Impacts to Water Resources
The County shall monitor actions taken at the federal and State level which impact water resources in order to evaluate the effects of these actions on the County's resources.

WR-3.12 Joint Water Projects with Neighboring Counties
Tulare County will work with neighboring counties to promote development of joint water projects, such as a cross-valley canal, and other efforts to expand water supply.

WR-3.13 Coordination of Watershed Management on Public Land
The County shall work cooperatively with State and federal land managers to coordinate watershed management on public land.

Please see next page.

11.4 Work Plan/Implementation Measures

The following table documents the Implementation Measures included with the General Plan to implement the goals and policies included in this Element.

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
1. County staff shall develop an ordinance that will regulate the permanent extraction and exportation of groundwater from Tulare County. The ordinance will set up a permit process for groundwater export. Conditions considered for this permit will include: a. Find and determine that the extraction will not substantially increase the overdraft of the groundwater underlying the County; b. Will not adversely affect the long-term ability for storage or transmission of groundwater within the aquifer; c. Will not (together with other extractions) exceed the safe yield of the groundwater underlying the County unless the safe yield is exceeded only by extractions in connection with a conjunctive use program approved by the County; d. Will not otherwise operate to the injury of the reasonable and beneficial uses of overlying groundwater users; e. Will not result in an injury to a water replenishment, storage, or restoration project operating in accordance with statutory authorization; and f. Find that the applicant has provided for mitigation which will offset any adverse effect that is determined to exist.	WR-1.1 WR-1.2 WR-1.3	BOS, RMA, Planning	■			
2. Solid waste disposal areas shall not be located where there is possibility of ground or surface water contamination. Solid waste facilities shall be sited in accordance with the Tulare County Siting Element and California Code of Regulations Titles 14 & 27, Division 2.	WR-1.1 WR-1.2 WR-1.8	RMA, Planning				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
3. The County shall assure that all watershed planning is done on a complete regional and watershed basis, and that such planning considers a balance between urban and agricultural demands.	WR-1.1 WR-1.7 WR-2.5 WR-3.2 WR-3.4 WR-3.7 WR-3.13	RMA, Planning				■
4. Where feasible, the County shall participate in coordinated local, regional, and Statewide groundwater monitoring and planning programs.	WR-1.2 WR-3.13	Tulare County				■
5. The County shall encourage active participation by local stakeholders and develop groundwater-monitoring partnerships with local groundwater users and developers.	WR-1.2	Water Commission; RMA; HHSA, Env. Health				■
6. The County shall avoid destruction of established recharge sites through such means as clustering development to leave such areas in open space, avoidance of lining channels and streams, alteration of existing agricultural practices, or substitutions made of drainage methods that will transport polluted waters away from such sites.	WR-1.10 WR-2.5 WR-2.7 WR-2.8 WR-3.10	RMA				■
7. The County shall work with federal, State, local and regional agencies to improve local groundwater pollution detection and monitoring.	WR-1.2 WR-1.7	RMA; HHSA, Env. Health				■
8. The County shall encourage responsible agencies and organizations to install and monitor additional groundwater monitoring wells in areas where data gaps exist.	WR-1.2 WR-1.7	RMA	■			
9. The County will research the development of an education program to inform homeowners in the Valley and Mountain areas regarding water quality concerns.	WR-1.7	RMA; HHSA, Env. Health	■			
10. The County shall incorporate provisions, including evaluating incentives, for the use of reclaimed wastewater, water conserving appliances, drought tolerant landscaping, and other water conservation techniques into the County's building, zoning,	WR-1.5 WR-3.1 WR-3.5 WR-3.6 WR-3.8	RMA, Planning; UC Cooperative Extension				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
and subdivision ordinances.						
11. The County shall identify and evaluate conditions within established watersheds which are causing deterioration of the water quality, water supply, or declining water yields. The County shall institute the necessary revisions to regulatory documents (Zoning Ordinance, Subdivision Ordinance, etc.) to mitigate these issues.	WR-1.7 WR-1.8	RMA, Planning	■			
12. Development projects involving drainage alterations shall be constructed to minimize soil erosion and silt transport.	WR-1.10 WR-2.1 WR-2.2 WR-2.3 WR-2.4	RMA, Planning				■
13. During preliminary and final road location surveys, roads (excluding bridges and culverts) shall be planned away from natural drainage channels. Stream crossing points should involve a minimum disturbance to banks and existing channels and excessive cuts and accumulations of waste soil near natural drainages avoided.	WR-1.10	RMA, Planning				■
14. Groundwater and soil conditions shall be identified prior to subdividing or road and building construction and such development properly engineered to control or avoid potential land slides in areas of unstable soil, as well as to prevent unnecessary substantial amounts of soil erosion.	WR-2.1 WR-2.2 WR-2.3 WR-2.4	RMA, Planning				■
15. Designs, which respect natural topography and vegetation, can usually achieve effective flood control while retaining the dynamic flow and functional integrity of a natural waterway. Further channeling, straightening and lining waterways should be evaluated until alternative multipurpose modes of treatment such as wider berms and landscaped levees in combination with recreation amenities are provided.	WR-1.10	RMA, Planning				■
16. The County shall consider expanding the role of the Water Commission to examine	WR-2.7	BOS				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
contaminant management in cooperation with the agricultural community and industrial interests.						
17. The County shall amend the well ordinance to require deeper seals in areas of known contaminants. The County shall also oversee the proper abandonment of unused wells.	WR-1.2 WR-2.6 WR-2.9 WR-3.1 WR-3.2 WR-3.4 WR-3.9 WR-3.12 WR-3.13	RMA, Planning; HHSA, Env. Health	■			
18. The County will participate in Integrated Regional Water Management Plans.	WR-3.2 WR-3.4	CAO; RMA; HHSA, Env. Health;	■			
19. The County shall adopt an ordinance to require new development proposals to provide a Will-Serve letter as part of the application process and suitable evidence of long-term water availability prior to approval of the tentative map or other entitlement. For subdivisions proposing to use well water, the new ordinance shall evaluate current waiver provisions and evaluate well pump test requirements to demonstrate water supply capabilities.	WR-3.3	RMA, Planning	■			
20. The County will support TCAG's Regional Blueprint efforts to provide an adequate, cost-efficient, and realizable water supply to sustain a high quality of life.	WR-3.4	BOS	■			
21. The County shall maintain and implement its water efficient landscape ordinance consistent with the Department of Water Resources Model Water Efficient Landscape Ordinance.	WR-3.5	RMA, Planning	■			
22. As part of the County's Emergency Water Conservation Plan, a priority of consumptive uses for various water sources shall be developed to ensure availability of adequate supplies to meet public health and safety needs, and for resource protection. Suggested priority: a. Potable water supply, fire protection, domestic uses,	WR-3.7	RMA; HHSA, Env. Health				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
b. Resource protection and preservation, c. Industrial, irrigation, and commercial uses, d. Water oriented or water enhanced recreation, and e. Air conditioning.						
23. The County shall develop an education program to inform residents of water conservation techniques and the importance of water quality and adequate water supplies. Programs may include informational flyers, community workshops, technology transfer fairs, and other various means of education and information dissemination.	WR-3.6 WR-3.8	RMA, Planning; UC Cooperative Extension	■			
24. The County shall protect groundwater recharge areas (including those identified as Critical Water Supply Areas) in the County by carefully regulating the type of development within these areas. Regulations may include, but are not limited to, the limitation of structural coverage and impervious surfaces and prohibition of uses with the potential to discharge harmful pollutants, increase erosion, or create other impacts degrading water quality or affecting groundwater supply.	WR-2.1 WR-3.9	RMA, Planning				■
25. The County shall amend County ordinances to include development standards which protect groundwater basins and surface water drainage areas and provide incentives for use of conservation techniques.	WR-3.9	RMA, Planning	■			
26. The County shall establish development or design standards for the protection of groundwater recharge areas, such as placing limitation on the amount of impervious surfaces, or other planning and zoning techniques.	WR-3.9	RMA, Planning	■			
27. The County shall identify a system of critically inadequate water supply, water transfer facilities, and groundwater recharge areas on a map, incorporating existing canals, creeks and rivers, groundwater	WR-3.9	Water Commission; RMA; HHSA, Env. Health		■		

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
recharge basins; proposed sites for regional recharge basins; and needed water transfer facilities. The County shall, in conjunction with stakeholders, draft an ordinance relating to the care and maintenance of this system, such as: discouragement of piping or alteration; encouraging of multi-use as trails and recreational facilities, etc., wherever feasible.						
28. The County shall work with other local/regional agencies, water purveyors, and interest groups to seek funding sources to implement a variety of surface and groundwater restoration activities.	WR-3.4	RMA; HHSA, Env. Health				■

12. Animal Confinement Facilities Plan

The Animal Confinement Facilities Plan (ACFP) – Phase I (adopted by the Tulare County Board of Supervisors on April 11, 2000) contains policies and standards that specifically address the location and development of dairies and other bovine animal confinement operations in Tulare County. The adopted element is incorporated into this General Plan Update document as Chapter 12 and is not being amended as part of the General Plan 2030 Update. A copy of the adopted element is available through the Tulare County Resource Management Agency and is also available on the internet at http://generalplan.co.tulare.ca.us/

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D. Infrastructure Component

The Tulare County General Plan infrastructure section provides for the development and expansion of public services throughout the County. Transportation and public services are addressed through its Goals, Policies, and Implementation Measures to provide the County's urbanized and developing areas with adequate services to function and grow.

Infrastructure Concepts

Concept 1: Transportation and Circulation
The overall transportation and circulation pattern in the Tulare County General Plan focuses on enhancing the connections between cities, communities, and hamlets through existing highways and roadways. Coupled with this is the improvement of bike and pedestrian facilities along with public transportation facilities and services that will enable efficient movement throughout the County and region.

Concept 2: Public Facilities & Services
Long-range planning anticipates the improvement and development of public facilities in urbanized areas of the County. Communities and hamlets will have more opportunity to grow and develop with added water, wastewater, and drainage capacity while the safety of County residents and property will be ensured through the placement and services of adequate law enforcement and fire safety facilities.

Guiding Principles

Transportation and Circulation

Site planning and land use planning for developments in Tulare County's communities and hamlets will support transit and pedestrian modes of travel. Improvement to existing services and development of new facilities will dictate the success of the County's transportation and circulation system through the orderly movement of goods and people.

Principle 1: Countywide Collaboration
Support Countywide transportation plans that provide choices in travel modes.

Principle 2: Connectivity
Emphasize connectivity among cities, communities, and hamlets to ensure County residents have access to jobs and services.

Principle 3: Community Circulation
Anticipate and provide transit, traffic, and roadway connections that support the interconnectivity of all communities.

Principle 4: Pedestrian and Bicycle Facilities
Plan for the development and expansion of pedestrian paths and bicycle facilities that provide residents with alternative modes of travel.

Public Facilities and Services

Infrastructure facilities and the services they provide are the backbone of Tulare County's communities. The continued maintenance and adequate capacity are crucial to the continued growth and development of communities. Public buildings, schools, parks, and other facilities are the "centers of communities", and their distribution, design, and funding of these facilities make them visible and accessible community features.

Principle 1: Enhance Infrastructure Facilities

Enhance and expand infrastructure facilities in communities that are at or above capacity.

Principle 2: Plan and Develop Infrastructure

Plan infrastructure and provide assurance for new infrastructure and develop infrastructure facilities prior to new development occurring.

Principle 3: Parallel Investments

Plan facilities as parallel investments to growth and integrate them into community, social, cultural, and commercial places.

Flood Control Master Plan

[*Not included in this document, previously adopted*.]

13. Transportation & Circulation

The Transportation and Circulation Element is divided into the following sections:

- Roadways and Highways (Section 13.1)
- Rail Transportation (Section 13.2)
- Aviation (Section 13.3)
- Public Transportation (Section 13.4)
- Other Transportation Modes (Section 13.5)
- Work Plan/Implementation Measures (Section 13.6)
- Implementation Program - Roadway Standards (Section 13.7)

Key Terms

The following terms are used throughout this Element to describe transportation and circulation issues:

Intermodal Freight Village. A location that provides an intermodal transfer point for freight. Can include a U.S. Custom's facility for processing incoming shipments, storage of goods, and transfer of goods to local or regional users.

Level of Service (LOS). Operational analyses typically focus on intersections rather than road segments since the capacity of the intersections is usually more critical than the capacity of the roadway. LOS is used to rank traffic operation on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, Level of Service A represents free flow conditions and Level of Service F represents forced flow or breakdown conditions.

Mode. Refers to a means of transportation: automobile, bus, train, airplane, pedestrian, or bicycle. Different modes of travel may require minimum facilities to meet their unique needs. In addition, there is a significant amount of overlap in facilities required for surface transportation modes.

Multimodal Transportation Networks. Multimodal Transportation networks allow for all modes of travel including walking bicycling, and transit to be used to reach key destinations in a community and region safely and directly.

Peak Hour. The a.m. and p.m. peak hour volumes of adjacent street traffic are the highest hourly volumes of traffic on the adjacent streets during the morning and evening, respectively.

Right-of-way. A strip of land occupied or intended to be occupied by certain transportation and public use facilities, such as roadways, railroads, and utility lines.

Transit Dependent. Dependency upon public or private transportation services by persons that are either unable to operate a vehicle, or do not have access to a vehicle. Generally, the elderly (seniors), youth (children), and persons with disabilities.

Existing Conditions Overview

Tulare County is served by highway, rail, aviation, public transportation, and bicycle and pedestrian circulation modes. The safe and efficient transport of people and goods within the County is of crucial importance to the well being of residents and the economic viability of the County. The mobility of people and goods will continue to be one of the important issues the County has to face in the future.

Tulare County has two major regional highways, State Highway 99 and 198. State Highway 99 connects Tulare County to Fresno and Sacramento to the north and Bakersfield to the south. State Highway 198 connects from U.S. Highway 101 on the west and continues eastward to Tulare County, passing through the City of Visalia and into Sequoia National Park. The highway system in the County also includes State highways, County-maintained roads, and local streets within each of the eight cities.

Tulare County is served by freight and passenger rail service. Union Pacific (UP), Burlington Northern and Santa Fe (BN&SF), and San Joaquin Valley Railroad (SJVRR) all provide freight service to Tulare County, connecting the County with major markets within California and to other destinations north and east. Passenger rail service (six round trips daily) is provided by AMTRAK on its San Joaquin service, with the nearest rail stations located in the cities of Corcoran and Hanford in Kings County. A bus connection to Amtrak's Hanford station runs out of the Visalia Transit Center. The California High Speed Rail Authority is currently in the process of studying the potential for a high-speed rail system that would provide passenger transportation and goods movement services throughout much of California, including the Central Valley.

There are nine public use airports in Tulare County. These include six publicly owned and operated facilities (Porterville Municipal, Sequoia Field, Tulare Municipal [Mefford Field], Visalia Municipal, Woodlake, and Harmon Field [currently closed]) and three privately owned and operated airports (Alta Airport [currently closed], Thunderhawk Field, and Eckert Field). Badger Field is under consideration for Federal Aviation Administration (FAA) recertification as a restricted private airfield (as of August 2006).

The General Plan 2030 Update amendment includes planning objectives, policies, and standards to reduce green house gas emissions, make the most of efficient use of urban land and transportation infrastructure, and improve public health by encouraging physical activity. The Transportation and Circulation element contains programmatic policies that provide a guide for a balanced, multimodal transportation network that meets the needs of all uses of County streets, roads, and highways for safe and convenient travel manner that is suitable for all users, including bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors. These planning objectives, policies and standards reflect the rural, suburban, and urban contexts of each of the individual planning areas within the County.

13.1 Roadways and Highways

TC-1 To promote an efficient roadway and highway system for the movement of people and goods, which enhances the physical, economic, and social environment while being safe, environmentally friendly, and cost-effective.

TC-1.1 Provision of an Adequate Public Road Network
The County shall establish and maintain a public road network comprised of the major facilities illustrated on the Tulare County Road Systems to accommodate projected growth in traffic volume.

ⓘ *See Figure 13.1: Tulare County Road System.*

TC-1.2 County Improvement Standards
The County's public roadway system shall be built and maintained consistent with adopted County Improvement Standards, and the need and function of each roadway, within constraints of funding capacity.

TC-1.3 Regional Coordination
The County shall continue to work with State, regional, and local agencies to assess transportation needs and goals and support coordinated transportation planning and programming with the Tulare County Association of Governments (TCAG) and other local agencies.

TC-1.4 Funding Sources
The County shall work to enhance funding available for transportation projects. This includes:

1. Working with TCAG, Federal and State agencies, and other available funding sources to maximize funding available to the County for transportation projects and programs, and
2. Enhance local funding sources, including assessment of transportation impact fees to pay for appropriate construction, enhancement, and maintenance of transportation facilities.

TC-1.5 Public Road System Maintenance
The County shall give priority for maintenance to roadways identified by the Tulare County Pavement Management System (PMS) and other inputs relevant to maintaining the safety and integrity of the County roadway system.

TC-1.6 Intermodal Connectivity
The County shall ensure that, whenever possible, roadway, highway, and public transit systems will interconnect with other modes of transportation. Specifically, the County shall encourage the interaction of truck, rail, and air-freight/passenger movements.

TC-1.7 Intermodal Freight Villages
The County shall consider the appropriate placement of intermodal freight villages in locations within the Regional Growth Corridors.

TC-1.8 Promoting Operational Efficiency
The County shall give consideration to transportation programs that improve the operational efficiency of goods movement, especially those that enhance farm-to-market connectivity

TC-1.9 Highway Completion
The County shall support State and Federal capacity improvement programs for critical segments of the State Highway System. Priority shall be given to improvements to State Highways 65, 99, and 198, including widening and interchange projects in the County.

TC-1.10 Urban Interchanges
The County shall work with TCAG to upgrade State highway interchanges from rural to urban standards within UDBs.

TC-1.11 Regionally Significant Intersections
To enhance safety and efficiency, the County shall work to limit the frequency of intersections along regionally-significant corridors.

TC-1.12 Scenic Highways and Roads
The County shall work with appropriate agencies to support the designation of scenic highways and roads in the County.

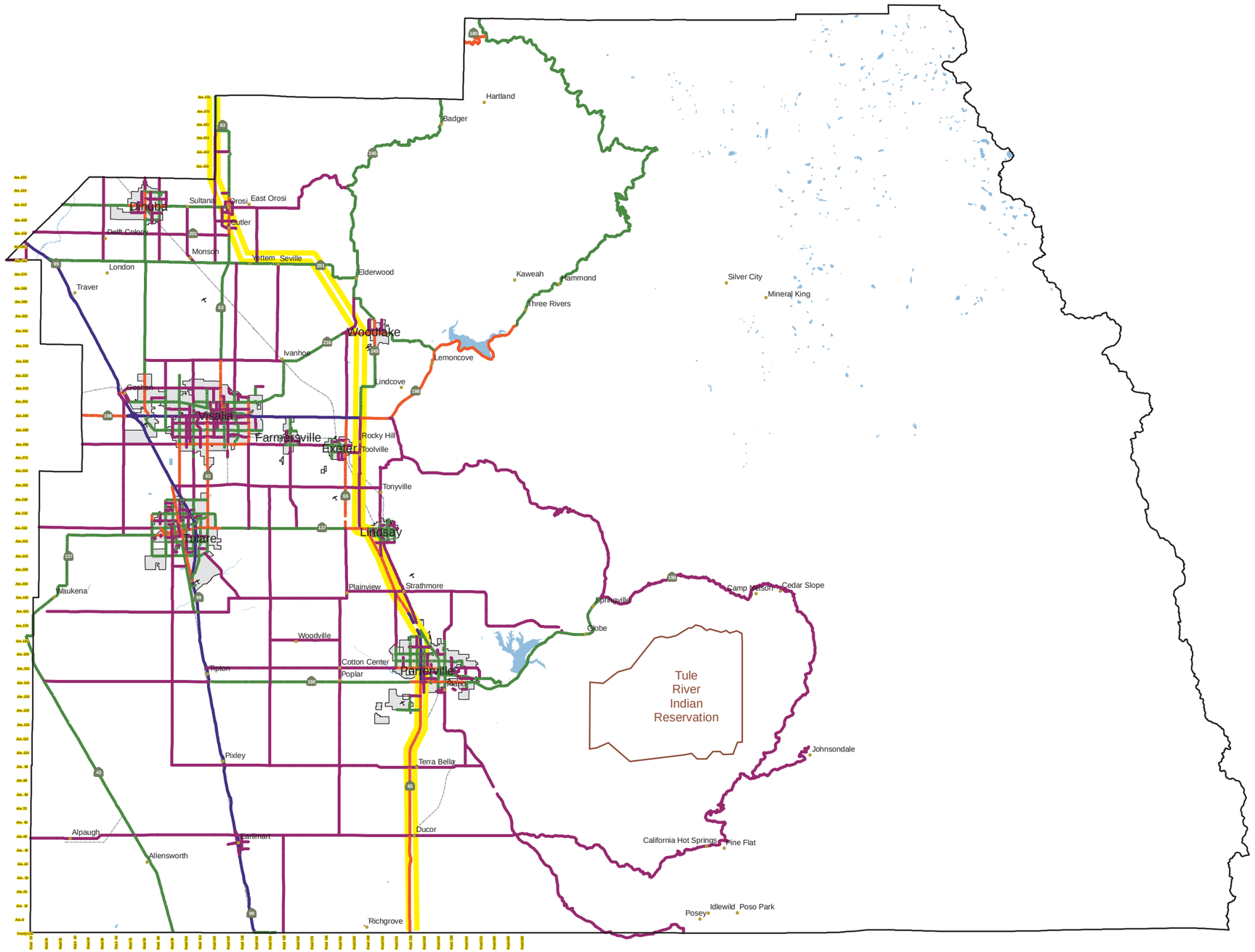
ⓘ *For additional policies concerning scenic highways and routes, please see Chapter 7-Scenic Landscapes.*

TC-1.13 Land Dedication for Roadways and Other Travel Modes
As required to meet the adopted County Improvement Standards, the County shall require, where warranted, an irrevocable offer of dedication to the right-of-way for roadways and other travel modes, as part of the development review process.

TC-1.14 Roadway Facilities
As part of the development review process, new development shall be conditioned to fund, through impact fees, tonnage fees, and/or other mechanism, the construction and maintenance of roadway facilities impacted by the project. As projects or locations warrant, construction or payment of pro-rata fees for planned road facilities may also be required as a condition of approval.

TC-1.15 Traffic Impact Study
The County shall require an analysis of traffic impacts for land development projects that may generate increased traffic on County roads. Typically, applicants of projects generating over 100 peak hour trips per day or where LOS “D” or worse occurs, will be required to prepare and submit this study. The traffic impact study will include impacts from all vehicles, including truck traffic.

TC-1.16 County Level Of Service (LOS) Standards
The County shall strive to develop and manage its roadway system (both segments and intersections) to meet a LOS of “D” or better in accordance with the LOS definitions established by the Highway Capacity Manual.



Tulare County Road System | Figure 13-1

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See Tables 13.1 and 13.2: Traffic Flow Facilities below.

Table 13.1 Uninterrupted Traffic Flow Facilities LOS

LOS A	Represents free flow. Individual vehicles are virtually unaffected by the presence of others in the traffic stream.
LOS B	Is in the range of stable flow, but the presence of other vehicles in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.
LOS C	Is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual vehicles becomes significantly affected by interaction with others vehicles in the traffic stream.
LOS D	Is a crowded segment of roadway with a large number of vehicles restricting mobility and stable flow. Speed and freedom to maneuver are severely restricted and the driver experiences a generally poor level of comfort and convenience.
LOS E	Represents operating conditions at or near level capacity. All speeds are reduced to a low, but relatively uniform value. Small increases in flow will cause breakdowns in traffic movement.
LOS F	Is used to define forced or breakdown flow (stop and go gridlock). This condition exists wherever the amount of traffic approaches a point where the amount of traffic exceeds the amount that can travel to a destination. Operations within queues are characterized by stop-and-go waves and they are extremely unstable.

Source: 2004/05 Regional Transportation Plan, Tulare County Association of Governments

Table 13.2 Interrupted Traffic Flow Facilities LOS

LOS A	Describes operations with average intersection stopped delay of ten seconds or less (how long a driver must wait at a signal before the vehicle can begin moving again).
LOS B	Describes operations with average intersection stopped delay in the range of 10.0 to 20.0 seconds per vehicle and with reasonably unimpeded operations between intersections.
LOS C	Describes operations with higher average stop delays at intersections (in the range of 20.0 to 35.0 seconds per vehicle). Stable operations between locations may be more restricted due to the ability to maneuver and change lanes at mid-block locations can be more restrictive than LOS B. Further, longer queues and/or adverse signal coordination may contribute to lower average speeds.
LOS D	Describes operations where the influence of delay is more noticeable (35.0 to 55.0 seconds per vehicle). Intersection stopped delay is longer and the range of travel speeds are about 40 percent below free flow speed. This is caused by inappropriate signal timing, high volumes, and some combinations of these.
LOS E	Is characterized by significant approach stopped delay (55.0 to 80.0 seconds per vehicle) and average travel speeds of one-third the free flow speed or lower. These conditions are generally considered to represent the capacity of the intersection or arterial.
LOS F	Is characterized arterial flow at extremely low speeds with high intersection stopped delay (greater than 80.0 seconds per vehicle). Poor progression, long cycles lengths, and high traffic demand volumes may be major contributing factor to this condition. Traffic may be characterized by frequent stop-and-go conditions.

Source: 2004/05 Regional Transportation Plan, Tulare County Association of Governments

TC-1.17 Level of Service Coordination
The County shall work with cities and neighboring jurisdictions to provide acceptable and compatible levels of service and encourage joint funding of the roadway improvement projects benefiting cities and the unincorporated areas.

TC-1.18 Balanced System
The County shall strive to meet transportation needs and maintain LOS standards through a balanced Multimodal Transportation Network that provides alternatives to the automobile.

TC-1.19 Balanced Funding
The County shall promote a balanced approach to the allocation of transportation funds to optimize the overall County transportation system.

13.2 Rail Transportation

TC-2 To improve and enhance current rail services that stimulate economic growth and meet the needs of freight and human transportation.

TC-2.1 Rail Service
The County shall support improvements to freight and expanding passenger rail service throughout the County.

TC-2.2 Rail Improvements
The County shall work with cities to support improvement, development, and expansion of passenger rail service in Tulare County.

TC-2.3 Amtrak Service
The County shall encourage Amtrak to add passenger service to the Union Pacific corridor in the County.

TC-2.4 High Speed Rail (HSR)
The County shall coordinate with TCAG and the California High Speed Rail Authority in efforts to locate the HSR corridor with a passenger stop and maintenance facility in Tulare County.

See also Chapter 5-Economic Development, Policy ED-3.5: High Speed Rail.

TC-2.5 Railroad Corridor Preservation
The County shall work with other agencies to plan railroad corridors to facilitate the preservation of important railroad rights-of–way for future rail expansion or other appropriate transportation facilities.

TC-2.6 Rail Abandonment
The County shall coordinate with the Public Utilities Commission and TCAG to evaluate possible impacts of rail line abandonment proposals and consider alternatives uses for abandoned facilities, such as light rail, bike trails, utility corridors, or transit facilities.

TC-2.7 Rail Facilities and Existing Development
The County will work with the California Public Utilities Commission (CPUC) to ensure that new railroads rights-of-ways, yards, or stations adjacent to existing residential or commercial areas are screened or buffered to reduce noise, air, and visual impacts. Similarly, the County should coordinate with the CPUC and railroad service providers to address railroad safety issues as part of all future new development that affects local rail lines. Specific measures to be considered and incorporated into the design of future projects affecting rail lines include, but are not limited to, the installation of grade separations, warning signage, traffic signaling improvements, vehicle parking prohibitions, installation of pedestrian-specific warning devices, and the construction of pull out lanes for buses and vehicles.

13.3 Aviation

TC-3 To enhance airports in the County to meet the County's changing needs and demands while minimizing adverse airport related environmental impacts and safety hazards. .

TC-3.1 Enhancement of Countywide Airport System
The County shall coordinate with TCAG and the cities to support the enhancement of the Countywide airport system, including the potential expansion of commercial airline passenger service.

TC-3.2 Airport System Development
The County shall direct operations and maintenance toward servicing as much of forecasted aviation demand as possible within reasonable fiscal constraints. However, publicly-owned and operated airports shall not be expected to satisfy all anticipated demand for aviation facilities and related services in the County.

TC-3.3 Airport Enhancement
The County shall encourage and facilitate development of the County's public airports in conformance with the Tulare County Comprehensive Airport Land Use Plan (CALUP).

TC-3.4 Airport Compatibility
Protect existing and future airport operations from encroachment by potentially incompatible land uses and require developers to file an aviation easement with the County if a proposed development or expansion of an existing use is located within the approach or approach transition zones designation in the Tulare County Comprehensive Airport Land Use Plan.

TC-3.5 Private Ownership
The County shall consider the development and maintenance of privately-owned and operated airport facilities in the County provided such development and operation does not conflict with established land use or other public policies and does not result in adverse impacts on the operation, maintenance, and long term viability of existing airport facilities.

TC-3.6 Airport Encroachment
The County shall seek to avoid encroachment on airports by incompatible urban land uses.

TC-3.7 Multi-modal Development
The County shall support the development of multi-modal terminal facilities at County airports.

13.4 Public Transportation

TC-4 To support the development of a public transportation system that provides an alternative to the private automobile and meets the needs of those considered "transit dependent".

TC-4.1 Transportation Programs
The County shall support the continued coordination of transportation programs provided by social service agencies, particularly those serving elderly and/or handicapped.

TC-4.2 Determine Transit Needs
The County will continue to work with TCAG, cities, and communities in the County to evaluate and respond to public transportation needs.

TC-4.3 Support Tulare County Area Transit
The County shall request the support of TCAG for development of transit services outlined in the County's Transit Development Plan (TDP). Efforts to expand Tulare County Area Transit should be directed towards:

1. Encouraging new and improving existing transportation services for the elderly and disabled, and
2. Providing intercommunity services between unincorporated communities and cities.

TC-4.4 Nodal Land Use Patterns that Support Public Transit
The County shall encourage land uses that generate higher ridership including; high density residential, employment centers, schools, personal services, administrative and professional offices, and social/recreational centers, to be clustered within a convenient walking distance of one another.

TC-4.5 Transit Coordination
The County shall encourage regional coordination to facilitate improved connectivity between County and city operated transit systems and other transportation modes.

TC-4.6 San Joaquin Valley Intelligent Transportation System Strategic Deployment Plan
The County shall utilize the San Joaquin Valley Intelligent Transportation System Strategic Deployment Plan to facilitate public transportation services.

TC-4.7 Transit Ready Development
The County shall promote the reservation of transit stops in conjunction with development projects in likely or potential locations for future transit facilities.

13.5 Other Transportation Modes

TC-5	To encourage the development of safe, continuous, and easily accessible bicycle and trail systems that facilitate the use of viable transportation alternatives in a safe and financially feasible manner.

TC-5.1 Bicycle/Pedestrian Trail System
The County shall coordinate with TCAG and other agencies to develop a Countywide integrated multi-purpose trail system that provides a linked network with access to recreational, cultural, and employment facilities, as well as offering a recreational experience apart from that available at neighborhood and community parks.

TC-5.2 Consider Non-Motorized Modes in Planning and Development
The County shall consider incorporating facilities for non-motorized users, such as bike routes, sidewalks, and trails when constructing or improving transportation facilities and when reviewing new development proposals. For developments with 50 or more dwelling units or non-residential projects with an equivalent travel demand, the feasibility of such facilities shall be evaluated.

TC-5.3 Provisions for Bicycle Use
The County shall work with TCAG to encourage local government agencies and businesses to consider including bicycle access and provide safe bicycle parking facilities at office buildings, schools, shopping centers, and parks.

ⓘ *See Figure 13-1: Regional Bicycle Transportation Plan on the next page.*

TC-5.4 Design Standards for Bicycle Routes
The County shall utilize the design standards adopted by Caltrans and as required by the Streets and Highway Code for the development, maintenance, and improvement of bicycle routes.

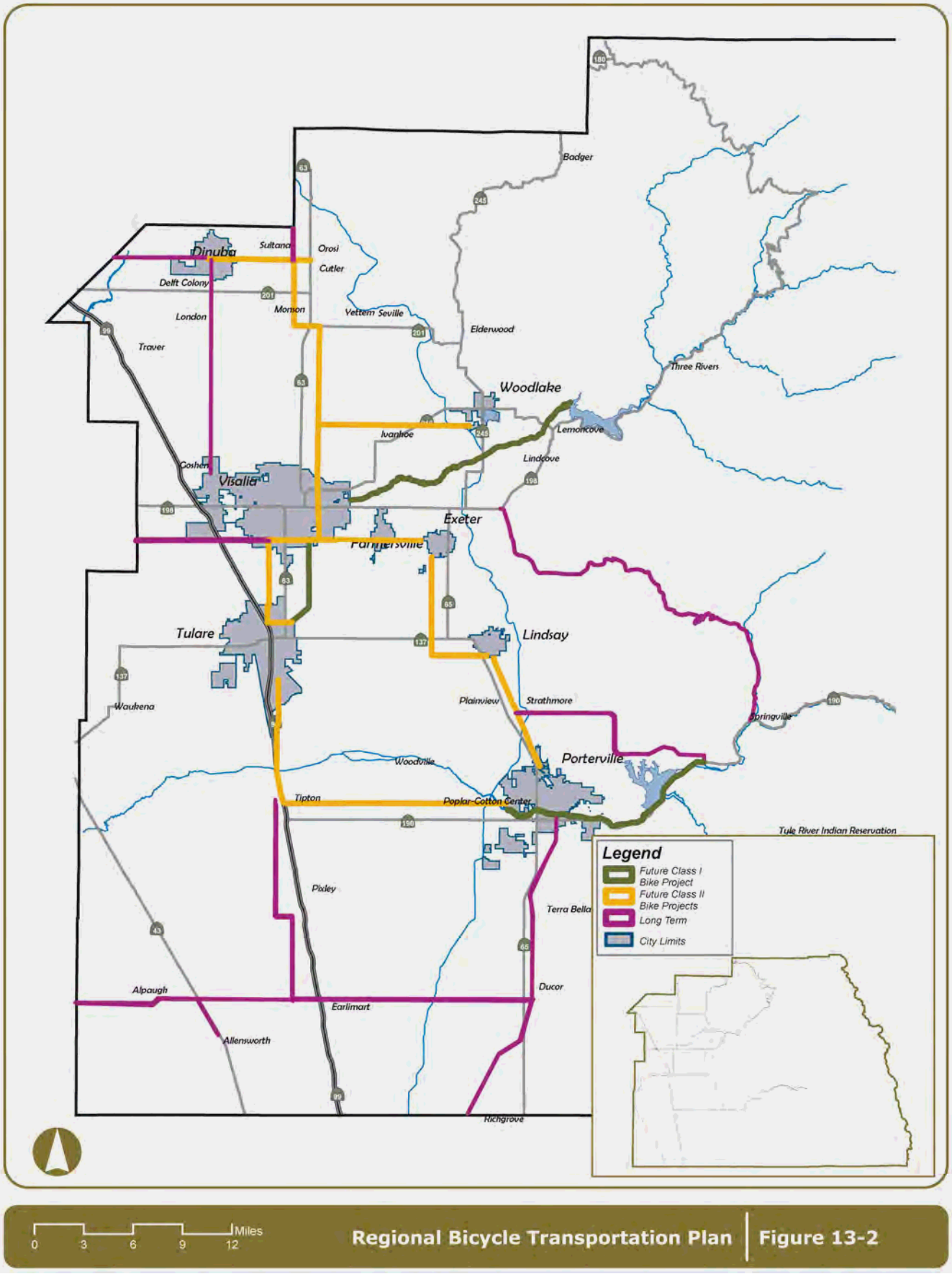
TC-5.5 Facilities
The County shall require the inclusion of bicycle support facilities, such as bike racks, for new major commercial or employment locations.

TC-5.6 Regional Bicycle Transportation Plan
The County shall identify Countywide recreational and commuter bicycle routes and update the Tulare County Regional Bicycle Transportation Plan as appropriate.

TC-5.7 Designated Bike Paths
The County shall support the creation and development of designated bike paths adjacent to or separate from commute corridors.

TC-5.8 Multi-Use Trails
The County shall encourage the development of multi-use corridors (such as hiking, equestrian, and mountain biking) in open space areas, along power line transmission corridors, utility easements, rivers, creeks, abandoned railways, and irrigation canals.

TC-5.9 Existing Facilities
The County shall support the maintenance of existing bicycle and pedestrian facilities.



Regional Bicycle Transportation Plan | Figure 13-2

13.6 Work Plan/Implementation Measures

The following table documents the Implementation Measures included with the General Plan to implement the goals and policies included in this Element.

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
1. Through the Pavement Management System (PMS), the County shall continue to maintain a database of all County maintained roadways to determine which roadways should no longer be maintained and allowed to return to rural/agricultural roads.	TC-1.1 TC-1.3	RMA	■			■
2. The County shall develop an impact fee program to offset the cost of development and maintenance of the County roadway system as necessitated by new development.	TC-1.1 TC-1.3 TC-1.5 TC-1.14	RMA	■			■
3. The County shall utilize local community road improvement funds under Measure R to upgrade local community roads and farm to market roads.	TC-1.1 TC-1.5	RMA; TCAG				■
4. Prior to approval of Special Use Permits and/or site plan review for any new facility with truck traffic generating characteristics, the County shall require the applicant to demonstrate an adequate on-site truck parking/staging/maneuvering facility that precludes the need for truck queuing and parking on adjacent public roadways.	TC-1.8	RMA				■
5. The County shall require new subdivisions to join or create an assessment district for maintaining public roads installed with the development.	TC-1.2	RMA				■
6. The County shall update the County Improvement Standards for roadways to: a. Reflect urban improvement standards for projects inside UDBs, HDBs and/or UABs, b. Reflect standards to be used outside of UDBs, HDBs and UABs, c. Reduce air emissions related to construction and operations, d. Enhance public safety, and e. Accommodate smart growth design principles by developing standards for pedestrian facilities, bike paths, cycle shoulder lanes, and traffic calming devices such as bulb-outs at intersections, etc..	TC-1.2 SL-4.2 LU-7.3	RMA				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
7. The County shall coordinate with TCAG during their update to the Regional Transportation Plan (RTP).	TC-1.3 TC-1.4	RMA				■
8. The County shall maintain efforts to seek Federal and State funding for roadway construction, transit services, alternative modes, and capital improvements at public airports.	TC-1.4	RMA				■
9. To decrease deterioration of County maintained roadways or State highways, the County shall amend the Zoning Ordinance to require that the access apron between the existing road and new driveways and other access points are paved, as a condition of approval for private development projects affecting the County road system.	TC-1.5	RMA	■			
10. The County shall regularly review and update the Pavement Management System as part of the annual budget process.	TC-1.5 TC-1.6	RMA, Engineering				■
11. During development or maintenance of a regional growth corridor plan, the County shall evaluate appropriate locations for an intermodal freight village.	TC-1.7	RMA, Planning				■
12. The County shall coordinate with Caltrans and TCAG on planning, engineering, and advanced design of State highway projects including future routes, such as the Highway 65 extension.	TC-1.9	RMA				■
13. The County shall promote cooperative City-County-State efforts to protect existing and future alignments of major streets, highways, and interchanges from encroachment. Three legal devices may be used to protect future highway alignments: a. The precise thoroughfare plan (official plan lines), which can be used either for entirely new sections of highway or to protect areas required for the widening of existing highways, b. Building line setbacks along existing highways, and c. Conditions of approval on discretionary approvals.	TC-1.13	RMA				■
14. The County shall investigate a formal system for collecting a pro-rata share of roadway improvements	TC-1.13 TC-1.14	RMA				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
to address project impacts and future regional needs.						
15. The County shall evaluate its LOS standards and road standards every five (5) years in coordination with the five year General Plan review.	TC-1.16 TC-1.17	RMA				■
16. The County shall work with new subdivision proposals or other development to protect rail corridors for future linear uses, such as rail reuse or new trails.	TC-2.5	RMA				■
17. The County shall ensure the compatibility of the CALUP with the General Plan.	TC-3.3 TC-3.4 TC-3.6	RMA, Planning				■
18. The County shall encourage agencies and organizations to pursue available Federal and State funding, grants, and other funds that can be applied to transportation and transit projects.	TC-1.4	County				■
19. The County shall work annually with TCAG to program transit projects through the Federal Transportation Improvement Program (FTIP) and Regional Transportation Improvement Program (RTIP).	TC-4.2	RMA				■
20. The County shall work with transit system operators to develop a “Fast Pass” type system that allows for seamless transfers between transit systems within the County.	TC-4.5	RMA				■
21. As part of the development review process, projects will be conditioned to incorporate appropriate trail facilities in keeping with plans for a Countywide trail system.	TC-5.1	RMA				■
22. The County shall evaluate the need for facilities for non-motorized users (e.g., bicycles, pedestrians) in new development projects.	TC-5.1 TC-5.2	RMA				■
23. The County shall evaluate the Tulare County Regional Bicycle Plan every five (5) years in coordination with the five year General Plan review.	TC-5.3 TC-5.5	RMA; TCAG				■
24. The County shall coordinate with TCAG to develop and implement a trails master plan.	TC-5.3	RMA; TCAG		■		
25. The County shall ensure implementation of the Tulare County Regional Bicycle Plan during the project entitlement process.	TC-5.6	RMA, Planning				■
26. The County shall work with TCAG to update the Regional Bicycle Plan to connect the core areas of the unincorporated communities and	TC-5.6	RMA, Planning	■			

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
prioritize provision of those portions of the regional routes within the UDBs of these communities.						
27. The County shall seek funding sources to acquire and consolidate properties comprising old rail corridors if beneficial to future transportation use, including trails, and will encourage regional and local transportation agencies to assist as a partner in this effort.	TC-5.2 TC-5.8 TC-5.9	RMA				■
28. The County shall develop and maintain a database of roadways and railways that are no longer in service to be used as pedestrian and equestrian trails.	TC-5.8 TC-5.9	RMA	■			■

Please see next page.

13.7 Implementation Program – Roadway Standards

Roadway Functional Classification System

Roadways serve two necessary but conflicting functions: mobility and property access. High and constant speeds, with few interruptions and limited conflicting traffic, are desirable for mobility. A functional classification system provides for specialization in meeting the access and mobility requirements of the development permitted under the General Plan. Local streets emphasize property access; freeways, and arterials emphasize high mobility for through-traffic; and collectors attempt to achieve a balance between both functions.

An efficient transportation system is an important component of a strong and dynamic economy. Access control is the greatest single correlative to traffic safety and regional mobility. Good access management practices will ensure that the transportation system will continue to serve the needs of Tulare County and the regional economy far into the future by insuring safe, efficient, and convenient mobility.

The Circulation Diagram represents the official functional classification of existing and proposed streets, roadways, and highways in Tulare County (see Figure 13.1: Tulare County Road System). This diagram depicts the State highways, arterial, and collector roadway system in Tulare County. All other roadways are classified as local streets. The County's functional classification system recognizes differences in roadway functions and standards between urban/suburban areas and rural areas. The following paragraphs define the linkage and functions provided by each class of roadways. Furthermore, streets and highways as written in the County's Ordinance Code is represented by all classifications.

Freeways provide for the ability to carry large traffic volumes at high speeds for long distances. Access points are fully controlled. Freeways connect points within the County and link the County to other parts of the State.

Arterials provide for mobility within the County and its cities, carrying through traffic on continuous routes and joining major traffic generators, freeways, and other arterials. Access to abutting private property and intersecting local streets shall generally be restricted.

Collectors provide for internal traffic movement within communities, and connect local roads to arterials. Direct access to abutting private property shall generally be permitted.

Local Roads provide direct access to abutting property and connect with other local roads, collectors, and arterials. Local roads are typically developed as two-lane undivided roadways. Access to abutting private property and intersecting streets shall be permitted.

Program 1

Right-of-way (ROW) standards for each functional roadway classification shall be as follows:

- Major Urban and Major Rural Arterials – Desirable ROW = 110 feet.
- Other Urban and Rural Arterials – Desirable ROW = 84 feet.
- Urban and Rural Collectors – Desirable ROW = 60 feet.
- Local Roads – Desirable ROW = 60 feet; however, Tulare County improvement standards allow 56 foot rights-of-way in certain circumstances.

- All Classes – Additional right-of-way may be required in the vicinity of some intersections for all functional roadway classifications.

Program 2
Access and parking policies for each functional roadway classification within the County shall be as follows:

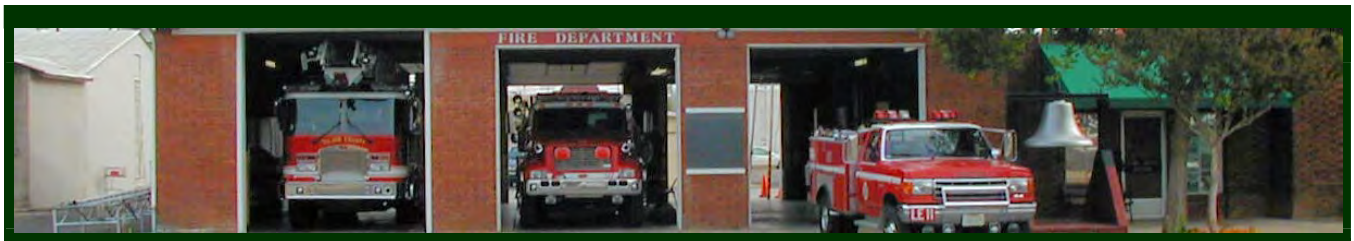
- Freeways: Freeway access shall be limited to grade separated interchanges. Only emergency parking is allowed,
- Major Urban Arterials: Access from abutting parcels shall be discouraged. Consolidation of driveways shall be encouraged. Parking may be prohibited if additional capacity is needed,
- Major Rural Arterials: Access from abutting parcels shall be discouraged. Consolidation of driveways shall be encouraged,
- Other Urban Arterials: Access from abutting parcels shall be discouraged. Consolidation of driveways shall be encouraged. Parking may be allowed but should be discouraged,
- Other Rural Arterials: Access from abutting parcels shall be discouraged. Consolidation of driveways shall be encouraged, and
- Urban Collectors, Rural Collectors, and Local Roads: Access shall be permitted from abutting parcels.

Parking restrictions along facilities in unincorporated urban areas shall be determined from roadway classification policies described herein or, in situations where variations are desired, as determined by the RMA and Development Services Department.

Program 3
Each functional roadway classification, pavement widths, lane configurations, and where applicable to the specific functional classification of road, medians and/or shoulder widths shall be based on acceptable design standards of the agency having jurisdiction over the facility.

Program 4
Requirements for frontage improvements on each functional roadway class shall be as follows:

- Major Urban Arterials, Other Urban Arterials, Urban Collectors Within Urban Improvement Boundaries (Urban Development Boundaries): urban improvement standards shall be required, including curb and gutter, sidewalks, and street lights;
- Major Rural Arterials, Other Rural Arterials: Rural improvement standards (emphasizing higher profile grades and all weather shoulders) shall be applied. Curb and gutter shall not be provided;
- Rural Collectors: Rural improvement standards shall be applied to include all weather shoulders; and
- Rural Local Roads: County rural facility standards shall be applied.



14. Public Facilities and Services

The Public Facilities and Services Element is divided into the following sections:

- General (Section 14.1)
- Water Supply (Section 14.2)
- Wastewater (Section 14.3)
- Storm Drainage (Section 14.4)
- Solid Waste (Section 14.5)
- Communications Systems (Section 14.6)
- Fire Protection and Law Enforcement (Section 14.7)
- Schools and Community Facilities (Section 14.8)
- Energy Facilities (Section 14.9)
- Work Plan/Implementation Measures (Section 14.10)

Key Terms

The following terms are used in this Element to describe the issues related to public facilities and services:

Capital Improvement Program (CIP). Typically a five year program by which an agency schedules permanent improvements to public facilities to fit the projected fiscal capability of the local service area. The program generally is reviewed annually for conformance to and consistency with the General Plan and the Strategic Business Plan.

Community Service District (CSD). CSDs are independent districts established in accordance with the CSD Law. CSDs are formed for a specific geographic sub-area of a County and used for the planning and delivery of water and wastewater treatment, parks, recreation, and other human services based on an assessment of the service needs of the population in that sub-area. A CSD is a taxation district with independent administration.

County Service Area (CSA). CSAs are a special taxing area which bears a special assessment or service charge for particular types of extended services. Services may be expanded with Local Agency Formation Commission (LAFCo) approval at any time following formation, allowing County service areas to provide virtually every service. County service areas may annex contiguous or non-contiguous territory. County service areas are managed by the Board of Supervisors, which sits as a Board of Supervisors, not as an ex-officio governing board. Under the Board of Supervisor's direction, County service areas may levy taxes, establish zones of benefit, incur bonded indebtedness and enter into contracts.

Detention. The temporary storage of storm runoff to attenuate peak runoff and to provide water quality treatment benefits.

Groundwater. Water that flows or seeps downward and saturates soil or rock, supplying springs and wells. The upper surface of the saturate zone is the water table.

Groundwater Recharge. Inflow of water to a ground water reservoir from the surface. Infiltration of precipitation and its movement to the water table is one form of natural recharge.

Hazardous Waste. Any substance that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment.

Internet. A system of linked computer networks, international in scope, that facilitates data communication services such as remote log-in, file transfer, electronic mail, and newsgroups.

Local Agency Formation Commission (LAFCo). The agency in each County with the authority and responsibility to establish procedures for local government changes of organization, including city incorporation, annexation to a city or special district, and consolidation of cities or special districts. The primary power of LAFCo is to act on local agency boundary changes and to adopt spheres of influence (SOIs) for local agencies.

Potable Water. Water that is safe to be consumed by humans. Water of sufficient quality to serve as drinking water is called potable water, whether it is used as such or not. Although most fresh water sources are drinkable by humans, they can be a disease vector or cause long-term health problems if they do not meet certain water quality guidelines.

Public Utility District (PUD). PUDs are independent special districts established in accordance with the PUD Act, [Public Utilities Code Section 15501, et seq]. A PUD is a public agency that provides water service, wastewater collection, treatment, export, and other public services to residents and businesses within its district.

Retention Basin. Longer-term water storage with no outlet provided. Retained water would infiltrate into the soil or evaporate.

Sewage. See definition of wastewater.

Solid Waste. Unwanted or discarded material that is neither a liquid nor a gas. Organic wastes and paper products account for about 75 percent of the typical urban solid waste stream.

Storm Drainage. A system to convey storm water runoff from public and private property to a retention or detention facility.

Transfer Station. Facilities where municipal solid waste is unloaded from collection vehicles and briefly held while it is reloaded onto larger long-distance transport vehicles for shipment to landfills or other treatment or disposal facilities.

Wastewater. Water that carries wastes from homes, businesses, and industries; a mixture of water and dissolved or suspended solids.

Water Quality. A term used to describe the chemical, physical, and biological characteristics of water, usually in respect to its suitability for a particular purpose. Water quality criteria establish standards necessary to protect and ensure that beneficial uses are attained. Criteria may be numeric or narrative

standards that are designed to restore and maintain the chemical, physical, and biological integrity of a water body.

Zone of Benefit. A zone established by the Board of Supervisors, within any County service area with tax rates, service charges, and benefit assessments varying with the extent of benefit to each zone derived from services provided to the property within each zone or with the availability of other funds within a zone.

Existing Conditions Overview

Tulare County and special districts provide many important services to County residents and businesses in unincorporated communities and hamlets such as water, wastewater, storm drainage, solid waste removal, utilities, communications, fire protection, law enforcement, and a number of other community facilities and services (schools, community centers, etc.).

Water districts supply water to communities and hamlets throughout the County. Most communities and some hamlets have wastewater treatment systems; however, several communities including Three Rivers, Plainview, Alpaugh, and Ducor rely on individual septic systems. Storm drainage facilities are generally constructed and maintained in conjunction with transportation improvements or new subdivisions in communities. Solid waste collection in the County is divided into service areas, as determined by the Board of Supervisors, with one license for each area. Southern California Edison provides electric service to the south and central areas of Tulare County while PG&E provides electric service in the north. The Gas Company is the primary provider of natural gas throughout the County.

In 2006, the Tulare County Sheriff's Department had 450 officers serving the unincorporated County. Tulare County also has a Countywide fire department run jointly by the County and California Fire (CF). The County manages fire protection in the valley portions of the County, with continued support by CF in the foothill portions of the County.

Other community facilities such as parks, libraries, and schools are located throughout the County, mostly in communities and hamlets.

14.1 General

PFS-1	To establish and maintain acceptable levels of service, minimize costs, and provide criteria for determining the location, capacity, and timing of existing and future public facilities and services.

PFS-1.1 Existing Development
The County shall generally give priority for the maintenance and upgrading of County-owned and operated facilities and services to existing development in order to prevent the deterioration of existing levels-of-service.

PFS-1.2 Maintain Existing Levels of Services
The County shall ensure new growth and developments do not create significant adverse impacts on existing County-owned and operated facilities.

PFS-1.3 Impact Mitigation
The County shall review development proposals for their impacts on infrastructure (for example, sewer, water, fire stations, libraries, streets, etc). New development shall be required to pay its proportionate share of the costs of infrastructure improvements required

to serve the project to the extent permitted by State law. The lack of available public or private services or adequate infrastructure to serve a project, which cannot be satisfactorily mitigated by the project, may be grounds for denial of a project or cause for the modification of size, density, and/or intensity of the project.

PFS-1.4 Standards of Approval

The County should not approve any development unless the following conditions are met:

1. The applicant can demonstrate all necessary infrastructure will be installed and adequately financed,
2. Infrastructure improvements are consistent with adopted County infrastructure plans and standards, and
3. Funding mechanisms are provided to maintain, operate, and upgrade the facilities throughout the life of the project.

PFS-1.5 Funding for Public Facilities

The County shall implement programs and/or procedures to ensure that funding mechanisms necessary to adequately cover the costs related to planning, capital improvements, maintenance, and operations of necessary public facilities and services are in place, whether provided by the County or another entity.

PFS-1.6 Funding Mechanisms

The County shall use a wide range of funding mechanisms, such as the following, to adequately fund capital improvements, maintenance, and on-going operations for publicly-owned and/or operated facilities:

1. Establishing appropriate development impact fees,
2. Establishing assessment districts, and
3. Pursuing grant funding.

PFS-1.7 Coordination with Service Providers

The County shall work with special districts, community service districts, public utility districts, mutual water companies, private water purveyors, sanitary districts, and sewer maintenance districts to provide adequate public facilities and to plan/coordinate, as appropriate, future utility corridors in an effort to minimize future land use conflicts.

PFS-1.8 Funding for Service Providers

The County shall encourage special districts, including community service districts and public utility districts to:

1. Institute impact fees and assessment districts to finance improvements,
2. Take on additional responsibilities for services and facilities within their jurisdictional boundaries up to the full extent allowed under State law, and
3. Investigate feasibility of consolidating services with other districts and annexing systems in proximity to promote economies of scale, such as annexation to city systems and regional wastewater treatment systems.

PFS-1.9 New Special Districts
When feasible, the County shall support the establishment of new special districts, including community service districts and public utility districts, to assume responsibility for public facilities and services.

PFS-1.10 Homeowner Associations
The County shall support the creation of homeowner associations, condominium associations, or other equivalent organizations to assume responsibility for specific public facilities and services.

PFS-1.11 Facility Sizing
The County shall ensure that publicly-owned and operated facilities are designed to meet the projected capacity needed in their service area to avoid the need for future replacement to achieve upsizing. For facilities subject to incremental sizing, the initial design shall include adequate land area and any other elements to easily expand in the future.

PFS-1.12 Security
The County shall seek to minimize vulnerability of public facilities to natural and man-made hazards and threats.

PFS-1.13 Municipal Service Reviews (MSRs)
The County shall use MSRs adopted by LAFCo and Urban Water Management Plans, as tools to assess the capacity, condition, and financing of various public utility services provided by special districts and cities, most commonly, domestic water and sanitary sewer.

PFS-1.14 Capital Improvement Plans
Pursuant to California Government Code §65401, annually, the County shall receive and review all proposed public works projects proposed by the County, its departments, boards, and commissions, and any school or special district in the County, and shall prepare a coordinated program of proposed public works for the ensuing fiscal year, for review by the Planning Commission as to conformity with the County General Plan.

PFS-1.15 Efficient Expansion
The County shall provide incentives for infill projects where an efficient expansion of the infrastructure delivery system is fully funded.

PFS-1.16 Joint Planning Efforts
The County will promote joint planning efforts between communities, hamlets, and cities within proximity of each other so that services and infrastructure planning can be complementary.

14.2 Water Supply

PFS-2	To ensure the provision of a reliable, safe, and adequate supply of high quality water as well as effective distribution and storage facilities to meet the existing and future needs in the County.

PFS-2.1 Water Supply
The County shall work with agencies providing water service to ensure that there is an adequate quantity and quality of water for all uses, including water for fire protection, by, at a minimum, requiring a demonstration by the agency providing water service of sufficient and reliable water supplies and water management measures for proposed urban development.

PFS-2.2 Adequate Systems
The County shall review new development proposals to ensure that the intensity and timing of growth will be consistent with the availability of adequate production and delivery systems. Projects must provide evidence of adequate system capacity prior to approval.

ⓘ *See also Chapter 11-Water Resources, Policy WR-3.3: Adequate Water Availability.*

PFS-2.3 Well Testing
The County shall require new development that includes the use of water wells to be accompanied by evidence that the site can produce the required volume of water without impacting the ability of existing wells to meet their needs.

PFS-2.4 Water Connections
The County shall require all new development in UDBs, UABs, Community Plans, Hamlet Plans, Planned Communities, Corridor Areas, Area Plans, existing water district service areas, or zones of benefit, to connect to the community water system, where such system exists. The County may grant exceptions in extraordinary circumstances, but in these cases, the new development shall be required to connect to the water system when service becomes readily available.

PFS-2.5 New Systems or Individual Wells
Where connection to a community water system is not feasible per PFS-2.4: Water Connections, service by individual wells or new community systems may be allowed if the water source meets standards for quality and quantity.

ⓘ *See also Chapter 11-Water Resources.*

14.3 Wastewater

PFS-3 To ensure the provision of adequate wastewater collection, treatment, and disposal within the County.

PFS-3.1 Private Sewage Disposal Standards
The County shall maintain adequate standards for private sewage disposal systems (e.g., septic tanks) to protect water quality and public health.

PFS-3.2 Adequate Capacity
The County shall require development proposals to ensure the intensity and timing of growth is consistent with the availability of adequate wastewater treatment and disposal capacity.

PFS-3.3 New Development Requirements
The County shall require all new development, within UDBs, UABs, Community Plans, Hamlet Plans, Planned Communities, Corridor Areas, Area Plans, existing wastewater district service areas, or zones of benefit, to connect to the wastewater system, where such systems exist. The County may grant exceptions in extraordinary circumstances, but in these cases, the new development shall be required to connect to the wastewater system when service becomes readily available.

PFS-3.4 Alternative Rural Wastewater Systems
The County shall consider alternative rural wastewater systems for areas outside of community UDBs and HDBs that do not have current systems or system capacity. For individual users, such systems include elevated leach fields, sand filtration systems, evapotranspiration beds, osmosis units, and holding tanks. For larger generators or groups of users, alternative systems, including communal septic tank/leach field systems, package treatment plants, lagoon systems, and land treatment, can be considered.

PFS-3.5 Wastewater System Failures
The County shall require landowners to repair failing septic tanks, leach field, and package systems that constitute a threat to water quality and public health or connect to an existing community system through applicable County and/or Regional Water Quality Control Board standards and requirements.

PFS-3.6 Care of Individual Systems
The County shall promote and support programs to educate homeowners on the care and maintenance of private sewage disposal systems.

PFS-3.7 Financing
The County shall cooperate with special districts when applying for State and federal funding for major wastewater related expansions/upgrades when such plans promote the efficient solution to wastewater treatment needs for the area and County.

14.4 Storm Drainage

PFS-4 To ensure the management of stormwater in a safe and environmentally sensitive manner through the provision of adequate storm drainage facilities that protect people and property.

PFS-4.1 Stormwater Management Plans
The County shall oversee, as per Community Plan Content Table PF-2.1 and Specific Plan Content, Hamlet Plans Policy PF-3.3, and Table LU-4.3, the preparation and adoption of stormwater management plans for communities and hamlets to reduce flood risk, protect soils from erosion, control stormwater, and minimize impacts on existing drainage facilities, and develop funding mechanisms as a part of the Community Plan and Hamlet Plan process.

PFS-4.2 Site Improvements
The County shall ensure that new development in UDBs, UABs, Community Plans, Hamlet Plans, Planned Communities, Corridor Areas, and Area Plans includes adequate stormwater drainage systems. This includes adequate capture, transport, and detention/retention of stormwater.

PFS-4.3 Development Requirements
The County shall encourage project designs that minimize drainage concentrations and impervious coverage, avoid floodplain areas, and where feasible, provide a natural watercourse appearance.

PFS-4.4 Stormwater Retention Facilities
The County shall require on-site detention/retention facilities and velocity reducers when necessary to maintain existing (pre-development) storm flows and velocities in natural drainage systems. The County shall encourage the multi-purpose design of these facilities to aid in active groundwater recharge.

PFS-4.5 Detention/Retention Basins Design
The County shall require that stormwater detention/retention basins be visually unobtrusive and provide a secondary use, such as recreation, when feasible.

PFS-4.6 Agency Coordination
The County shall work with the Army Corps of Engineers and other appropriate agencies to develop stormwater detention/retention facilities and recharge facilities that enhance flood protection and improve groundwater recharge.

PFS-4.7 NPDES Enforcement
The County shall continue to monitor and enforce provisions to control non-point source water pollution contained in the U.S. Environmental Protection Agency National Pollution Discharge Elimination System (NPDES) program.

ⓘ *Policies related to flood control are covered in Chapter 10-Health & Safety, Section 10.5: Flood Hazards.*

14.5 Solid Waste

PFS-5 To ensure the safe and efficient disposal and recycling of solid and hazardous waste generated in the County.

PFS-5.1 Land Use Compatibility with Solid Waste Facilities
The County shall ensure that solid waste facility sites (for example, landfills) are protected from the encroachment by sensitive and/or incompatible land uses.

PFS-5.2 Notification
The County shall provide notification to proposed development within one-mile of a solid waste facility of the existence of the solid waste facility and any proposed changes to the facility.

PFS-5.3 Solid Waste Reduction
The County shall promote the maximum feasible use of solid waste reduction, recycling, and composting of waste, strive to reduce commercial and industrial waste on an annual basis, and pursue financing mechanisms for solid waste reduction programs.

PFS-5.4 County Usage of Recycled Materials and Products
The County shall encourage all industries and government agencies in the County to use recycled materials and products where economically feasible.

PFS-5.5 Private Use of Recycled Products
The County shall work with recycling contractors to encourage businesses to use recycled products and encourage consumers to purchase recycled products.

PFS-5.6 Ensure Capacity
The County shall require evidence that there is adequate capacity within the solid waste system for the processing, recycling, transmission, and disposal of solid waste prior to approving new development.

PFS-5.7 Provisions for Solid Waste Storage, Handling, and Collection
The County shall ensure all new development adequately provides for solid waste storage, screening, handling, and collection prior to issuing building permits.

PFS-5.8 Hazardous Waste Disposal Capabilities
The County shall require the proper disposal and recycling of hazardous materials in accordance with the County's Hazardous Waste Management Plan.

PFS-5.9 Agricultural Waste
The County shall investigate waste disposal and reuse needs for agricultural wastes for energy and other beneficial uses and shall change County plans accordingly.

14.6 Communications Systems

PFS-6 To expand the use of information technology in order to increase the County's economic competitiveness, develop a more informed citizenry, and improve personal convenience for residents and businesses in the County.

PFS-6.1 Telecommunications Services
The County shall work with telecommunication providers to ensure that all residents and businesses have access to telecommunications services, including broadband internet service. To maximize access to inexpensive telecommunications services, the County shall encourage marketplace competition from multiple service providers.

PFS-6.2 Communication Technologies to Improve Citizen Participation
The County shall strive to expand opportunities for all citizens to participate in County governance through use of communication technologies, including the County website and cable television.

PFS-6.3 Siting of Telecommunications Infrastructure
To minimize the visual and locational impact of wireless telecommunications facilities, the County shall encourage the siting of telecommunications infrastructure to meet the following conditions:

1. Located away from residential and open space areas,
2. When possible, are located or collocated on existing buildings, existing towers, or other existing support structures,
3. Painted, camouflaged, textured, or otherwise designed to better integrate into existing conditions adjacent to the installation site,
4. Located in conformance with the Comprehensive Airport Land Use Plan to avoid vertical obstructions around public use airports in the County, and
5. Located to avoid vertical obstruction and frequency spectrum conflicts in military Special Use Airspace (SUA) and Military Operations Areas (MOA).

ⓘ *Additional policy concerning visual impacts can be found in Chapter 7-Scenic Landscapes.*

14.7 Fire Protection and Law Enforcement

PFS-7 To provide adequate fire and law enforcement facilities and services to ensure the safety of County residents and the protection of County property.

PFS-7.1 Fire Protection
The County shall strive to expand fire protection service in areas that experience growth in order to maintain adequate levels of service.

PFS-7.2 Fire Protection Standards
The County shall require all new development to be adequately served by water supplies, storage, and conveyance facilities supplying adequate volume, pressure, and capacity for fire protection.

PFS-7.3 Visible Signage for Roads and Buildings
The County shall strive to ensure all roads are properly identified by name or number with clearly visible signs.

PFS-7.4 Interagency Fire Protection Cooperation
The County shall continue to promote cooperative fire protection agreements with municipal and special district fire departments, State and federal forest agencies, and adjacent County fire departments to provide added fire protection on a year round basis.

PFS-7.5 Fire Staffing and Response Time Standards
The County shall strive to maintain fire department staffing and response time goals consistent with National Fire Protection Association (NFPA) standards.

Fire Staffing and Reponses Time Standards			
	Demographics	**Staffing/Response Time**	**% of Calls**
Urban	> 1,000 people/sq.mi.	15 FF/9 min.	90
Suburban	500-100 people/sq.mi.	10 FF/10 min.	80
Rural	< 500 people/sq.mi.	6 FF/14 min.	80
Remote*	Travel Dist.>8 min.	4 FF/no specific response time	90
*Upon assembling the necessary resources at the emergency scene, the fire department should have the capacity to safety commence an initial attach within 2 minutes, 90% of the time. FF: fire fighters			

ⓘ *Additional policy concerning fire safety can be found in Chapter 10-Health & Safety, Section 10.6: Urban and Wildland Fire Hazards.*

PFS-7.6 Provision of Station Facilities and Equipment
The County shall strive to provide sheriff and fire station facilities, equipment (engines and other apparatus), and staffing necessary to maintain the County's service goals. The County shall continue to cooperate with mutual aid providers to provide coverage throughout the County.

PFS-7.7 Cost Sharing
The County shall require new development to pay public facility fees associated with new sheriff/fire station facilities and equipment necessary to maintain the County's service standards in that area. New development may also be required to create or join a special assessment district, or other funding mechanism, to pay the costs associated with the operation of a sheriff/fire station.

PFS-7.8 Law Enforcement Staffing Ratios
The County shall strive to achieve and maintain a staffing ratio of 3 sworn officers per 1,000 residents in unincorporated areas.

PFS-7.9 Sheriff Response Time
The County shall work with the Sheriff's Department to achieve and maintain a response time of:

1. Less than 10 minutes for 90 percent of the calls in the valley region; and
2. 15 minutes for 75 percent of the calls in the foothill and mountain regions.

PFS-7.10 Interagency Law Enforcement Protection Cooperation
The County shall continue to promote cooperative law enforcement protection agreements with the Sheriff's Department, California Highway Patrol (CHP), local city police, and adjacent County law enforcement agencies to provide added public protection on a year round basis.

PFS-7.11 Locations of Fire and Sheriff Stations/Sub-stations
The County shall strive to locate fire and sheriff sub-stations in areas that ensure the minimum response times to service calls.

PFS-7.12 Design Features for Crime Prevention and Reduction
The County shall promote the use of building and site design features as means for crime prevention and reduction.

14.8 Schools and Community Facilities

PFS-8 To ensure adequate schools and community facilities are provided and are conveniently located for County residents.

PFS-8.1 Work with Local School Districts
The County shall work with local school districts to develop solutions for overcrowded schools and financial constraints of constructing new facilities.

PFS-8.2 Joint Use Facilities and Programs
The County shall encourage the development of joint school facilities, recreation facilities, and educational and service programs between school districts and other public agencies.

PFS-8.3 Location of School Sites
The County shall work with school districts and land developers to locate school sites consistent with current and future land uses. The County shall also encourage siting new schools near the residential areas that they serve and with access to safe pedestrian and bike routes to school.

PFS-8.4 Library Facilities and Services
The County shall encourage expansion of library facilities and services as necessary to meet the needs (e.g., internet access, meeting rooms, etc.) of future population growth.

PFS-8.5 Government Facilities in Community Centers
The County shall actively support development and expansion of federal, State, County, districts, and other governmental offices and facilities where infrastructure exists within community core areas.

PFS-8.6 School Funding
To the extent allowed by State law, the County may require new projects to mitigate impacts on school facilities, in addition to the use of school fees. The County will also work with school districts, developers, and the public to evaluate alternatives to funding/providing adequate school facilities.

14.9 Energy Facilities

PFS-9 To ensure all areas of the County are provided with gas and electric service.

PFS-9.1 Expansion of Gas and Electricity Facilities
The County shall coordinate with gas and electricity service providers to plan the expansion of gas and electrical facilities to meet the future needs of County residents.

PFS-9.2 Appropriate Siting of Natural Gas and Electric Systems
The County shall coordinate with natural gas and electricity service providers to locate and design gas and electric systems that minimize impacts to existing and future residents.

PFS-9.3 Transmission Corridors
The County shall work with the Public Utilities Commission and power utilities so that transmission corridors meet the following minimum requirements:

1. Transmission corridors shall be located to avoid health impacts on residential lands and sensitive receptors, and
2. Transmission corridors shall not impact the economic use of adjacent properties.

PFS-9.4 Power Transmission Lines
The County shall work with the Public Utilities Commission and power utilities in the siting of transmission lines to avoid interfering with scenic views, historic resources, and areas designated for future urban development.

ⓘ *Policies concerning visual impacts can be found in Chapter 7-Scenic Landscapes. Policies concerning energy conservation can be found in Chapter 8-Environmental Resources Management, Section 8.4: Energy Resources.*

Text continued on Page 14-15.

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14.10 Work Plan/Implementation Measures

The following table documents the Implementation Measures included with the General Plan to implement the goals and policies included in this Element.

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
1. The County shall prepare capital improvement programs for all County-owned and operated facilities and services to ensure consistency with the General Plan in order to maintain an adequate level of service.	PFS-1.2	CAO; RMA				■
2. The County shall annually review fees related to County-owned and operated facilities and County-provided services to ensure funding levels are both affordable and adequate to sustain these facilities/services long-term.	PFS-1.5 PFS-1.6	CAO; RMA				■
3. The County shall develop and adopt an impact fee program for new development to provide financing mechanisms to ensure the provision, operation, and on-going maintenance of appropriate public facilities and services (including, but not limited to, fire stations and equipment, police stations and equipment, utility infrastructure, recreational and library facilities). .	PFS-1.6 PFS-4.2 PFS-7.5 PFS-7.9 PFS-8.4 PFS-8.5 ERM-5.6	CAO; RMA	■			
4. For infill projects which include improvements to infrastructure, the County shall offer incentives including but not limited to density bonuses, CEQA exemptions, and financial assistance through redevelopment or Community Development Block Grants.	PFS-1.15	RMA,				■
5. The County shall conduct a study to evaluate alternatives for rural wastewater systems. Alternatives that could be evaluated include elevated leach fields, sand filtration systems, evapotranspiration beds, osmosis units and holding tanks. For larger generators or group of users, alternative systems include communal septic tank/leach field systems, package treatment plants, lagoon systems, and land treatment.	PFS-3.4	RMA		■		
6. The County shall prepare and	PFS-3.1	HHSA,				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
distribute information on the care and maintenance of private sewage disposal systems.	PFS-3.6	Env. Health				
7. The County shall consider amendments to the Subdivision Ordinance to restrict the number of lots allowed with septic tank and leach line systems, and review and upgrade the standards for such systems.	PFS-3.1	HHSA, Env. Health	■			
8. The County shall consider financial tools to prepare and implement drainage plans such as drainage acreage fees pursuant to Government Code § 66483, impact fees, Redevelopment Agency assistance and Community Development Block Grants, etc..	PFS-4.1	RMA				■
9. The County shall work with local agencies to prepare an update to the County's Integrated Waste Management Plan and Siting Element to determine existing and projected waste disposal needs, methods of disposable land characteristics suited for disposable sites, and anticipated locations.	PFS-5.1 PFS-5.2 PFS-5.6 PFS-5.7	RMA	■			
10. The County shall prepare and distribute educational materials to inform residents about reuse, recycling, and composting of solid waste materials.	PFS-5.4	RMA, Engineering	■			
11. The County shall prepare and adopt an ordinance for siting and design of telecommunication facilities.	PFS-6.3	RMA, Planning	■			
12. The County shall review and incorporate, as appropriate, the recommendations provided by the California Department of Forestry and Fire Protection and the Tulare County Fire Department Review Committee relative to fire protection.	PFS-7.2	RMA; CAL FIRE County Fire Department				■
13. For streetlights beyond those provided by the County for traffic safety, the County shall provide a mechanism to form lighting and landscaping assessment districts if communities, hamlets or developers are willing to participate.	PFS-7.13	RMA				■
14. The County shall maintain a map	PFS-7.5	RMA	■			

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
identifying the urban, suburban, rural and remote areas set forth in Policy PFS-7.5: Fire Staffing and Response Time Standards.						
15. The County shall work with power companies, communications companies, and the Public Utilities Commission to review power transmission plans and communication/cell tower needs for Tulare County for consistency with the Scenic Landscapes Element.	PFS-9.4 PFS-6.3	RMA; AT&T; Public Utilities Commission				■

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15. Flood Control Master Plan

The Flood Control Master Plan (FCMP) for Tulare County was adopted by the Tulare County Board of Supervisors in 1972 upon the recommendations of the Tulare County Flood Control District. This element addresses issues particularly related to flood control along natural watercourses in Tulare County. This adopted element is incorporated into this General Plan Update document as Chapter 15 and is not being amended at this time. A copy of the adopted element is available through the Tulare County Resource Management Agency and is also available on the internet at http://generalplan.co.tulare.ca.us/

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Tulare County General Plan

Part II

Area Plan Policies

August 2012

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Part II-Chapter 1. Rural Valley Lands Plan

The Rural Valley Lands Plan is divided into the following sections:

- Rural Valley Lands Plan Policies (Section 1.1)
- Work Plan/Implementation Measure (Section 1.2)
- Rural Valley Lands Plan Criteria and Evaluation Matrix and Checklist (Section 1.3)

Rural Valley Lands Plan (RVLP)

This chapter incorporates the RVLP adopted by the County in 1975. The RVLP applies to the Central Valley generally below the 600-foot elevation contour line along the foothills of the Sierra Nevada (including Valley Agricultural Extensions as described in Part II-Chapter 3) outside the County's Urban Development Boundaries (UDBs), Hamlet Development Boundaries (HDBs), Urban Area Boundaries (UABs) for cities, and other adopted land use plans which may include urban corridors, planned communities, and the Kings River Plan. Scenic and regional corridor plans may retain the RVLP subject to the policies developed in those plans (Part II-Figure 1-1: Rural Valley Lands Plan).

The RVLP was initiated in order to establish minimum parcel sizes for areas zoned for agriculture and to develop a policy that is fair, logical, legally supportable, and which consistently utilizes resource information to determine the suitability of rural lands for non-agricultural uses. The policies in this chapter will act as a guide to the Planning Commission and Board of Supervisors in determining appropriate minimum parcel sizes and areas where non-agricultural use exceptions in the rural areas of the County may be allowed.

Tulare County Annual Crop and Livestock Report

Tulare County is the third largest producer of agricultural products in the nation. In the 2008 Tulare County Annual Crop and Livestock Report, the gross production value of all agricultural products was listed as $5,018,022,800.00. Of a total of 120 commodities produced in the agricultural sector, the dairy industry is the leading commodity, with a total value of $1,796,425,000.00, followed by fruit and nut commodities ($1,835,198,000.00), field crops ($630,631,000.00) and nursery products ($85,413,000.00). In addition, agriculture produces income for other areas of the economy, including farm equipment assembly, maintenance and sales, as well as the banking and building industries.

It is important that land to be developed for non-agricultural uses be programmed in a gradual outward extension of present non-agricultural areas such that agricultural lands will not be unnecessarily fragmented and that service costs will be kept at an economic level. Where possible, non-agricultural uses should be directed to less desirable soils where conflicts with agriculture and impacts on the County's future agricultural productivity can be minimized. In addition, such uses should be directed to areas where groundwater level and soil suitability permit building without substantial public safety hazards or critical environmental disturbances.

Policy Analysis

Policy RVLP-1.3: Tulare County Agriculture Zones, permits the County to establish minimum parcel sizes (for example, 20, 40, 80 acres) that are necessary to preserve agricultural lands in increments large enough to support commercial agriculture and discourage the generation of urban land uses in predominantly agricultural areas. This policy will have the effect of slowing the dilution of required public services and diminish land use incompatibilities associated with non-agricultural uses interspersed with agricultural operations.

Policy RVLP-1.4: Determination of Agriculture Land, permits the County to zone parcels of land in an agricultural zone (for example: A-1, AE, AE-20, AE-80) to non-agricultural zoning classifications (for example: R-A, R-O, R-1, R-2, R-3, O, P-O, R-1, C-1, C-2, M-1, M-2) if it is found that the parcel is better suited for a non-agricultural zone classification by means of the system of selection set forth in the policy.

Policy RVLP-1.6: Checklist, permits the County to apply the system of selection set forth in the policy to rezoning applications which change the zoning classification from one agricultural zone to another agricultural zone and which have the effect of reducing the minimum parcel size limitation below those set forth in the Williamson Act.

Such a policy does away with the need to amend the General Plan each time a proposed zone change comes before the Planning Commission and Board of Supervisors. This policy allows for a more orderly and efficient review of those parcels zoned for agriculture which are proposed for a zone other than agriculture, because it eliminates the need to prepare specific plans for many small geographic areas.

Policy Statement

It is recognized that exceptions to the general policy described above are necessary and desirable. In order to determine in a consistent and logical fashion when such exceptions should apply, the following method shall be used to judge the relative agricultural or non-agricultural suitability of rural valley lands for zoning purposes.

Pursuant to this policy, all lands found to be more suitable for non-agricultural zoning by means of this system may be zoned for urban/suburban types of uses. The application of zoning to implement this policy, however, is discretionary and the County is not compelled to grant such zoning.

County Adopted City General Plans land use plans shall be adopted for incorporated cities within Urban Area Boundaries. The point exception system shall be used in an advisory capacity to evaluate the relative agricultural or non-agricultural suitability of lands located between the Urban Development Boundaries or Urban Area Boundaries for which a general plan amendment is proposed to expand or establish an Urban Development Boundary. The point total shall be considered along with other relevant information when approving or denying a proposed general plan amendment.

Fifteen (15) factors will be used to evaluate a parcel's suitability for non-agricultural zoning. (See Section 1.3: Rural Valley Lands Plan Criteria and Evaluation Matrix for factors, their value categories, definitions, justifications, and weighting criteria.)

In employing this method, a parcel of land is "surveyed". The two "Restricted to Agriculture" factors are applied initially. If a "Restricted to Agriculture" criteria is met for either of these factors, the parcel is to remain agriculturally zoned and no further point ratings need to be applied. If none of the "Restricted to Agriculture" criteria are met, the factors from the point value categories are applied. If a factor meets the "Highest Relative Suitability" criteria, it is assigned the number of points listed for that category. If a factor meets the "Lowest Relative Suitability" criteria, it receives no points.

> ⓘ *Valley Agriculture Extensions are subject to the RVLP. See (Part II) Chapter 3-FGMP, Page 3-1.*

1.1 Rural Valley Lands Plan Policies

RVLP-1 To sustain the viability of Tulare County's agriculture by restraining division and use of land which is harmful to continued agricultural use of non-replaceable resources.

RVLP-1.1 Development Intensity

The County shall limit non-agricultural development in the unincorporated portions of the valley area designated for agriculture, outside of established UDBs, UABs, HDBs, and other adopted land use plans which may include urban corridors, planned communities, and the Kings River Plan. The County shall maintain a minimum parcel size large enough to sustain agricultural use.

The County's rules for parcel sizes shall be based on zoning, slope, local agricultural conditions, and the need to ensure the viability of agricultural operations. Residential uses in support of agricultural operations are allowed if appropriate buffers from agricultural uses are provided.

RVLP-1.2 Existing Parcels and Approvals

The County shall consider the re-zoning of existing parcels less than the minimum required by agricultural zoning, if found to not be viable for agricultural purposes as per the RVLP checklist and if such re-zoning would not impinge upon current or future agricultural uses in the area.

RVLP-1.3 Tulare County Agriculture Zones

In order to protect and maintain the agricultural viability of the valley area, the County shall maintain several exclusive agricultural zones, each containing a different minimum parcel size. The County shall apply such zones to lands located outside adopted UDBs and HDBs, where such boundaries have been adopted, generally below and west of the 600-foot elevation contour line as it occurs in Tulare County, except where otherwise designated by the Land Use Element of the Tulare County General Plan (Part II-Figure 1-1). The County recognizes that there may be unique circumstances under which parcels as small as ten (10) acres in size may be agricultural in nature. The County further recognizes that twenty (20) acre, forty (40) acre, and eighty (80) acre minimum parcel sizes are necessary to maintain and protect the agricultural viability of significant portions of the County. A determination as to the most appropriate minimum parcel size for a particular area shall be made on the basis of factors relevant to the protection and maintenance of existing and/or potential agricultural uses of land including, but not limited to, factors such as existing land use patterns, land capability ratings for agriculture, and the occurrence of agricultural preserves. Nothing herein is intended to prevent the application of exclusive agricultural zones developed pursuant to this policy to lands located outside the above described area.

RVLP-1.4 Determination of Agriculture Land

The County shall not allow re-zoning of parcels that accumulate 17 or more points according to the RVLP Development Criteria (contained in Section 1.3 of this chapter). If the number of points accumulated is 11 or less, the parcel may be considered for non-agricultural zoning. A parcel receiving 12 to 16 points shall be determined to have fallen within a "gray" area in which no clear cut decision is readily apparent. In such instances, the Planning Commission

and Board of Supervisors shall make a decision based on the unique circumstances pertaining to the particular parcel of land, including factors not covered by this system.

RVLP-1.5 Non Conforming Uses

Irrespective of other policies or designations contained in the various elements of the Tulare County General Plan, zoning necessary to make a use conforming, which legally existed in the A-1 (Agricultural) Zone before January 11, 1973, is deemed to be consistent with the General Plan for purposes of Section 65860 of the Government Code. This opportunity will expire five years from the adoption date of this General Plan.

RVLP-1.6 Checklist

The RVLP checklist shall also be applicable to re-zoning applications which change the zoning classification from one agricultural zone to another agricultural zone and which have the effect of reducing the minimum parcel size in the following manner:

1. Less than ten (10) acres in the case of prime agricultural land, or
2. Less than forty (40) acres in the case of land which is not prime agricultural land.

The RVLP checklist is not required for existing parcels which do not meet the minimum parcel size as set forth in (1) and (2) above prior to the adoption of this policy.

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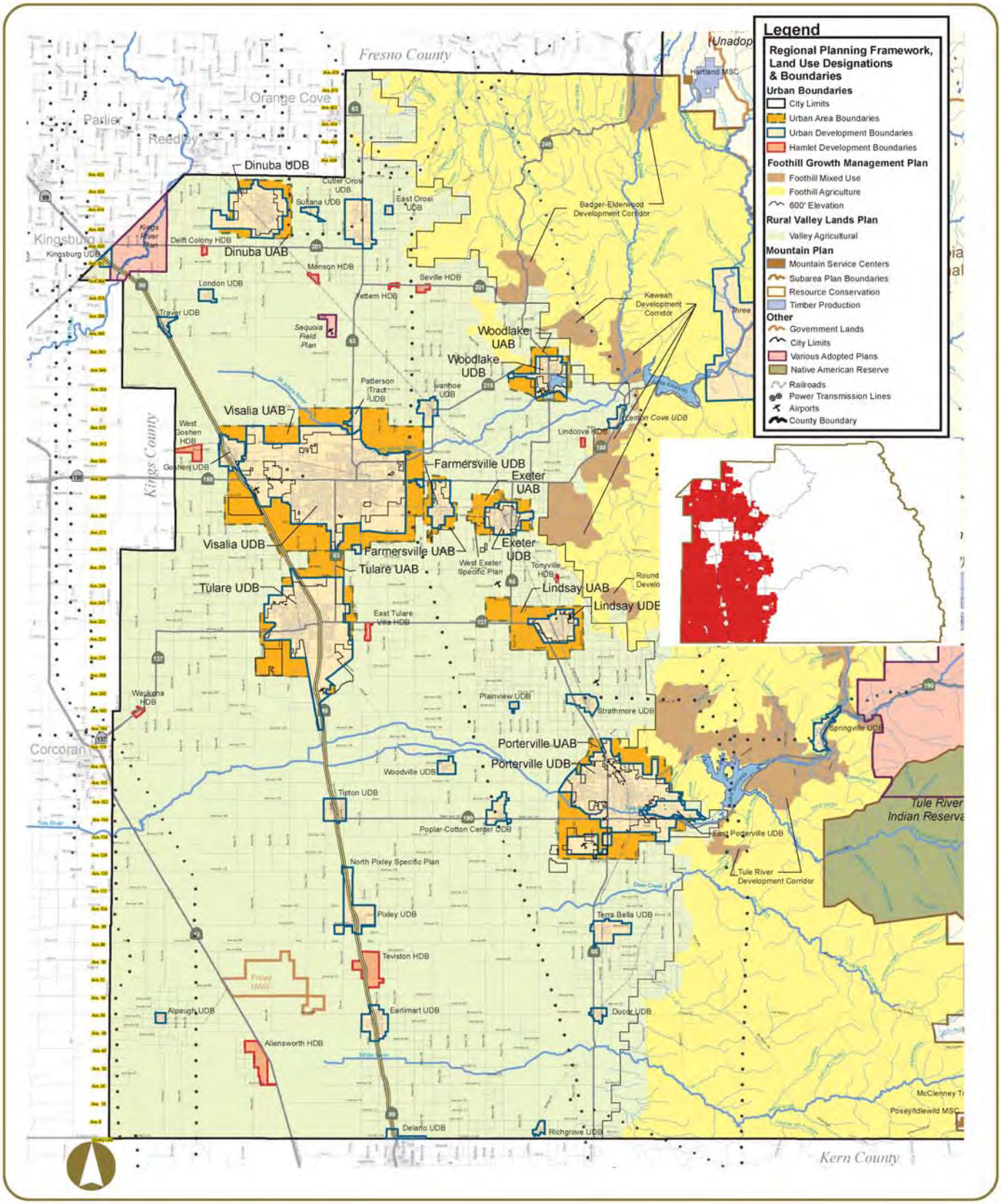

Rural Valley Lands Plan | Part II Figure 1-1

1.2 Work Plan/Implementation Measures

The following table documents the Implementation Measures included with the General Plan to implement the goals and policies included in this Chapter.

	Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
1.	The County shall continue to work with the Agricultural Advisory Committee or successor to ensure maintenance of the RVLP Criteria and Evaluation Procedures to identify parcels appropriate for non-agricultural zoning or development in areas designated as “agricultural” (see Land Use Diagram). The County shall periodically review the criteria and evaluation procedures and revise them as necessary.	RVLP-1.4	RMA; Agricultural Advisory Committee				■
2.	The County shall maintain zoning to conform with the RVLP and shall consider initiating re-zoning actions where necessary to correct inadvertent application of exclusive agricultural zoning to areas that qualify for non-agricultural zoning under the exception procedure (16 points or less).	RVLP-1.5	RMA				■

Please see next page.

1.3 Rural Valley Lands Plan Criteria and Evaluation Matrix

Definitions, Justifications, and Weighting of Factors

A. RESTRICTED TO AGRICULTURE VALUES

1. Agricultural Preserve Status

   a. Definition
   Determine if the site is within an agricultural preserve.

   b. Justification
   To prevent conflict between agricultural preserve rules and regulations and use of the land.

   c. Weighting Criteria

      1) Restricted to Agriculture - site is within an agricultural preserve.

         a) Importance - the Board of Supervisors has determined that these lands should be maintained in commercial agricultural production.

      2) Not Restricted to Agriculture - site is not within an agricultural preserve.

         a) Importance - these lands have other land use alternatives available to them.

2. Limitations for Individual Waste Disposal Facilities

   a. Definition
   Determine by conferring with the Tulare County Health Department if individual waste disposal facilities can be permitted on the parcel under review.

   b. Justification
   The Tulare County Health Department may determine that employing an individual waste disposal facility for the disposal of liquid waste will be in violation of County ordinances and/or State and federal laws or regulations.

   c. Weighting Criteria

      1) Restricted to Agriculture - employing an individual waste disposal facility is prohibited by law or regulation.

         a) Importance - prevent the contamination of the groundwater table.

      2) Not Restricted to Agriculture - employing an individual waste disposal facility is not prohibited by law.

         a) Importance - to direct non-agricultural development into areas where employing an individual waste disposal system will not result in the contamination of the groundwater table.

B. VARIABLE POINT VALUE

1. Land Capability

   a. Definition
   Determine the predominant land capability of the site for agricultural purposes.

   b. Justification
   To preserve prime agricultural lands for agricultural production.

c. Weighting Criteria

1) Highest Relative Suitability - lands which are of a Class I, II, III, or IV land capability. Their point values are as follows:

Class I, II, or III – 4 point value

Class IV – 2 point value

a) Importance - to preserve lands with agricultural capability by discouraging non-agricultural development.

2) Lowest Relative Suitability - lands which are not of Class I, II, III, or IV capability.

a) Importance - direct non-agricultural development into areas that are not suited for agricultural purposes.

C. FOUR POINT VALUES

1. Existing Parcel Size

a. Definition
Determine the parcel size of the applicant's entire contiguous ownership.

b. Justification
To provide for development of non-agricultural uses on those parcels which are less than five acres (gross) in size. This will prevent the division of lands into smaller parcels.

c. Weighting Criteria

1) Highest Relative Suitability - the site is five acres (gross) or larger in size.

a) Importance - to prevent further division of large agricultural parcels into smaller parcels, thus limiting their value for agricultural purposes.

2) Lowest Relative Suitability - the site is less than five acres (gross) in size.

a) Importance - to allow development of non-agricultural uses to occur on those parcels where most agricultural uses would be economically infeasible.

2. Existing Land Use/Suitability for Cultivation

a. Definition
Determine present use of the site and its suitability for the commercial cultivation, growing and harvesting of field crops, fruit and nut trees, vines, vegetables, and horticultural specialties.

b. Justification
To identify and protect existing and potential agricultural lands, while also allowing non-agricultural uses to locate on those lands not suitable for agriculture.

c. Weighting Criteria

1) Highest Relative Suitability - the land is in agricultural use or has the potential for cultivation. Things to be considered are as follows: Is the site presently being used for commercial agriculture? What is the land's cropping history? Is the site suitable for cultivation? Have adjacent properties been successfully farmed? (For factors to consider in judging suitability see lowest relative suitability.)

a) Importance - to preserve land in agricultural use and to discourage non-agricultural use of land with the potential for cultivation.

2) Lowest Relative Suitability - the land is not in agricultural use and is not suitable for cultivation as determined by a professional agronomist. Examples of conditions to take into consideration in determining that the site is not suitable for cultivation are as follows: cold spots in thermal areas, sand streaks covering a majority of the site, high concentration of salts or alkali, and areas of extremely rocky soil. The opinion of the appropriate professional, such as testing by a soil scientist, may be required as proof of the existence of any impeding condition.

   a) Importance - to encourage non-agricultural development to occur on lands which are not in agricultural use or are less suitable for cultivation.

D. THREE POINT VALUE CATEGORY

1. Surrounding Parcel Size (Do not evaluate if the site received “0” points for “Existing Land Use/Suitability for Cultivation”. Enter a “0” for this factor in such cases.)

   a. Definition
   Determine the percentage of final subdivision lots in the area devoted to parcels less than five acres (gross) in size within one-quarter mile (1,320 feet) of the perimeter of the subject site.

   b. Justification
   To provide for development of non-agricultural uses in areas where there is already a high percentage of parcels that are less than five acres (gross) and to protect large-parcel areas from further breakdown.

   c. Weighting Criteria

      1) Highest Relative Suitability - within one-quarter mile (1,320 feet) of the perimeter of the site, 35 percent or less of the area is devoted to parcels smaller than five acres (gross) in size.

         a) Importance - to discourage non-agricultural land uses in areas where land is essentially in agriculture.

      2) Lowest Relative Suitability - within one-quarter mile (1,320 feet) of the perimeter of the site, more than 35 percent of the area is devoted to parcels smaller than five acres (gross) in size.

         a) Importance - allow non-agricultural development on the site, if within the surrounding area a high percentage of the area is devoted to parcels of less than five acres.

2. Surrounding Land Use

   a. Definition
   Determine the various land uses that are abutting and within one-quarter mile (1,320 feet) of the site. In determining land use, non-agricultural uses shall include schools and farm labor camps. Right-of-ways, including irrigation canals, rivers, roads and transmission lines, should not be included in the calculations described below. Agricultural uses include land that is fallow and has been under cultivation and shall also include uses that are compatible in agricultural areas, such vacant lands (improved or unimproved) and open space lands (including parks and golf courses). Tentative subdivision or parcel map approval shall not be considered a non-agricultural use until the final map has been recorded.

   b. Justification
   To prevent the close association of agricultural uses and non-agricultural uses, which may have the potential to adversely affect one another and to not encourage the establishment of non-agricultural uses in agricultural areas.

c. Weighting Criteria

1) Highest Relative Suitability - none of the standards that have been set for non-agricultural value have been met. However, for proposed heavy industrial zone changes, the lowest relative suitability criterion set forth below shall not consider residential uses to be non-agricultural uses.

a) Importance - to eliminate conflicts with adjacent land uses and protects agricultural land uses (and residential land uses, in the case of proposed heavy industrial zone changes) from intrusion of inharmonious uses.

2) Lowest Relative Suitability

2.1) The site is not abutted by non-agricultural uses, but within one-quarter mile (1,320 feet) of the perimeter of the site, at least 35 percent of the area is devoted to non-agricultural uses.

2.2) The site is abutted on one side with non-agricultural uses and within one-quarter mile (1,320 feet) of the perimeter of the site; at least 25 percent of the area is devoted to non-agricultural uses.

2.3) The site is abutted on two sides with non-agricultural uses and within one-quarter mile (1,320 feet) of the perimeter of the site; at least 20 percent of the area is devoted to non-agricultural uses.

2.4) The site is abutted on three sides with non-agricultural uses and within one-quarter mile (1,320 feet) of the perimeter of the site; at least 15 percent of the area is devoted to non-agricultural uses.

2.5) The site is abutted on four sides with non-agricultural uses.

2.6) Importance - to allow non-agricultural development in those areas where such development has already occurred.

3. Proximity to Inharmonious Uses

a. Definition
Determine if any dairies, feed lots, concentrated animal raising operations, sand and gravel operations, waste disposal sites, airports and/or agricultural chemical research stations are located within one-half mile (2,640 feet) of the site.

b. Justification
To prevent the establishment of inharmonious uses that may jeopardize the continued operation or future expansion of these activities, and to discourage non-agricultural uses in areas where dust, flies, odors, noise, and hazardous chemicals may be a problem.

c. Weighting Criteria

1) Highest Relative Suitability - the site is within one-half mile (2,640 feet) of any of the above types of uses.

a) Importance - to prevent uses which may be inharmonious with the above-mentioned activities.

2) Lowest Relative Suitability - the site is more than one-half mile (2,640 feet) from any of the uses mentioned above.

3) Flexible Point Value - for proposed commercial or industrial zone changes, the following formula may be used in place of the criteria contained in (1) and (2) above:

- 3 points - If any of the above types of operations are located adjacent to the site.

- 2 points - If any of the above types of operations are located within one-eighth mile (660 feet) of the site.
- 1 point - If any of the above types of operations are located within one-quarter mile (1,320 feet) of the site.
- 0 points - If none of the above types of operations is located within one-quarter mile (1,320 feet) of the site.

a) Importance - to recognize that, while residential uses may be inharmonious with the activities mentioned above, commercial and industrial uses might not be inharmonious.

4. Proximity to Lands within Agricultural Preserves

a. Definition
Determine the amount of area within one-quarter mile (1,320 feet) of the perimeter of the site that is in agricultural preserves.

b. Justification
To protect those areas which have been set aside by official action of the County for commercial agricultural use from adjacent conflicting land uses.

c. Weighting Criteria
(If the site meets any of the criteria listed under the highest relative suitability, award this factor 3 points. If the site does not meet any of the highest relative suitability criteria, award the factor “0” points.)

1) Highest Relative Suitability

1.1) The site is not abutting an agricultural preserve, but within one-quarter mile (1,320 feet) of the perimeter of the site at least 64 percent of the area is land that is in agricultural preserves.

1.2) The site is abutted on one side with an agricultural preserve, and within one-quarter mile (1,320 feet) of the perimeter of the subject site at least 50 percent of the area is land that is in agricultural preserves.

1.3) The site is abutted on two sides with agricultural preserves, and within one-quarter mile (1,320 feet) of the perimeter of the site at least 35 percent of the area is land that is in agricultural preserves.

1.4) The site is abutted on three sides with agricultural preserves, and within one-quarter mile (1,320 feet) of the perimeter of the site at least 20 percent of the area is land that is in agricultural preserves.

1.5) The site is abutted on four sides with agricultural preserves.

a) Importance - to eliminate conflicts with adjacent land uses and to protect agricultural land uses from intrusion of inharmonious uses.

2) Lowest Relative Suitability - none of the above criteria have been met.

a) Importance - to encourage non-agricultural uses to develop in those areas where such uses will not conflict with lands committed to long-term agricultural uses.

E. TWO POINT VALUE CATEGORY

1. Level of Groundwater and Soil Permeability

   a. Definition
   Determine the groundwater level and the soil permeability rating for the site. Highly permeable is defined as a percolation rate greater than five inches per hour. Groundwater shall be the highest recorded groundwater level in unrestricted aquifers as shown on the U.S.D.I. Bureau of Reclamation "Lines of Equal Depth to Ground Water" map or the California Department of Water Resources "Lines of Equal Depth to Water in Wells" or "Lines of Equal Elevation of Water in Wells" maps, provided that the groundwater maps to be used are based on data that is not more than 25 years old.

   b. Justification
   To preserve in agriculture or open space those areas characterized by a high groundwater table and highly permeable soil.

   c. Weighting Criteria

      1) Highest Relative Suitability - site has highly permeable soil and a groundwater table within twenty (20) feet of the ground surface.

         a) Importance - those lands that have highly permeable soil and a water table higher than twenty feet should be maintained in agriculture or open space because such lands are not suitable for the installation of domestic, commercial, and industrial waste disposal systems.

      2) Lowest Relative Suitability - site has a water table lower than twenty (20) feet from the ground surface and does not have highly permeable soil.

         a) Importance - such lands are more suitable for installation of domestic, commercial, and industrial waste disposal systems.

F. ONE POINT VALUE CATEGORY

1. Proximity to Fire Protection Facilities

   a. Definition
   Determine the distance to the nearest fire protection facilities from the site.

   b. Justification
   To enable fire protection facilities to provide adequate services for all non-agricultural land uses in the County within the requirements of established Fire Code Standards and to protect the County's Insurance Services Office (I.S.O.) ratings.

   c. Weighting Criteria

      1) Highest Relative Suitability - site is not within a five-mile response distance from fire protection facilities. For proposed industrial or commercial zone changes, three (3) points shall be awarded for highest relative suitability.

         a) Importance - this land should be maintained in agriculture in order to conform to fire safety standards.

      2) Lowest Relative Suitability - site is within a five-mile response distance from fire protection facilities.

         a) Importance - land which has accessibility to fire protection facilities is more suitable for non-agricultural uses.

2. Access to a Paved County and/or State Maintained Road

   a. Definition
   Determine if the site has access to a paved County and/or State maintained road.

   b. Justification
   Protect agriculture from problems of dust and pollution created by increased vehicular traffic on unpaved minor roads, and to discourage the creation of new roads that may have to be maintained by the County or State.

   c. Weighting Criteria

      1) Highest Relative Suitability - the site does not have direct access to a paved road.

         a) Importance - those areas that do not have accessibility to paved roads may be better suited for agricultural uses.

      2) Lowest Relative Suitability - the site has access to a paved road.

         a) Importance - those areas that have accessibility to a paved road may be better suited for non-agricultural uses than areas that do not have such access.

3. Historical, Archaeological, Wildlife Habitat, and Unique Natural Features

   a. Definition
   Determine if within the boundaries of the subject site there are any historical, archaeological, wildlife habitat, and/or unique natural features (as defined in ERME) which should be preserved.

   b. Justification
   To preserve and protect historical and archaeological sites, wildlife habitats, and unique natural features.

   c. Weighting Criteria

      1) Highest Relative Suitability - located on the site is a historical or archaeological site, wildlife habitat, and/or unique natural feature.

         a) Importance - to discourage encroachment of non-agricultural development, which could seriously damage or alter historical or archaeological sites, wildlife habitats, and/or unique natural features.

      2) Lowest Relative Suitability - no historical or archaeological site, wildlife habitat, and/or unique natural features exist on the site.

         a) Importance - to direct non-agricultural uses into those areas in which there exists no historical or archaeological sites, wildlife habitats, and/or unique natural features, which may be destroyed by such activity.

4. Flood Prone Areas

   a. Definition
   Determine if the site is subject to 100-year frequency floods.

   b. Justification
   To preserve in open space or agricultural use those areas subject to flooding.

   c. Weighting Criteria

      1) Highest Relative Suitability - site is subject to 100-year frequency floods.

         a) Importance - to prevent non-agricultural uses from establishing in areas where severe flooding presents a hazard to public health, safety, or welfare.

2) Lowest Relative Suitability - site is not subject to 100-year frequency floods.

a) Importance - to direct non-agricultural uses into areas where flooding is not a problem.

5. Availability of Community Domestic Water

a. Definition
For residential zone changes, determine if community domestic water can be obtained. In the case of proposed industrial or commercial zone changes, determine instead if the requirements of the Tulare County Fire Flow Ordinance can be met.

b. Justification
To consolidate non-agricultural development where water services are already available in order to maximize use of existing systems and prevent proliferation of new systems in rural areas.

c. Weighting Criteria

1) Highest Relative Suitability - for residential zone changes, site does not have accessibility to community domestic water. In the case of proposed industrial or commercial zone changes, the requirements of the Tulare County Fire Flow Ordinance cannot be met.

a) Importance - to discourage the creation of additional community domestic water systems in agricultural areas and assure that the requirements of the Tulare County Fire Flow Ordinance are met.

2) Lowest Relative Suitability - for residential zone changes, site has access to community domestic water. In the case of proposed industrial or commercial zone changes, the requirements of the Tulare County Fire Flow Ordinance can be met.

a) Importance - to encourage non-agricultural uses to locate in areas where community domestic water systems have already been established and assure that the requirements of the Tulare County Fire Flow Ordinance are met.

6. Surface Water Irrigated Lands

a. Definition
Determine if the site has rights to surface irrigation water.

b. Justification
To preserve in agriculture those lands irrigated by surface water sources.

c. Weighting Criteria

1) Highest Relative Suitability - site has rights to surface irrigation water.

a) Importance - to maintain in-agriculture those lands that can be irrigated by surface water sources and are not totally dependent on groundwater for irrigation.

2) Lowest Relative Suitability - site does not have rights to surface irrigation water.

a) Importance - such lands are less suitable for agricultural use since their only source of irrigation water would be groundwater.

7. Groundwater Recharge Potential (Do not evaluate if the site received “0” points for “Surface Water Irrigated Lands”. Enter a “0” for this factor in such cases.)

a. Definition
Determine the soil permeability rating for the site. For highest groundwater recharge potential, the site should be irrigated by surface water sources and onsite soils should be in

a permeability class that is rated at least moderately slow (have a projected vertical conductivity/percolation rate of at least 0.20 inch of water per hour) and must lack a restrictive layer (a soil or rock layer that inhibits the movement of water and/or roots through the soil) so as to provide continuity to groundwater. Groundwater shall be the highest recorded groundwater level in unrestricted aquifers as shown on the U.S.D.I. Bureau of Reclamation “Lines of Equal Depth to Ground Water” map, or the California Department of Water Resources “Lines of Equal Depth to Water in Wells”, or “Lines of Equal Elevation of Water in Wells” maps, provided that the groundwater maps to be used are based on data that is not more than 25 years old.

b. Justification
To preserve in agriculture (or open space) those lands with the highest potential for groundwater recharge.

c. Weighting Criteria

1) Highest Relative Suitability - site has soils that are of at least moderately slow permeability (percolation rate of at least 0.20 inch per hour) and lack a restrictive layer (a soil or rock layer that inhibits the movement of water and/or roots through the soil).

   a) Importance - to maintain in agriculture those lands irrigated by surface water sources and containing permeable soils, as they account for significant amounts of groundwater recharge from irrigation water that percolates below the crop root zone and into the unconfined aquifer.

2) Lowest Relative Suitability - site does not contain permeable soils or contains an impediment to recharge, such as a restrictive layer that would inhibit the movement of water and/or roots through the soil (the latter factor to be determined by the opinion of the appropriate professional, such as a soil scientist, engineer, or geologist).

   a) Importance - such lands are less suitable for groundwater recharge.

Rural Valley Lands Plan – Parcel Evaluation Checklist

Applicant's Name: _____

A. RESTRICTED TO AGRICULTURE VALUES

If a following factor meets the "restricted to Agriculture" criteria, place an "R" in the value column and stop the evaluation. If the factor meets the "non-agricultural" criteria, place a "0" in the value column and continue the evaluation.

Value

1. Agricultural Preserve Status _____ [ ]
2. Limitations for Individual Waste Disposal Facilities _____ [ ]

B. VARIABLE POINT VALUE

Each of the following land capability ratings (as per U.S.D.A. Soil Conservation Service data) have been awarded a number value as follows:

Land Capability	Point Value
Class I, II, or III	4 Points
Class IV	2 Points
Class V, VI, or VII	0 Points

For the following factor, determine the land capability rating(s) of the parcel under review and award its corresponding point value.

Class I, II, or III (4 points) _____ [ ]

Class IV (2 points) _____ [ ]

Class V, VI, or VII (0 points) _____ [ ]

C. POINT VALUES

If the following factor meets the highest relative suitability criteria, award the factor the number of points listed for the category. If the factor meets the lowest relative suitability criteria, award it a "0".

FOUR POINT VALUE CATEGORY

1. Existing Parcel Size (use gross acreage figure) _____ [ ]
2. Existing Land Use/Suitability for Cultivation _____ [ ]

THREE POINT VALUE CATEGORY

1. Surrounding Parcel Size_____ [ ]
   Note: Do not evaluate this factor if the site received "0" points for "Existing Land Use/ Suitability for Cultivation". Enter a "0" in such case.
2. Surrounding Land Use _____ [ ]
3. Proximity to Inharmonious Uses _____ [ ]
   Note: Flexible Point Value applicable in some cases.
4. Proximity to lands in Agricultural Preserves _____ [ ]

TWO POINT VALUE CATEGORY

1. Level of Ground Water and Soil Permeability _____ [ ]

ONE POINT VALUE CATEGORY

1. Proximity to Fire Protection Facilities _____ [ ]
   Note: Three Point Value applicable in some case.
2. Access to Paved Roads _____ [ ]
3. Historical Sites, Archaeological Sites, Wildlife Habitats, and/or Unique Natural Features _ [ ]
4. Flood Prone Areas _____ [ ]
5. Availability of Community Domestic Water/ Fire Flow Requirements_____ [ ]
6. Surface Irrigation Water _____ [ ]
7. Groundwater Recharge Potential_____ [ ]
   Note: Do not evaluate this factor if the site received “0” points for “Surface Irrigation Water”. Enter a “0” in such cases.

TOTAL POINTS [ ]

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Part II-Chapter 2. Corridors Framework Plan

The Corridors Framework Plan is divided into the following sections:

- Corridor Policies (Section 2.1)
- Work Plan/Implementation Measure (Section 2.2)

This chapter sets out area plan policies for development within corridors adjacent to transportation routes in the County. While many of the goals and policies of Part I of the General Plan are applicable to all regions, the policies contained in this chapter are specific to the County's corridors (see Figure 2-1: Corridors).

Corridors

The Corridors chapter provides guidance in the unincorporated portions of the County that are adjacent to transportation routes. There are three types of corridors: Regional Corridors, Urban Corridors and Scenic Corridors. This chapter provides framing policies for future corridor plans to be adopted. This chapter also provides for an interim policy for development of a Regional Corridor until a Plan is in place.

2.1 Corridor Policies

C-1	To provide an economically viable and balanced land use pattern along major transportation corridors in Tulare County.

C-1.1 Corridor Plans – Defined

The County may adopt corridor plans for the corridor types and locations identified below:

- **Urban Corridors** along major transportation routes within urban boundaries, such as Mooney Boulevard,
- **Scenic Highway Corridors** along eligible State Highways, such as State Highways 190 198, and throughout the County,
- **Regional Growth Corridors**, along the major regional transportation arterials in the County, such as State Highways 99 and 65, and throughout the County.

C-1.2 Urban Corridor Plans

The County shall support the development and adoption of urban corridor plans that include goals, policies, and implementation measures that encourage the development of commercial and industrial uses within an adopted UAB, UDB, or planned community.

C-1.3 Scenic Corridor Protection Plans
The County shall support the development and adoption of scenic corridor protection plans that protect and enhance the scenic qualities of major transportation routes.

C-1.4 Regional Growth Corridor Plans
The County shall support the development and adoption of regional growth corridor plans to maximize the economic development potential of areas located along major transportation routes for uses such as: intensive agricultural related industrial employers, major industrial employers, regional retail, office parks, and highway commercial.

C-1.5 Agricultural Enterprises
The County shall support the development of agricultural enterprise zones along rural arterials in the County to encourage agriculturally related industries to cluster near transportation and shipping routes.

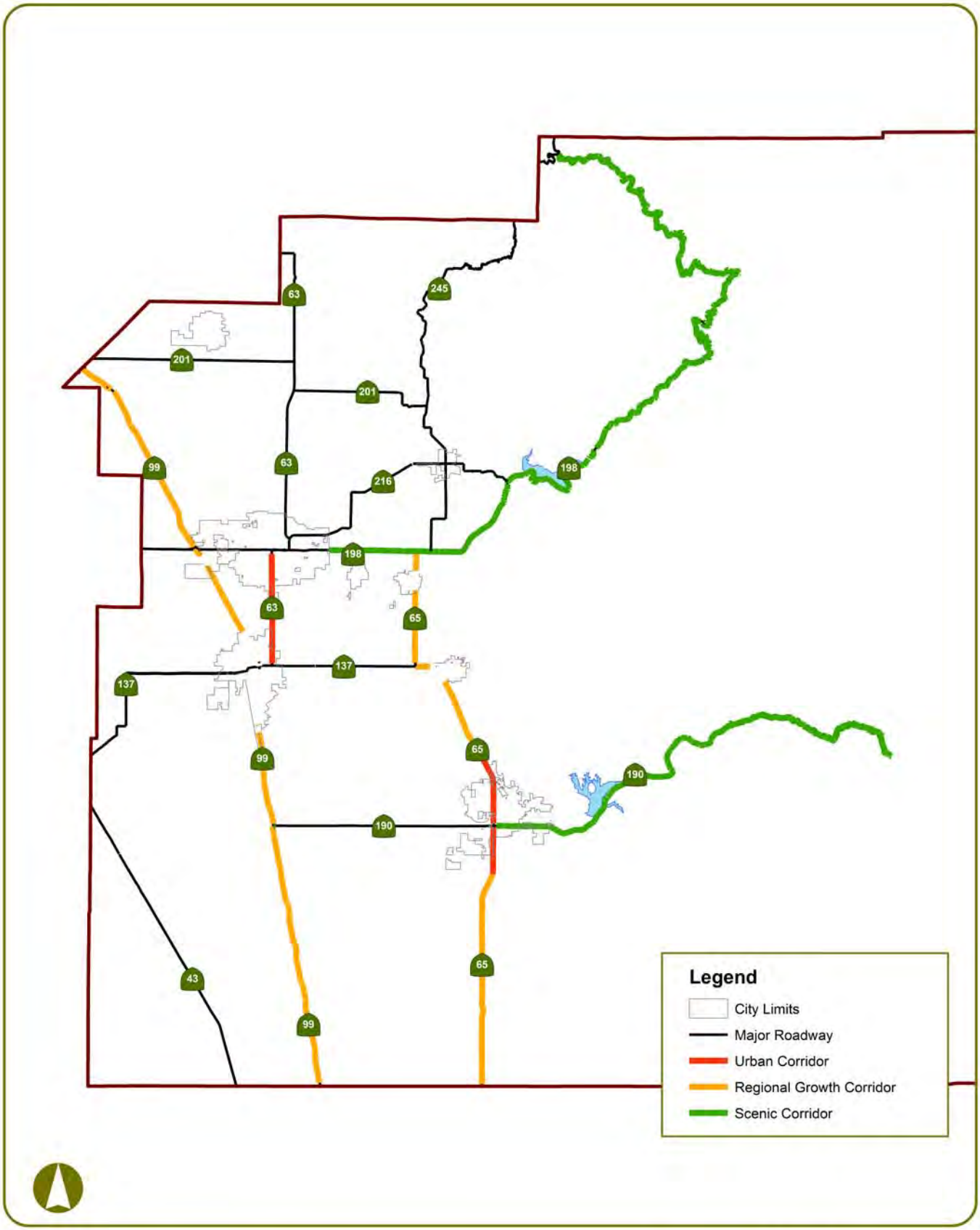
C-1.6 Regional Growth Corridor Opportunity Areas – Interim Policy
Pending adoption of regional growth corridor plans, the County may approve highway oriented commercial, industrial, and mixed use development if all of the following criteria are met:

1. The development runs along a major collector within one-quarter mile of a rail stop or intersection (ingress/egress) of State Highways 65 and 99. The development must have access to a publicly maintained road and be located within 1/8 mile of the major collector mentioned above.
2. More than 50% of the site has soils with an agricultural capability of Class III or lower,
3. The Rural Valley Lands Plan (RVLP) point evaluation, the property is determined to not meet the values that would render the property “restricted to agriculture”, and
4. The property must not have been used for commercial agriculture for the last five years.

This policy shall be applicable until such time as a regional growth corridor plan is adopted for those segments of State Highways 99 and 65 located outside an HDB, UDB, UAB, or planned community.

C-1.7 Highway 99 Valley Corridor
The County shall support and participate in regional efforts to develop and implement corridor plans for State Highways 65 and 99. These plans shall incorporate an appropriate strategy for maximizing industrial, commercial, and tourism opportunities.

C-1.8 Commercial and Industrial Highway Growth
The County shall encourage commercial and industrial growth to locate within, UDBs, HDBs, and designated regional growth corridors along State Highways 65 and 99.



0 5 10 15 20 Miles

Corridors | **Part II: Figure 2-1**

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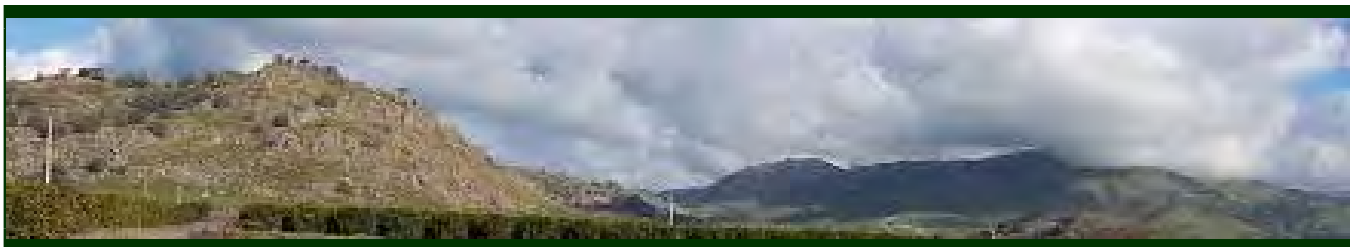
2.2 Work Plan/Implementation Measures

The following table documents the Implementation Measures included with the General Plan to implement the goals and policies included in this Chapter.

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
1. The County shall establish a committee of community residents, businesses, TCAG, and County staff to develop corridor plans, including phasing and financing measures that is coordinated with valley-wide efforts by Caltrans and the Great Valley Center.	C-1.2 C-1.7 C-1.8	RMA	■			
2. When preparing regional growth corridor plans or an interim development proposal in accordance with Policy-1.6: Regional Growth Corridors Opportunity Areas-Interim Policy, the following shall be considered and addressed: a. Corridors may be identified as part of existing community plans or be qualified exceptions to the RVLP, b. Urban separators between communities will be maintained, c. Corridors shall be located at or near highway interchanges that meet specified criteria. These criteria could be met with new investment, d. A Special Use Permit would be required, e. Address any infrastructure that is lacking in a corridor area, f. Prohibit new frontage roads, like the Golden State Highway in Fresno, within half a mile of freeways, g. Establish separation criteria for appropriate spacing of gas stations and other uses at commercial interchanges, h. Provide a circulation plan demonstrating arterial road access, a cohesive and integrated access road network, and the potential for future transit service, i. Ensure reasonable proximity to police and fire protection, j. Corridors will run perpendicular, not parallel to the adjacent	C-1.4 C-1.6	RMA	■			

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
highway, k. Maintain nodal concentrations as part of existing communities and include open space and agriculture community separators, l. Build on valley-wide efforts by Caltrans and the Great Valley Center, m. Implement best management practices for highway oriented development, n. Ensure quality development, o. Ensure that business frontages are showing; not backyard storage areas, and p. Develop outdoor storage and landscaping requirements.						
3. A proposal submitted under C-1.6: Regional Growth Corridor Opportunity Areas – Interim Policy, may be submitted in the form of an application for a specific plan, change of zone, use permit, tentative subdivision map, or the necessary entitlement for use. The proposal should be subject to appropriate environmental and fiscal review; and before making a decision on the proposal, the County should solicit and consider the input of any affected public entities.	C-1.6	County				■



Part II-Chapter 3. Foothill Growth Management Plan

The Foothill Growth Management Plan is divided into the following sections:

- Foothill Growth Management Plan Policies (Section 3.1)
- Existing Foothill Area Communities (Section 3.2)
- Development (Section 3.3)
- Recreation/Open Space (Section 3.4)
- Foothill Agriculture (Section 3.5)
- Scenic Corridors (Section 3.6)
- Historical and Archeological Sites (Section 3.7)
- Environmental Protection (Section 3.8)
- Water and Sewer Facilities (Section 3.9)
- Public Services (Section 3.10)
- Work Plan/Implementation Measure (Section 3.11)
- Development Standards (Section 3.12)

This chapter sets out area plan policies for the Foothill Growth Management Plan. While many of the goals and policies of Part I of the General Plan are applicable to all regions, the policies contained in this chapter are specific to the foothills.

Foothill Growth Management Plan

The Foothill Growth Management Plan (FGMP) was originally adopted in 1981 and includes a comprehensive statement of the development policies and standards that prescribe land use and circulation patterns for the foothills of Tulare County, generally above the 600-foot elevation line (Part II-Figure 3-1: Foothill Growth Management Plan). The FGMP covers approximately 675,641 acres of land bounded on the east by the federally-owned parks in the Sierra Nevada Mountains and on the west by privately-owned lands on the San Joaquin Valley floor. The plan's policies set out guidelines for community identity, new development, recreation/open space, agriculture, environmental protection, scenic corridors protection, history/archaeology, infrastructure facilities, and public services. The communities of Springville and Three Rivers, each with their own community plans, lie within the FGMP boundaries. The FGMP identifies lands outside the communities of Three Rivers and Springville. These lands include the following:

- **Development Corridors.** Areas in the foothills where development may occur provided it meets or demonstrates that it will meet the development standards of the FGMP. Lands identified as development corridors are designated on the Land Use Diagram as Foothill Mixed Use or are

located within a Planned Community Area pursuant to Policy FGMP-1.13: Identity of Foothill Places.

- **Extensive Agriculture.** Areas in the foothills where development may not occur due to access constraints, emergency response time, slope, and other biological or archeological factors that prohibit safe development. Lands identified as extensive agriculture are designated Foothill Agriculture on the Land Use Diagram.
- **Foothill Extensions.** Areas that would be considered a part of the valley where extensions of the foothills (buttes, mountains, foothill extensions) warrant identifying the land as part of the FGMP. Lands identified as Foothill Extensions are designated Foothill Agriculture on the Land Use Diagram.
- **Planned Community Area (PCA).** This designation establishes areas suitable for comprehensive planning for long term community development on large tracts of land, typically under unified ownership or development control, and allows for master planning where a community plan typically does not currently exist. Planned communities have a balance of land uses that support economic growth and promote an exceptional quality of life. Planned communities accommodate mixed use developments that include residential; commercial; administrative; industrial; and other activity. Density bonuses for residential of 25% to 35% shall be granted to mixed use areas to encourage the development of affordable housing units, compact development in the implementation of development strategies that support the use of mass transit, reduction of air impacts, and implementation of measures that contribute to the reduction of global warming. Master Development Plans and Area Development Plans are required to assist in the consideration of Mixed Use development proposals. Furthermore, such communities must ensure provision of open space, infrastructure and public services needed to support growth. No PCA shall be established unless it includes a minimum of 200 continuous acres of land.
- **Valley Agriculture Extensions.** Areas that would be considered a part of the FGMP where extensions of the valley (small inlet-valleys, hollows, or other flat shallow inclusions into the foothills) warrant identifying the land as part of the valley. Lands identified as Valley Agriculture Extensions are designated Valley Agriculture on the Land Use Diagram.

Background

The objectives of the FGMP are to:

1. Rationally direct urban/suburban growth into specific areas of the foothills in order to protect the fragile environment and preserve important agricultural land;
2. Maintain the agricultural viability of the foothills by identifying areas to be maintained or encouraged for intensive and extensive agricultural uses; and
3. Accommodate urban/rural growth in the areas serviceable by the State and/or County agencies in a manner which is cost efficient, safe, and consistent with the environmental constraints.

The Plan

To achieve the above objectives, a four level planning strategy was developed. This methodology is a strategy whereby analysis continues to focus on multiple areas (and level of detail) of the foothills.

The Corridor Areas

The **First Level** involves the designation of lands that are potentially suitable for development. These areas are designated as development corridors. Inclusion of properties in a development corridor is generally dependent upon meeting all of the following requirements:

1. The property has reasonable access to a publicly maintained road or highway (for example, within one mile),
2. The property is within a reasonable “response time” (15 minute attack time) of a Tulare County fire station,
3. The property has a slope less than 30 percent, and
4. The property does not contain any unique physical, biological, archaeological or land use factors, which, if included in a development corridor, would be inconsistent with certain policies of the FGMP. For the purpose of this plan, Rocky Hill is considered unique. The consideration of unique for future projects will be evaluated on a case by case basis as documented through the environmental review process.

The original corridor lines were established in 1977 by the Foothill Growth Management Study. Present corridor lines include less area than the 1977 lines, because many of the properties did not meet the level one criteria. In the future, should the service area of a County fire station expand or a County road be extended, properties that are presently outside of a designated development corridor may be appropriate for inclusion where it can be demonstrated that the four criteria either are or can be met. In total, four development corridors were identified in 1977: 1) Badger/Elderwood (Figure 3-2); 2) Kaweah River (Figure 3-3); 3) Tule River (Figure 3-4); and 4) Round Valley (Figure 3-5).

Also contained in the 1977 FGMP Study **First Level** analysis, was the identification of those areas that had land use and topographic characteristics similar to valley floor agriculture, yet extended into the foothills. These areas are termed “valley agricultural extensions”. This plan addresses these agricultural areas differently than typical foothill lands in that agricultural zones to be applied to these lands are similar to those applied to adjacent valley floor agriculture, as determined by the Rural Valley Lands Plan (RVLP). Should a valley agriculture extension be proposed for rezoning to a non-agricultural zone, the RVLP point system will be used to evaluate the agricultural value of the property. If the property receives a non-agricultural evaluation and is within the development corridor, it shall be re-designated Foothill Mixed Use and zoned to the Planned Development-Foothill Combining-Special Mobile Home Zone (PD-F-M) Zone. If the parcel is outside a development corridor, zones other than the PD-F-M may be utilized. Foothill lands which extend onto the valley floor are labeled “foothill extensions” and are treated in a manner similar to foothill lands and may be considered for inclusion in a development corridor if they meet FGMP first level criteria.

The **Second Level** of analysis is an assessment of factors of special concern. These factors generally fall into five basic categories: physical (soil, water, topography), biological (wildlife habitat, Rare and Endangered Species), aesthetic (vistas), cultural (land use, archaeological/historical sites), and governmental (zoning, governmental jurisdiction, agricultural preserves). The objective of this process is to determine which areas should be maintained for open space and agricultural uses, and which areas should be considered for uses other than open space or agriculture. For example, physical factors which would preclude development include areas that have slopes greater than 30 percent, lands inside a 100-year floodplain, soils with rock outcrops, soils that exhibit a very slow percolation rate or soils with very rapid percolation rate and a corresponding shallow water table where well and septic are proposed.

Reference maps which depict the information gathered in the First and Second Level analysis are utilized in the **Third Level** analysis. These reference maps identify the location of each development corridor and the locations of agriculture and open space land uses. Land use and circulation patterns are shown for the remaining lands within the development corridor. Development on these lands is to be in accordance with the PD-F-M Zone or the PC Zone of the Tulare County Zoning Ordinance. The FGMP policies, in conjunction with the PD-F-M Zone or the PC Zone, will be used to determine the location and intensity of various permitted development types and uses in the development corridors.

Accordingly, a developer proposing a project in the foothills will be required to provide the County with detailed information regarding the proposed project in context to the Third Level reference maps as well as a detail assessment of the project regarding the factors of the Second Level analysis. Utilizing the information, the County can determine compliance of the project. For example, FGMP policies preclude some land uses from locating in the PD-F-M Zone. In addition, for example, it is the policy of the FGMP to strengthen the community identities of Springville, Lemon Cove, and Three Rivers; therefore, most retail commercial has been directed to these existing and new planned communities rather than areas outside these communities.

The circulation system for each corridor is also provided on the reference maps. For Planned Communities, the circulation system will be delineated within the Master Development Plan. This circulation system identifies roads and highways which have scenic significance and proposed primary road systems which are necessary to serve future development lands. The primary road system for properties contained in the development corridors: 1) connects various properties slated for potential development both to each other and to a publicly maintained road system; 2) ensures adequate access to each property both for the benefit of the property owner and public service vehicles; and 3) is designed to consider existing natural and physical features in order to minimize the environmental hazards associated with road building activities.

The **Fourth Level** of analysis provides standards for development in the foothills. In the foothills, topography can change abruptly, water availability and safe and efficient disposal of liquid waste are always a concern, and the danger of fire increases during the dry season. Because of these factors, each development proposal will be required to undergo an preliminary (Project Review Committee (PRC)) review process to determine if: 1) sufficient water is available for domestic and fire fighting purposes, 2) soil conditions are appropriate for liquid waste disposal, 3) the property is free of geological hazards, and 4) the development proposal is consistent with the General Plan and the policies of the FGMP. Once the project has received preliminary review and the required conditions and consistency determinations have been made, the final step of the review procedure is to meet the development standards outlined in Section 3.12 of this Chapter or for planned communities, those standards established through the project approval process. These standards pertain to erosion protection, grading and landscaping requirements, setbacks, etc. It is at this step that the developer will be working in close cooperation with the Project Review Committee to arrive at a project plan that meets the goals and policies of the FGMP.

The preliminary review process is a critical component to the implementation of the FGMP. It is through this process that problems associated with the project will be solved by alternative project designs and/or mitigation measures. It is anticipated that the project resulting from the site plan review process will address environmental and design problems and therefore, a better development product. This process will reduce the amount of time spent at the Planning Commission both by staff and decision-makers.

The Non-Corridor Areas

Non-corridor areas of the foothills represent lands which do not have development potential at this time because of factors such as physical features, lack of access, or service response times. Non-corridor areas are used primarily for livestock grazing, open space, wildlife habitat, watershed protection and intensive agricultural uses. It is the intent of the FGMP to employ a zoning designation which will ensure that these properties be maintained in agricultural operations and open space uses.

Regarding existing non-agricultural uses outside established development corridors, it shall be the policy of the FGMP to recognize such uses as existing, nonconforming uses, as defined in Part I, Chapter 2-Planning Framework, Policy PF-1.10: Non-Conforming Uses. (Formally General Plan Amendment 74-1B).

Valley Agricultural and Foothill Extensions

Contained within the study area of the FGMP are lands that are more closely associated with the San Joaquin Valley floor than the foothills. These lands are relatively level, have a Class I, II, III soil, contain an intensive agricultural use, and are located adjacent to the valley floor, as defined by the RVLP. In most cases, they are simply an extension of the valley floor. Rather than treat these lands differently than properties on the valley floor, the FGMP specifies that they be treated as if they are a part of the RVLP. For example, there are properties that contain citrus groves which are adjacent to valley agriculture, but are located within the FGMP area. It is the intent of the FGMP that these lands be identified as valley agricultural extensions and be zoned consistently with the agricultural zones found on the adjacent valley floor. In the case of a parcel containing orange groves, the appropriate zoning would probably be AE-20 or AE-40 (Exclusive Agriculture, minimum parcel size 20 or 40 acres).

Conversely, there are lands with typical foothill characteristics which extend out onto the valley floor. These lands are identified as foothill extensions, proposed uses on these lands will be processed as Foothill Agriculture under the FGMP.

Plan Discussion

The establishment of development corridor lines sets aside land outside these lines, but within the foothills, for foothill agriculture. The FGMP reserves approximately 80 percent of the region for such activities, and within these areas traditional agricultural land use activities will be encouraged and strengthened by the FGMP. Land use controls will be of a variety which makes it possible for foothill agriculture activities to function and prosper without undue interference. County land use regulations which do not allow for agriculture activities to function and prosper without undue interference will be considered inconsistent with the purposes of the FGMP.

The development corridor concept is consistent with the primary objectives of the FGMP. It is recognized that some currently viable agricultural lands within development corridors will eventually be lost to non-agricultural uses. However, it is also recognized that planned growth is necessary and desirable, and that in the context of Tulare County, land located in the development corridors is less significant to agriculture than land that might otherwise be lost without such a plan. The FGMP recognizes that there is a continuing demand for rural residential development as well as other more dense forms of development in the foothills. The FGMP attempts to direct that growth in such a manner that the total County region benefits. The objectives of the FGMP may also be met by locating development corridors within planned communities that provide for the comprehensive planning and development of large tracts of land which direct growth into specific area of the foothills and thereby preserve important agricultural land and fragile resources.

Within each development corridor there are lands which are under an agricultural preserve contract or are presently located in a non-agricultural zone on the County Zoning Map. Lands in agricultural preserves must be zoned to an exclusive agricultural zone in order to maintain consistency with the requirements of the Williamson Act. When a preserve within a development corridor is disestablished, it should be zoned to the PD-F-M Zone, unless within a PCA.

After adoption of the FGMP in 1981, non-agriculturally zoned land within development corridors were zoned to the PD-F-M Zone unless the property was duly developed. If development existed, the zoning on the property remained unchanged unless the County found that retention of the zoning was adverse to the public health, safety and welfare, or harmful to the environment.

The FGMP concept will retain and strengthen community identity in Springville, Lemon Cove, and Three Rivers though Lemon Cove is not within the FGMP boundary, it is adjacent to the FGMP area and may benefit from the FGMP policies. It is readily apparent that development should and will occur as logical infilling within the Urban Development Boundaries (UDB) of these three communities.

State Highways 190, 198 and 245 serve as the major arterials for the Tule River, Kaweah River and Badger/Elderwood Development Corridors, respectively. For the circulation of traffic in these development corridors to flow effectively it is critical that the State Highways continue to serve as arterial routes free of future unnecessary intersections and traffic overloads. In order to assure that the overall circulation of the foothills operates efficiently, the FGMP ensures that the collector routes of each corridor intersects with the arterials and that the minor roads intersect with the collectors. This hierarchy of roads allows the traveler to drive from a smaller and shorter thoroughfare with slower speed limits and narrower pavement standards to a larger thoroughfare with faster speed limits, greater pavement widths and destination points of greater distances.

Summary

The reference map for each development corridor, along with the policies, development standards, and site plan review process, constitute the FGMP. These three elements should be viewed as a package – each functioning in concert with the others. A complete picture of the FGMP can only be gained after thorough reading of the policies which direct and shape development inside and outside the development corridors. The preliminary review process and development standards will control development on a site-specific basis. The implementation measures will give the County the tools needed to guide development in a manner consistent with the FGMP.

This section sets out policies for unincorporated lands outside Urban Development Boundaries (UDBs) within the County's foothills, as defined on Part II-Figure 3-1:Foothill Growth Management Plan.

3.1 Foothill Growth Management Plan Policies

FGMP-1 To maintain the natural beauty of the foothills while allowing focused growth in identified growth areas.

For descriptions of land use designations applicable to the FGMP, see Chapter 4-Land Use, Table LU-4.1: Land Use Designations, and the descriptions following the table.

FGMP-1.1 Identity of Foothill Places
The County shall assure the existing values and identity of unincorporated areas in the foothills are properly addressed as development proceeds.

FGMP-1.2 Grading
The County shall ensure that new development is designed in a manner that minimizes grading, vegetation disturbance, and intrusion onto natural watercourses, canyons and prominent landmarks, or rare and endangered species sites.

FGMP-1.3 Preparation of Community Plans, Master Development Plans, Specific Plans, Area Development Plans, and Hamlet Plans
When circumstances warrant, Community Plans, Master Development Plans, Specific Plans, Area Development Plans, and Hamlet Plans, shall be undertaken for identifiable community areas

FGMP-1.4 Establish Citizens Advisory Committee
A citizen's advisory committee representative of residents of the affected area shall be utilized in any Community Plans, Master Development Plans, Specific Plans, Area Development Plans, and Hamlet Plans undertaken which impacts an established community where the project boundary is coterminous with an existing HDB, UDB, or PCA.

FGMP-1.5 Preserving Visual Resources
The County shall encourage new development be designed in a manner that preserves the visual quality of the foothill setting by encouraging the use of curvilinear streets, vegetation reestablishment on cuts and fills, cluster development, and housing site locations that blend into the landscape rather than becoming a focal point.

FGMP-1.6 Neighborhood Commercial Centers
The County shall allow neighborhood commercial centers in designated areas of a development corridor and shall only include uses that provide neighborhood-related services (for example, grocery store, laundromat, real estate office, etc.). Criteria for location and design of this type of commercial use are as follows:

1. The architectural and landscaping design of the neighborhood center shall be compatible with surrounding residential uses,
2. The major tenant of the complex shall be a grocery store,
3. The maximum size of the commercial center shall be 10 acres,
4. The commercial center may be included as a part of a planned residential development,
5. The center shall meet the policies and development standards of the FGMP,

6. The center shall not have direct access from State Highway 190 and 198,
7. The general areas where neighborhood commercial centers should be located because of distance from existing shopping areas and future supporting populations are the Globe Drive/Pleasant Valley, Upper Balch Park Road, and Frazier Valley areas, and
8. Uses proposed for a neighborhood commercial center shall be consistent with uses outlined in the Planned Development-Foothill Zone.
9. Within a planned community area, neighborhood commercial centers shall be subject to the requirements of the adopted PC Zone.

FGMP-1.7 Commercial Recreation

The County shall encourage commercial recreation uses near unique natural features, thus enabling the visiting public to enjoy the recreational and visual amenities the area has to offer. Criteria for the location and approval of commercial recreation are as follows:

1. The use shall have access from a State Highway,
2. The use shall meet the policies and development standards of the FGMP,
3. The use shall not detract from the visual amenities of the foothills. Landscaping, sufficient setback distances, and well designed buildings and signs are tools that shall be used to protect the visual environment, and
4. Proposed commercial recreation shall be consistent with uses outlined in the Planned Development-Foothill Zone.

FGMP-1.8 Mobile Homes

The County shall encourage mobile home projects to locate and be designed in a manner that is compatible with existing development patterns and does not detract from the visual amenities of the foothill environment.

FGMP-1.9 Light Industrial Uses

The County shall allow light industrial uses in a development corridor subject to a special use permit, planned development, or other equivalent plan. A decision on these uses shall be based on, but not limited to, criteria such as land use conflicts, water requirements, design/location and liquid waste disposal.

FGMP-1.10 Development in Success Valley

The County shall limit residential development densities within the development corridor areas of Success Valley in order to avoid conflicts with intensive agricultural uses in the Valley.

FGMP-1.11 Hillside Development

The County shall require that hillside development be designed so as to preserve the skyline and maintain an unobstructed scenic panorama of the foothills *[.*

FGMP-1.12 Legally Conforming Commercial Uses

The County shall designate existing, legally conforming commercial uses not located in the communities of Springville and Three Rivers with an appropriate land use designation, providing the use is consistent with other policies in this FGMP.

FGMP-1.13 Land Use and Zoning
Planned development within the foothills may be located within development corridors on lands designated Foothill Mixed Use (FMU) and zoned Planned Development-Foothill Combining-Special Mobile Home Zone (PD-F-M), or within development corridors delineated on a Master Development Plan, established in compliance with the FGMP first and second level planning criteria, where an area has been designated as a Planned Community Area (PCA) in the FGMP and zoned Planned Community (PC) pursuant to requirements of the Tulare County Planned Community (PC) Zoning Ordinance. PCA land uses shall included equivalent General Plan land use designation allowed within UDBs.

FGMP-1.14 Planned Community Areas
For Planned Community Areas within the foothills, the Planned Community (PC) Zone shall be used. Development corridors shall be delineated through the Master Development Plan (MDP) process. The MDP shall clearly demonstrate how "First and Second Level" FGMP planning criteria are or can be met. Lands that fail to meet these criteria for development will be protected for open space uses.

FGMP-1.15 Development Corridor Linkages
For Planned Community Areas and Development Corridors within the foothills, road linkages may be used to provide for continuity of otherwise discontinues development corridors, provided that new road construction is consistent with all other requirements of the General Plan *[New Policy].*

FGMP-1.16 Applicable Development Standards
Unless it can be demonstrated that an alterative standard will result in attainment of a superior environment, when preparing Specific Plans, Master Development Plans, or Area Development Plans and standards therein for areas within the foothills, at a minimum, the development standards within the FGMP Section 3.12 shall apply.

3.2 Existing Foothill Area Communities

FGMP-2	To strengthen and ensure the existing community values and identity in Springville, Three Rivers, Lemon Cove and the Badger Development Corridor, as development proceeds .

FGMP-2.1 Community Commercial Development
The County shall encourage new commercial development to first consider the communities of Springville, Three Rivers, and Lemon Cove, which are suitable for commercial development. For Planned Community Areas within the foothills, commercial areas will be designated within the development corridors through the Master Development Plan.

FGMP-2.2 Badger Development Corridor
The County shall maintain appropriate zoning within the Badger Development Corridor in order to promote residential densities compatible with established land use patterns.

FGMP-2.3 Badger Density
The County shall limit the maximum residential density of areas within the Badger Development Corridor to one (1) dwelling unit per five (5) acres.

3.3 Development

FGMP-3	To ensure that new development be designed in a manner which minimizes impact to foothill areas including grading, vegetation disturbance, and intrusion onto natural watercourses, canyons, and prominent landmarks, or rare and endangered species sites

FGMP-3.1 Innovative Residential Design
The County shall encourage innovatively-designed residential development in the foothills, such as planned unit or cluster development that conserves and preserves surrounding open space from unnecessary disturbances.

FGMP-3.2 Excavation Operations
The County shall allow rock, sand, and gravel excavation operations in the foothills upon approval of a Surface Mining Permit. A decision on said use shall be based on, but not limited to, criteria such as irreversible environmental impacts, reclamation measures and procedures that mitigate the environmental impacts as identified in the ERM Section 8.2: Mineral Resources-Surface Mining and Section 8.3: Mineral Resources-Other.

FGMP-3.3 Development Compliance
The County shall ensure that development proposals conform to all standards related to the Foothill Mix Use designation and the FGMP Development Standards.

3.4 Recreation/Open Space

FGMP-4	To provide recreational and open space opportunities both for local residents and for the visiting public

FGMP-4.1 Identification of Environmentally Sensitive Areas
The County shall identify and protect those environmentally sensitive areas in the foothill development corridors which should be maintained as open space, such as areas characterized by floodplains, steep slopes (30 percent or greater), unstable geology, unique archaeological/historical sites, habitat of special status species, and scenic vistas.

FGMP-4.2 Private Recreational Uses
The County shall encourage private recreational uses in the foothills to help meet future demand for recreational activities, provided they meet the development standards of this FGMP and other County policies.

FGMP-4.3 Common Open Space Areas
The County shall not require common open space areas in the foothills to maintain access for the general public except as provided by the developer or owners of the property or where otherwise required by the General Plan.

3.5 Foothill Agriculture

FGMP-5 To maintain and preserve extensive and intensive agricultural uses in the foothill area.

FGMP-5.1 Protect Agricultural Lands
The County shall maintain and preserve extensive and intensive agricultural uses in the foothills, whenever possible.

3.6 Scenic Corridors

FGMP-6 To provide local protection of scenic highways and routes within the foothills.

FGMP-6.1 Preservation of Scenic Highways
The County shall ensure that the visual qualities of State Highways 190 and 198 and County scenic routes are maintained and protected against obtrusive development improvements.

FGMP-6.2 Identification of Scenic Highways
The County shall continue to seek and identify County routes, which due to their scenic and rural characteristics, should receive a County "scenic routes" designation.

FGMP-6.3 Development Along Scenic Highways
The County shall require that development along all scenic highways and routes meet the development standards of the FGMP.

FGMP-6.4 Development Within Scenic Corridors
The County shall require that projects located within a scenic corridor be designed in a manner, which does not detract from the visual amenities of that thoroughfare. The County shall support through the use if its authority and police powers, the design of infrastructure that minimizes visual impacts to surrounding areas by locating roadways in areas that minimize the visual impact on rural and natural places whenever feasible.

FGMP-6.5 Cluster Development
The County shall encourage projects proposed on lands within a scenic corridor with a non-agricultural or non-open space land use designation, to use a cluster development concept. Appropriate land uses for the open space areas shall include, but will not be limited to, public or private open space, wildlife habitat or agriculture.

3.7 Historical and Archeological Sites

FGMP-7 To protect Historical/Archaeological sites located in the Foothill Area.

FGMP-7.1 Information on Historical Sites
The County may require the developer to provide information at time of application submittal regarding any historical site and/or building that occupies the project area that is worthy of historical preservation.

FGMP-7.2 Information on Archaeological Sensitive Areas
The County may require the developer to provide information at time of application submittal regarding possible archeological sites if a project is located in proximity to archeological sensitive areas such as hilltops, buttes, watercourses, etc.

FGMP-7.3 Protection of Historical or Archaeological Sites
The County shall protect significant historical or archaeological sites, such as the one located on Rocky Hill, from development through maintenance of the site in open space. This policy shall not preclude development on adjacent property even though such property may be under the same ownership as the site to be protected.

3.8 Environmental Protection

FGMP-8 To protect the natural features of the foothills by directing development to selected areas.

FGMP-8.1 Riparian Area Development
The County shall discourage the location of development and improvements that are in close proximity to watercourse areas and riparian habitat, and prevent actual encroachment into those habitats.

FGMP-8.2 Development Drainage Patterns
The County shall assure that drainage patterns of foothill developments are designed to prevent contamination and sedimentation due to soil erosion.

FGMP-8.3 Development in the Floodplain
The County shall prohibit development of residences or permanent structures within the 100-year floodway.

FGMP-8.4 Development of Wastewater Systems
The County shall ensure that new wastewater systems meet the standards of the Regional Water Quality Control Board and Tulare County Health & Human Services.

FGMP-8.5 Protection of Lakes
The County shall protect Lake Kaweah and Lake Success from contamination due to runoff from development, underground seepage of waste effluent, or intrusion of incompatible land uses by utilizing appropriate design and engineering concepts and adequately separating the project from the lake environment.

FGMP-8.6 Development in the Frazier Valley Watershed
The County shall ensure that projects proposed in the Frazier Valley watershed portion of the Tule River Development Corridor do not aggravate the downstream flooding problem by generating additional runoff from the project site.

FGMP-8.7 Minimize Soil Disturbances
The County shall encourage cluster-type development, narrower road widths, and minimized cut and fill projects to minimize soil disturbances. New roads in the foothills should, whenever possible, conform to the natural contours of the existing foothill landscape.

FGMP-8.8 Erosion Mitigation Measures
The County shall require erosion mitigation measures in new developments to prevent soil loss.

FGMP-8.9 Removal of Natural Vegetation
The County shall restrict the removal of natural vegetation, except for wildland fire prevention purposes.

FGMP-8.10 Development in Hazard Areas
The County shall prohibit development in areas that are considered to be geologically hazardous (slides, earthquake faults, etc.).

FGMP-8.11 Development on Slopes
The County shall not allow development on slopes 30 percent or greater, unless the applicant can sufficiently mitigate the inherent problems associated with developing on steep slopes.

For additional policies relating to the treatment of slopes, see Chapter 4-Land Use, Policy LU-1.7: Development on Slopes and Chapter 8-Environmental Resources Management, Policy 7.3: Protection of Soils on Slopes.

FGMP-8.12 Vegetation Removal
The County shall prohibit unnecessary removal of native trees on development sites prior to approval of development plans to control erosion, preserve wildlife habitat, and maintain the natural character of developing areas.

FGMP-8.13 Use of Native Landscaping
The County shall encourage developers to use landscaping plant materials that are compatible with the surrounding native foothill vegetation.

FGMP-8.14 Identification of Wildlife
Where special status species have been identified, the County shall protect their habitat against encroachment by development.

FGMP-8.15 Development in Chaparral
The County shall restrict development in chaparral since these areas present extreme wildland fire potential.

FGMP-8.16 Proximity to Transportation
The County shall encourage the concentration of development along major travel routes to allow for future public transportation services and minimize travel distances to frequently used facilities.

FGMP-8.17 Reduce Vehicle Emissions
The County shall discourage the scattering of development throughout the foothills to reduce vehicular emissions by decreasing home to destination distances.

FGMP-8.18 Maintenance of Scenic Vistas
The County shall ensure that hilltop development is designed to preserve the skyline and maintain an unobstructed scenic panorama of the foothills for residents and visitors to enjoy.

FGMP-8.19 Preservation of Unique Features
The County shall encourage maintenance and protection of unique open space areas such as riparian woodlands, oak woodlands, interesting rock formations, and scenic vistas.

3.9 Water and Sewer Facilities

FGMP-9	To ensure that water and sewer facilities are constructed in a manner that protects the public health and safety and that the disposal of wastewater is done in a manner that does not degrade ground and/or surface waters.

FGMP-9.1 Infrastructure Capacity
In reference to water needs (domestic and fire fighting) and wastewater generation, the County shall not allow new development to exceed the maximum physical holding capacity (based on water availability and soils) of the parcel in question.

FGMP-9.2 Provision of Adequate Infrastructure
The County shall require evidence, prior to project approval, which (1) describes a safe and reliable method of wastewater treatment and disposal; and (2) substantiates an adequate water supply for domestic and fire protection purposes.

FGMP-9.3 Maintenance of Infrastructure
The County shall delegate the maintenance and operation of water and/or wastewater treatment facilities to a responsible entity, which shall be established prior to approval of the final subdivision map.

FGMP-9.4 Soil Conditions and Development Density
Based on existing soil conditions, types of land uses, effluent yield per land use, and the density of the proposed project, the County shall work with the Regional Water Quality Control Board and the Tulare County Health and Human Services Agency to review the adequacy of wastewater disposal areas.

FGMP-9.5 Alternate Sewage Disposal
The County may allow unconventional methods of disposing of sewage effluent, provided the system meets the performance standards of the Water Quality Control Board and the Tulare County Health and Human Services Agency. Such systems may include, but are not limited to common leach field, soil absorption mounds, aerobic septic tanks, or evapotranspiration systems.

3.10 Public Services

FGMP-10	To accommodate development in the foothills that is serviceable by the various public agencies in a manner that does not become an economic burden on the County

FGMP-10.1 Compliance with Planning Policies
To provide for the integration of efficient road systems, existing community values, infrastructural improvements, and open space patterns, the County shall encourage

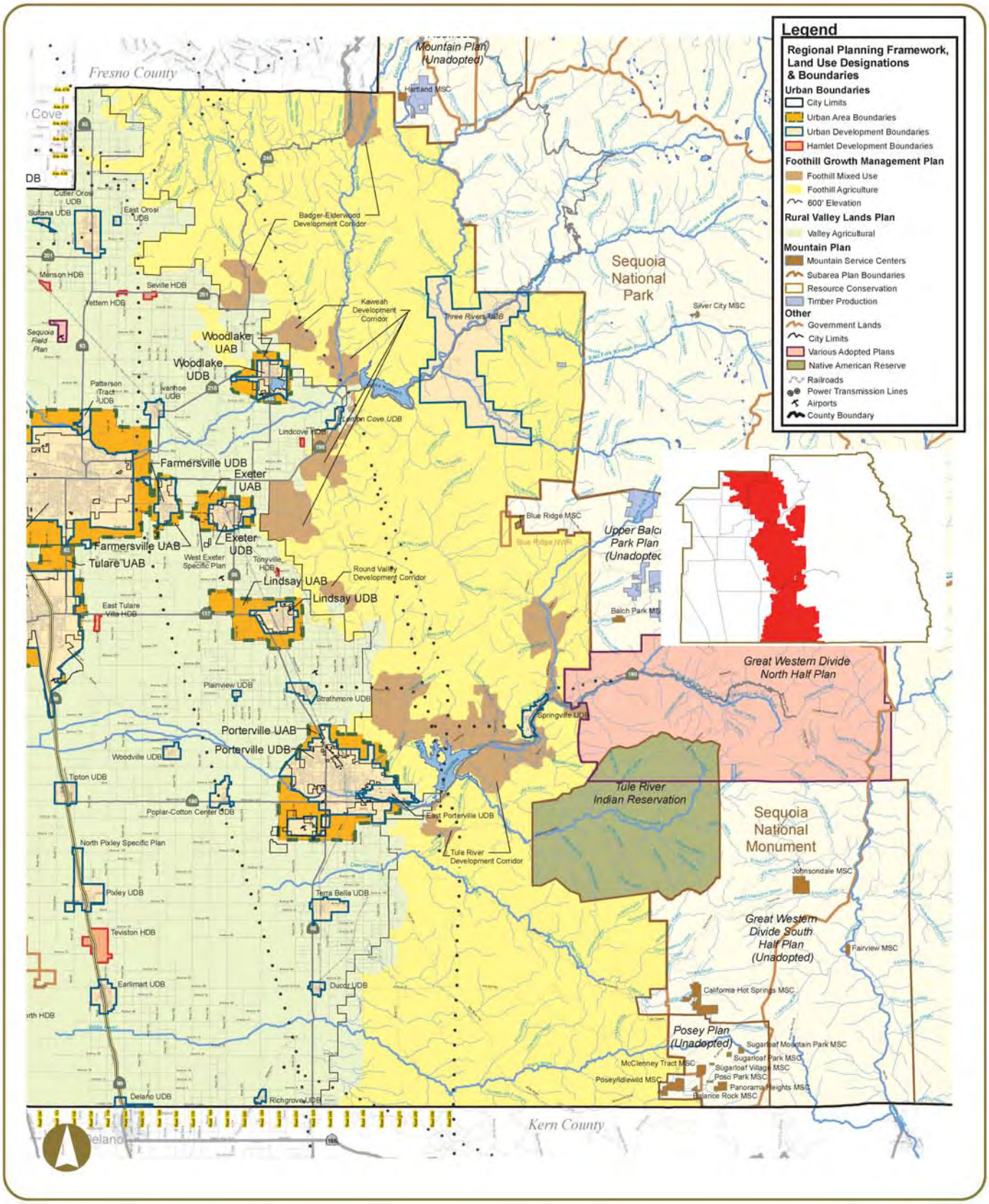
development projects within a definable geographic area of a development corridor to comply with a common development or specific plan designed for that area.

FGMP-10.2 Provision of Safety Services
The County shall ensure that development is located in areas of the foothills that can be adequately served by existing Tulare County fire stations and the Sheriff's Department unless new facilities are proposed or required for the development.

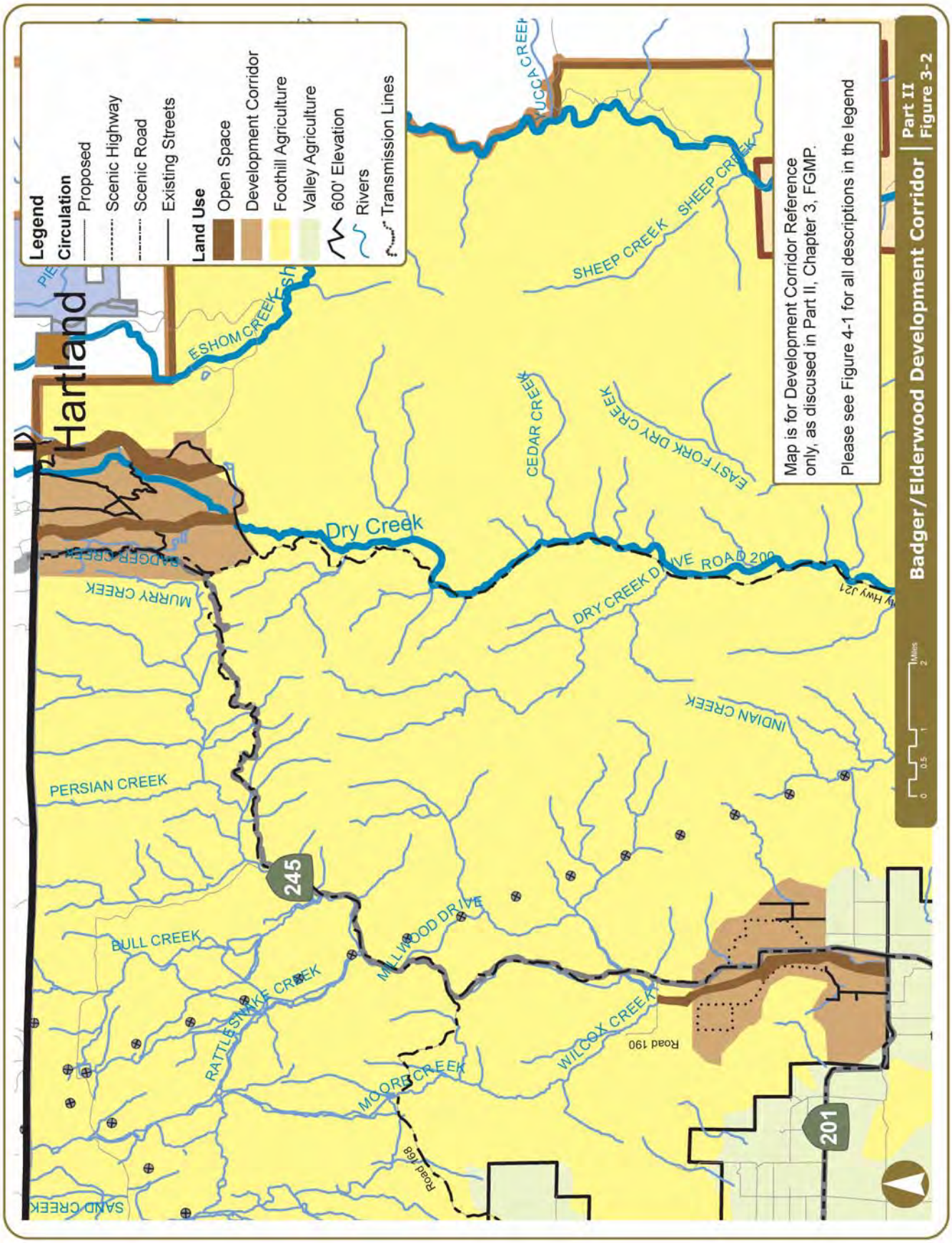
FGMP-10.3 Fire and Crime Protection Plan
The County shall require that fire and crime protection plan considerations, including financing, be incorporated into all proposed developments to ensure adequate emergency services are available and able to serve new development.

FGMP-10.4 Financing Plan
Where a specific plan is to be prepared for a sub-area of a development corridor, the County shall require a financing plan for the installation, operation, and ongoing maintenance of infrastructure resources to support growth in the specific plan area. The plan shall demonstrate no net cost to the County.

Please see next page.



Foothill Growth Management Plan | **Part II Figure 3-1**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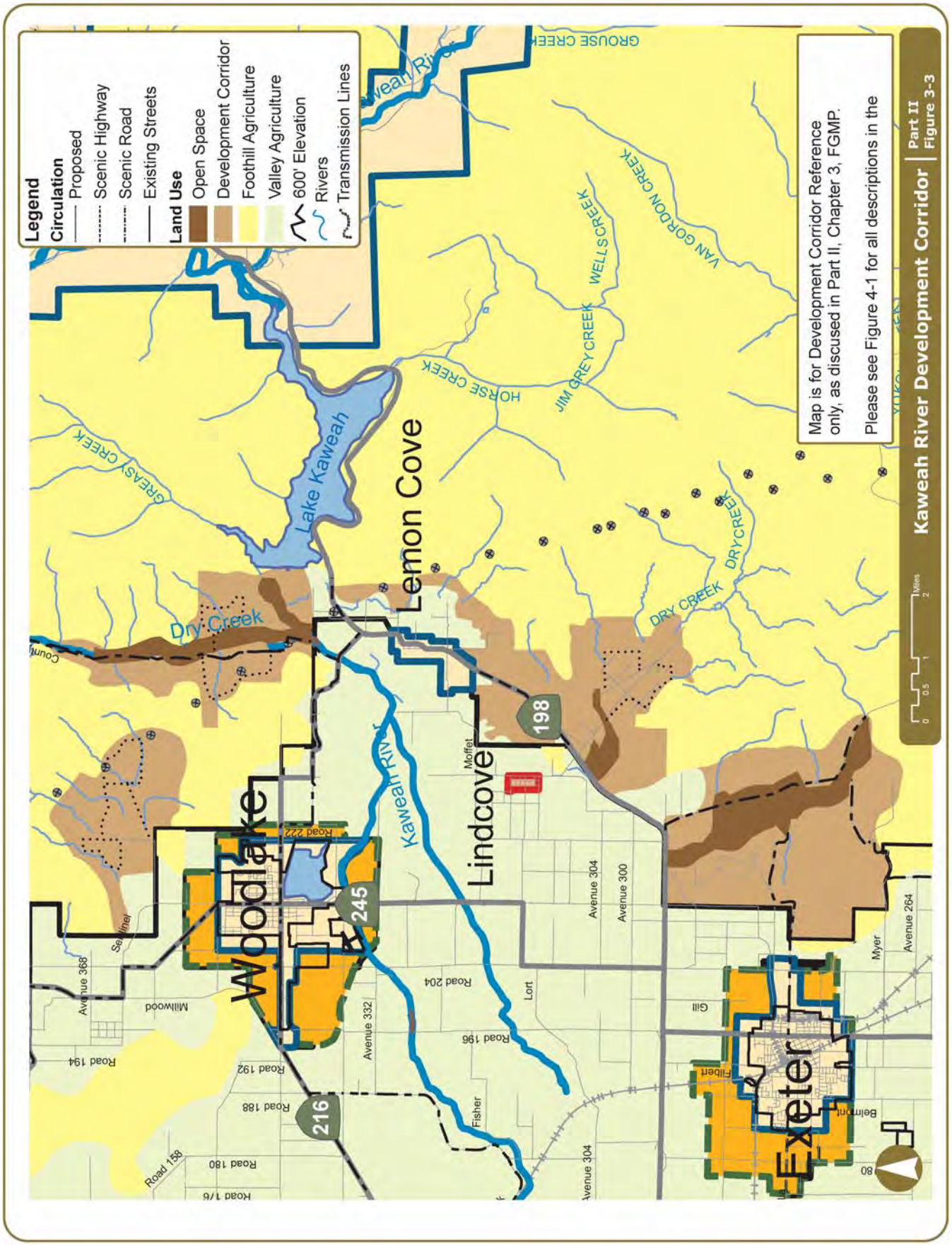
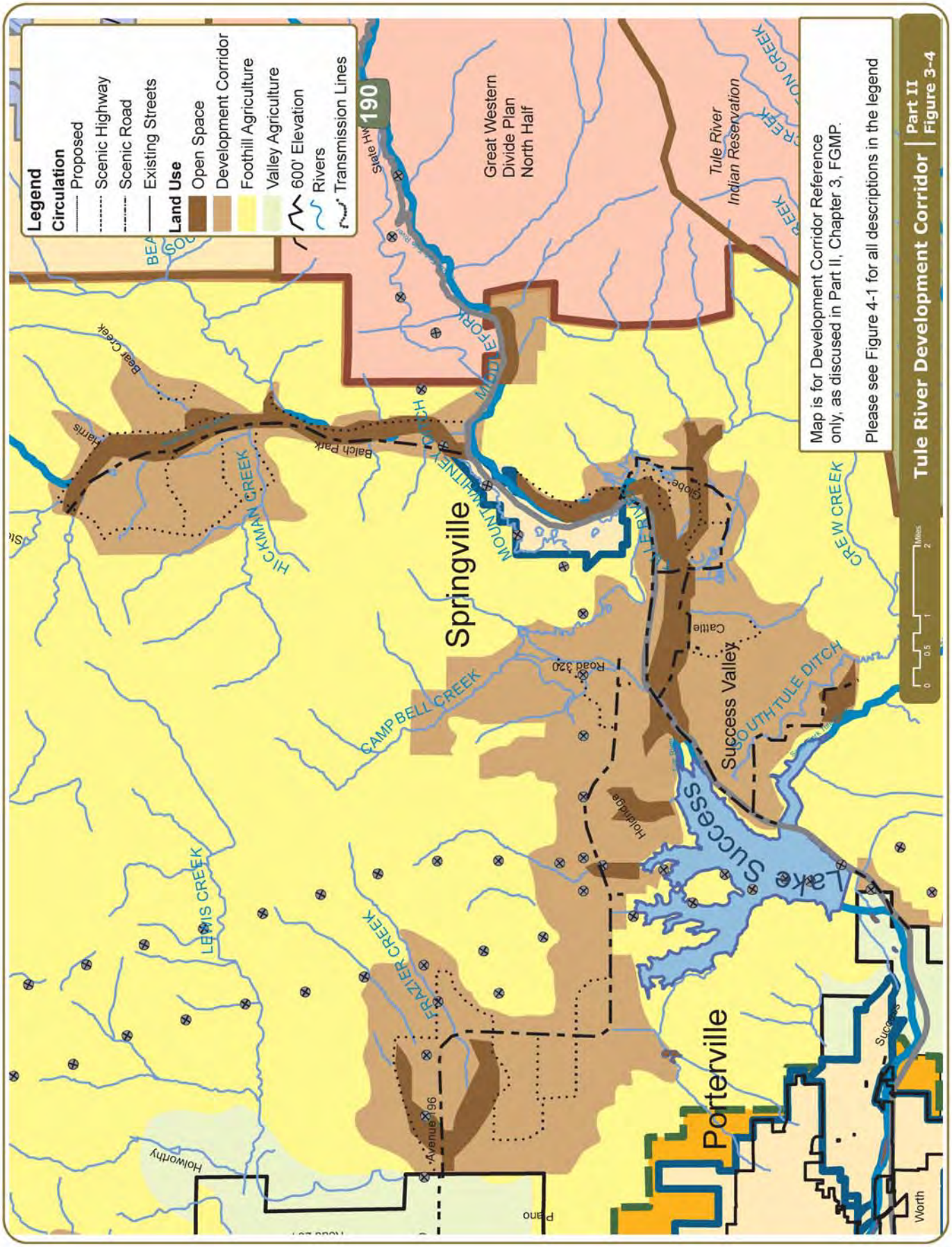
Proposed
Scenic Highway
Scenic Road
Existing Streets
Land Use
Open Space
Development Corridor
Foothill Agriculture
Valley Agriculture
600' Elevation
Rivers
Transmission Lines
Hartland
ESHOM CREEK
SHEEP CREEK
CEDAR CREEK
EAST FORK DRY CREEK
Dry Creek
DRY CREEK DRIVE
ROAD 200
HWY 121
MURRY CREEK
BADGER CREEK
INDIAN CREEK
PERSIAN CREEK
BULL CREEK
RATTLESNAKE CREEK
MILLWOOD DRIVE
WILCOX CREEK
MOORE CREEK
Road 190
Road 168
SAND CREEK
245
201
Map is for Development Corridor Reference only, as discussed in Part II, Chapter 3, FGMP.
Please see Figure 4-1 for all descriptions in the legend
Badger/Elderwood Development Corridor
Part II
Figure 3-2
Miles


Legend
Circulation
Proposed
Scenic Highway
Scenic Road
Existing Streets
Land Use
Open Space
Development Corridor
Foothill Agriculture
Valley Agriculture
600' Elevation
Rivers
Transmission Lines
Map is for Development Corridor Reference only, as discused in Part II, Chapter 3, FGMP.
Please see Figure 4-1 for all descriptions in the
Kaweah River Development Corridor
Part II
Figure 3-3
Lake Kaweah
Lemon Cove
Lindcove
Woodlake
Exeter
Kaweah River
Dry Creek
GREASY CREEK
HORSE CREEK
JIM GREY CREEK
WELLS CREEK
VAN GORDON CREEK
DRY CREEK
GROUSE CREEK
198
245
216
Road 222
Road 204
Road 196
Road 194
Road 192
Road 188
Road 180
Road 176
Road 158
Avenue 368
Avenue 332
Avenue 304
Avenue 300
Avenue 264
Millwood
Sequoia
Moffet
Lort
Fisher
Gill
Filbert
Myer
Belmont
0
0.5
1
2
Miles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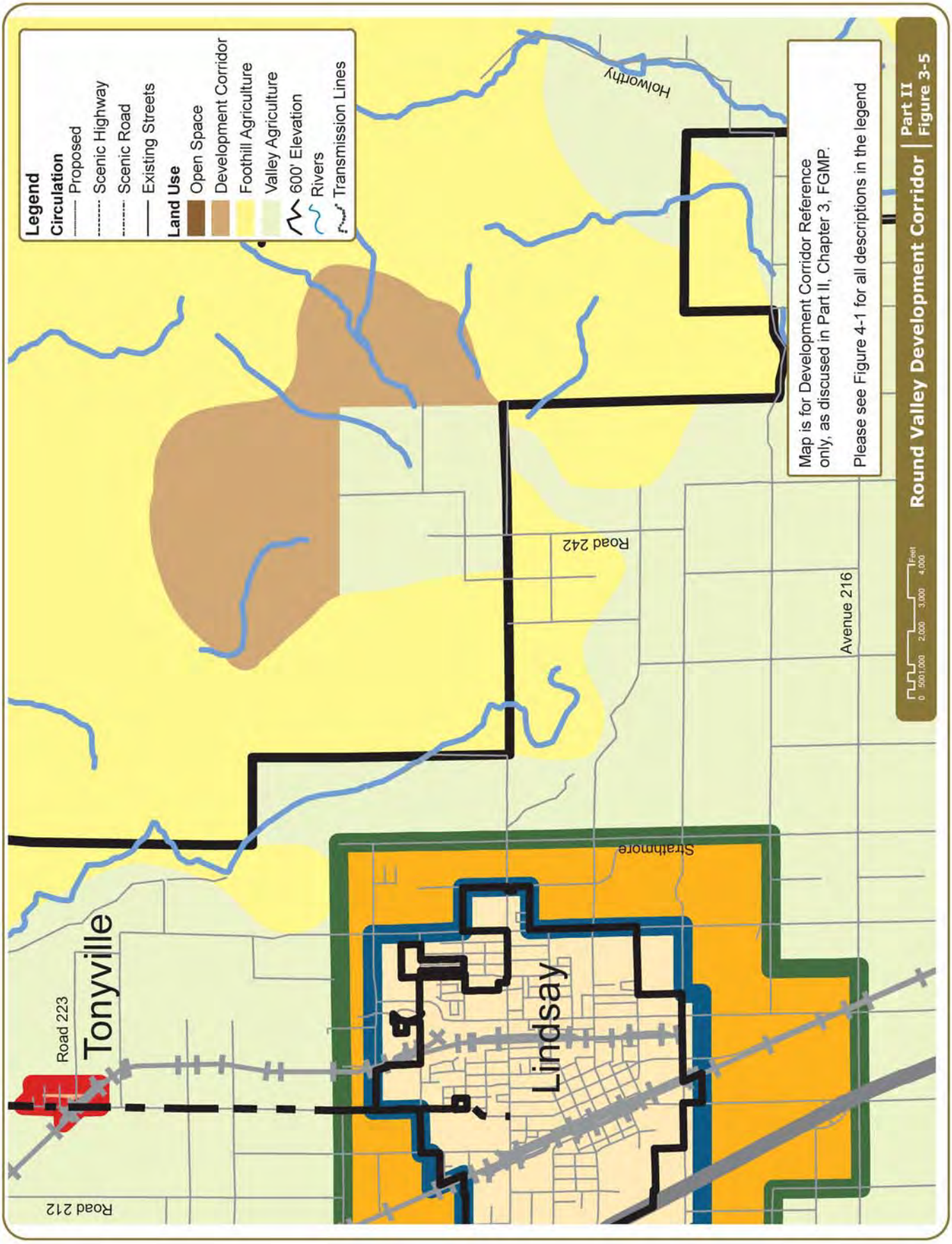
Land Use
Open Space
Development Corridor
Foothill Agriculture
Valley Agriculture
600' Elevation
Rivers
Transmission Lines
Great Western Divide Plan North Half
Tule River Indian Reservation
State Hwy 190
Springville
Porterville
Lake Success
Success Valley
Map is for Development Corridor Reference only, as discused in Part II, Chapter 3, FGMP.
Please see Figure 4-1 for all descriptions in the legend
Tule River Development Corridor
Part II Figure 3-4


Legend
Circulation
Proposed
Scenic Highway
Scenic Road
Existing Streets
Land Use
Open Space
Development Corridor
Foothill Agriculture
Valley Agriculture
600' Elevation
Rivers
Transmission Lines
Map is for Development Corridor Reference only, as discussed in Part II, Chapter 3, FGMP.
Please see Figure 4-1 for all descriptions in the legend
Round Valley Development Corridor
Part II
Figure 3-5
Holworthy
Road 242
Avenue 216
Stratmore
Lindsay
Tonyville
Road 223
Road 212
0 500 1,000 2,000 3,000 4,000
Feet

3.11 Work Plan/Implementation Measures

The following table documents the Implementation Measures included with the General Plan to implement the goals and policies included in this Chapter.

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
1. The County shall concentrate rural and urban development in the development corridors or within development corridors delineated on a Master Development Plan.	FGMP-1.1 FGMP-8.17	RMA				■
2. The County shall amend the Tulare County's Improvement Standards to reflect changes in foothill, street and grading standards.	FGMP-1.2	RMA				■
3. The County shall require a grading and slope stabilization plan for that portion of the development exceeding slopes of greater than 15 percent.	FGMP-1.2 FGMP-8.7 FGMP-8.8	RMA				■
4. The County shall require information in the preliminary review process to delineate slopes 30 percent or greater on the development site. Review of the proposal by the Committee (PRC) will prescribe a project design that will maintain 30 percent slopes generally free of improvements, unless the problems associated with steep slopes are sufficiently mitigated.	FGMP-1.2 FGMP-8.11	RMA				■
5. The County shall appoint a committee of interested community residents when the Board of Supervisors determines a Community Plan, Master Development Plan, Specific Plan, Area Development Plan, or Hamlet Plan is necessary for an identifiable community area where the project boundary is coterminous with an existing HDB, UDB, or PCA.	FGMP-1.3 FGMP-1.4	RMA				■
6. The County shall use the Project Review Committee to ensure that the new development adjacent to scenic highways and roads meets the requirements set	FGMP-6.1 FGMP-6.3	RMA				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
forth in the development standards.						
7. The PRC shall review the consistency of the project with the location, type of design criteria of the County's policies for projects that only require PRC. Should the project not meet the County's policies, findings to that effect shall be forwarded to the appropriate decision-making body.	FGMP-1.5 FGMP-1.6 FGMP-1.7 FGMP-3.1 FGMP-6.5 FGMP-8.1 FGMP-8.12 FGMP-8.19 FGMP-9.1	RMA				■
8. Substantial improvement or expansion to commercial uses not located in Three Rivers, Springville, and Lemon Cove shall conform to the development standards contained in the FGMP.	FGMP-1.12 FGMP-1.16	RMA				■
9. The County shall ensure that the land use and circulation plan for a development corridor will limit retail commercial development designations outside Three Rivers, Springville, and Lemon Cove unless determined to be appropriate and acceptable as included in a Master Development Plan.	FGMP-2.1	RMA				■
10. The County shall maintain appropriate zoning within the Badger Development Corridor which requires a 5-acre minimum parcel size.	FGMP-2.2 FGMP-2.3	RMA				■
11. The County may initiate changes in the FGMP specifically for the Badger Development Corridor to accommodate uses of property and densities not presently reflected in this FGMP, so long as specific plans for development and densities have been prepared and are available for review at the time the Commission initiates consideration of the plan change	FGMP-2.2	RMA				■
12. The County shall assure that the Tulare County Zoning Ordinance maintains agricultural zones that will protect and enhance the viability of foothill agriculture	FGMP-5.1	RMA				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
through the provisions of adequate minimum parcel sizes.						
13. The County shall ensure that the design of subdivisions is reviewed by the PRC to assure the visual impact to the foothills is minimal.	FGMP-1.11 FGMP-8.18	RMA				■
14. The County shall promote the use of cluster development, greater setback distances, landscaping, and innovative lot design to protect scenic corridors within the County. Provisions for the use of these tools shall be incorporated into the County's land development ordinances.	FGMP-6.3 FGMP-6.4 FGMP-6.5 FGMP-8.7	RMA				■
15. Unauthorized encroachment in environmentally or archeologically sensitive areas on a project site which are to remain in common open space shall be prohibited.	FGMP-4.3	RMA				■
16. The County shall explore the options for voluntary Williamson Contract cancellation on lands that are within a development corridor and under a Planned Development-Foothill Zone.	FGMP-10.1	RMA				■
17. The County shall ensure the Tulare County Zoning Ordinance maintains a zone that protects extensive agriculture. This zone shall ensure that the minimum parcel size is adequate to protect foothill grazing. The zone shall also be flexible enough to allow for intensive agricultural uses to be divided from larger extensive agricultural uses.	FGMP 5.1	RMA				■
18. The County shall identify and maintain extensive and intensive agricultural areas, as identified by the FGMP through the use of large lot exclusive agricultural zoning to reduce encroachment of non-agricultural uses.	FGMP-5.1	RMA				■
19. The County may require agricultural lands that are in a development corridor and the	FGMP-5.1	RMA				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
Planned Development-Foothill Zone to remain in agricultural use, if, under the site plan review process, an inadequate amount of water or improper soils for waste water disposal exists.						
20. The County shall ensure the Zoning Ordinance maintains the Planned Development-Foothill (PD-F-M) Zone which will be applied to properties in a development corridor that are suited for development.	FGMP-3.3	RMA				■
21. The County shall maintain the two areas within Success Valley of the Tule River development corridor on the Land Use/Circulation Plan to a classification (zone), which prohibits any residential densities greater than one unit per five acres.	FGMP-1.10	RMA				■
22. The developer shall provide the appropriate fees for review of a project area by the California Archaeological Inventory Information Center if the project site and affected areas are located in proximity to hilltops, buttes, watercourses, etc. which might have archeological value. A more thorough on-site investigation by a qualified archeologist should be undertaken if deemed necessary by the District Archeologist.	FGMP-7.1 FGMP-7.2	RMA				■
23. The County shall ensure environmentally sensitive and riparian areas within development corridors are designated as open space on the FGMP reference maps.	FGMP-8.1	RMA				■
24. Drainage plans shall be required for all projects within the “Foothill Mixed Use” areas of Frazier Valley. The Planning Commission shall not approve any project within Frazier Valley until the Resource Management Agency has reviewed said drainage plan and certified that the proposed	FGMP-8.6	RMA				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
drainage facilities will prohibit any additional storm water discharge from the project that would aggravate downstream flooding problems.						
25. The developer will be required to phase road construction to correspond with the phases of the development proposal.	FGMP-8.7	RMA				■
26. The County shall review landscaping plans through the PRC process to ensure that areas to be landscaped are compatible with surrounding native vegetation.	FGMP-8.13	RMA				■
27. The Tulare County Health and Human Services Agency and the Fire Department shall determine the minimum water requirement for projects to ensure that the magnitude of the project does not exceed the amount of water available to the subject site.	FGMP-9.1	RMA				■
28. The County shall appoint a registered civil engineer or sanitarian along with a representative of the Tulare County Health Department to ensure that the magnitude of proposed projects do not exceed the physical holding capacity of the on-site soils to accept the estimated waste effluent.	FGMP-9.4	RMA				■
29. The County shall require submission of a drainage plan with development projects in conjunction with the site plan review.	FGMP-8.2	RMA				■
30. The County shall require a properly designed wastewater disposal system to prevent surface or groundwater contamination and a drainage plan which minimizes sedimentation and/or contamination of the lake environment by engineering measures capable of meeting the intent of this policy. Should there be some question regarding the reliability of the engineered systems, the Planning Commission shall	FGMP-8.5	RMA				■

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
condition the project to provide an adequate separation between the body of water and the development site.						
31. The County shall ensure that unconventional disposal methods will be reviewed by the Tulare County Health and Human Services Agency to ensure that the standards of the Water Quality Control Board are met.	FGMP-8.4 FGMP-9.5	RMA				■
32. The County shall work with landowners and developers to promote coordinated master plans for multiple purposes.	FGMP-10.1	RMA				■
33. The Planning Commission and the Board of Supervisors shall consider the financing plan during their review and consideration of the specific plan, Master Development Plan, or Area Development Plan. The financing plan shall be used as a basis for establishing programs and standards within the specific plan, Master Development Plan, or Area Development Plan which mitigate or avoid the adverse fiscal impact of development upon local public service agencies and County agencies.	FGMP-10.4	RMA				■

3.12 Development Standards

Unless it can be demonstrated that an alternative standard will result in attainment of a superior environment, when preparing Specific Plans, Master Development Plans, or Area Development Plans and standards therein for areas within the foothills, at a minimum, the development standards within the FGMP-Section 3.12 shall apply.

The following standards and conditions, as well as all applicable policies, standards, and conditions from the various agencies, shall be met by new development.

Residential Densities:

1. The residential density of a new development shall be initially limited by the amount of water available for domestic and fire fighting purposes based on water demand specifications provided by the Tulare County Health Department and the County Fire Department. A more specific residential density shall be determined in the site plan review process. The final allowable density shall correspond to how well the proposed project meets the goals and policies of the FGMP.
2. As a guideline, the maximum density for land with slopes between 15 percent and 29 percent shall be one (1) residential unit per two and one half (2 ½) acres unless it can be demonstrated that site-specific lot design and innovative waste water disposal can overcome the inherent problems of steep slopes and thin soils.
3. Development shall generally be precluded on slopes 30 percent or greater, unless the applicant can sufficiently mitigate the inherent problems associated with developing on steep slopes.
4. The residential density of any development within the Success Valley areas of the Tule River development corridor on the Land Use/Circulation Plan shall not exceed one (1) unit per five (5) acres.

Open Space Requirements:

5. Those portions of the site which are adjacent to a watercourse area, contain undeveloped slopes 30 percent or greater or encompass environmental, archaeological, or historically sensitive areas shall remain in common open space.

Land Alteration Grading:

6. All graded slopes are to be contoured and blended to harmonize with the natural slopes on and around the site.
7. The maximum steepness of exposed cuts and fills shall meet the standards established in the Improvement Standards of Tulare County.
8. Graded slopes consisting primarily of soil shall be planted with vegetation to stabilize slopes and prevent erosion. Native plant materials or similar climactically adapted vegetation shall be used wherever possible.
9. Slope stabilization and erosion prevention shall be completed before the winter months after grading has been completed.
10. Lots shall be designed to fit the natural landscape in a manner that does not require extensive grading.
11. Where two cut or fill slopes intersect, the intersection shall be horizontally rounded and blended. (This standard does not pertain to slopes composed of rock.)

12. Where a cut or fill slope intersects the natural grade, the intersection shall be horizontally rounded and blended. (This standard does not pertain to slopes composed of rock.)
13. Fills shall not encroach on natural watercourses or constructed channels. Excavated materials shall not be stored in watercourses.
14. Grading and excavation shall be phased with the development.

Erosion Control:

15. Sediment shall be retained on site by measures such as sediment basins and sediment traps as outlined in the Drainage Plan.
16. Temporary mulching, seeding, or other suitable stabilization measures shall be used to protect exposed critical areas after the completion of grading.
17. Exposed slopes shall be planted with native plant materials or similar climactically adapted vegetation that protects exposed slopes from erosion.

Drainage:

18. For projects located in areas containing steep slopes or tightly packed soils, the Drainage Plan shall be designed to detain as much water as possible on site to prevent potential sedimentation and flooding.
19. The drainage plan required for all projects within the Frazier Valley watershed area shall be designed to retain all storm water runoff caused by the development on the project site.

Vegetation Removal:

20. Removal or grading around native trees (with a trunk of 6” or larger in diameter or 3’ above ground surface) which may disturb the root system shall not be allowed during the construction process unless the Project Review Committee deems it necessary because of road alignments or infrastructure improvements. Any trees to be removed shall be indicated on the submitted site plan.
21. Removal of native trees in areas restricted to open space shall not be allowed unless the health, safety or welfare of residents associated with the development is endangered. Any trees proposed for removal must be indicated on the submitted site plan with accompanying information stating why the tree must be removed.

Land Improvements: Building Standards

22. The maximum building height measured at foundation ground level shall be 35 feet.
23. Properties located along a scenic highway or road shall have a minimum property width of 150 feet with side yard setbacks of 10 percent of the width of the property.
24. In newly developing areas, those properties that are located along a scenic highway shall have a minimum front yard building setback of 100 feet from the right-of-way line while scenic roads shall have a setback of 100 feet from the centerline of the road.
25. The minimum lot width and front yard setback requirement for property along a scenic highway or road and inside the Springville Urban Development Boundary may be waived by the Project Review Committee if it is deemed inappropriate because of existing development patterns.
26. Building improvements (homes, fences, etc.) and septic tank/leach line systems or other activities associated with construction (grading) shall not be permitted within 50 feet of intermittent watercourses or 100 feet of perennial watercourses.

Land Improvements: Well Systems

27. Each residential or planned unit development in the development corridor shall join or form an association or community organization, private or mutual water company, or establish an equivalent financing/maintenance mechanism acceptable to the County for purpose of monitoring and maintaining the water system. This section shall not apply to newly created parcels that are 10 acres or larger. The Planning Commission shall have the discretion to recommend a waiver of a common water system based on circumstances such as size or number of lots, topography, existing water systems, or other overriding conditions.
28. Each well system shall meet the requirements of, and have a permit with, the Tulare County Health Department.

Land Improvements: Community Waste Water System

29. Each residential or planned unit development which uses a waste water disposal system other than an individual system shall join or form an association or community organization, or establish an equivalent financing/maintenance mechanism acceptable to the County for purposes of monitoring and servicing the waste water disposal system.
30. The waste water disposal system shall be designed to meet the requirements of the Tulare County Health Department and the Regional Water Quality Control Board.
31. Application for waste discharge shall be made with a permit received from the Water Quality Control Board.

Land Improvements: Streets

32. All streets, walkways, and bike path improvements shall conform to the Tulare County Improvement Standards document unless otherwise modified by the standards contained in this document. Each residential or planned unit development shall provide for a financing and maintenance mechanism acceptable to the County for street maintenance and replacement.
33. The following table will serve as a guide for minimum street standards for public streets permitted within a residential subdivision or planned unit development. Street widths or right-of-way standards are subject to modification during the site plan review process based on factors such as topography, soils, location of watercourses, or development density. One way streets shall be considered for private maintenance only.
34. Privately maintained streets may be developed to lesser street and right-of-way standards depending upon the location and type of development. In these cases, minimum standards will be determined by the Planning Commission.

			Unpaved Shoulder Width			Right-Of-Way Width
Type of Street	**Street Characteristics**	**Pavement Width***	**Flat Width (0-5% slopes)**	**Rolling (6-20%)**	**Mountainous (20% and above)**	**Desirable ** **
One Way Street	Projected Average Daily Traffic (ADT) not to exceed 400; on-street parking prohibited; guest parking required	16’	8’	3’	2.5’	50’
One Way Street	Projected ADT not to exceed 400; on-street parking prohibited.	26’	8’	3’	2.5’	60’
Two-Way Access Road (adjacent development prohibited)	Projected ADT not to exceed 400; on-street parking prohibited.	28’	8’	3’	2.5’	60’
	ADT greater than 400	28’	8’	3’	2.5’	
Two-Way Residential Street	Projected ADT 400 or less, on-street parking prohibited; guest parking required.	28’	8’	4’	3’	60’
Two-Way residential street and minor roads	Projected ADT not to exceed 1,000; on-street parking permitted.	32’	As required by RMA.			60’

*Pavement width may be increased by the Project Review Committee when on-site parking is likely to occur based upon the characteristics of the development (lot size or configuration, the existence of natural or man-made amenities adjacent to the roadway which would serve as an attractive force etc.). In addition, increased pavement width may be required when curb and gutter or asphalt concrete dikes are utilized.

**Reduced right-of-way widths may be considered acceptable by the Project Review Committee in cases where utilities are underground, when small cut and fill slopes are required, and other similar circumstances where the full right-of-way width is not deemed necessary.

Land Improvements: Parking

35. For residential uses located in areas where on-street parking is permitted, off-street parking shall be provided on the basis of two (2) spaces per dwelling unit.
36. For residential uses located in areas where on-street parking is prohibited, off-street guest parking shall be provided on the basis of one (1) space per dwelling unit (driveways not included), in addition to the two (2) spaces per dwelling unit.
37. Off-street parking and loading facilities for commercial, industrial and other types of uses shall be determined by the Planning Commission.

Scenic Highway Corridor

38. No new off-premises outdoor advertising signs shall be allowed in scenic corridors.
39. All new utility improvement shall be located underground if the property lies in a scenic corridor.
40. Grading and cut and fill operations shall be kept to a minimum in scenic corridors. All exposed slopes are to be planted with native materials.
41. Existing vegetation and unique land forms (rock outcrops, etc.) shall be retained and protected from any unnecessary grading or other development related activities.
42. Individual businesses in scenic corridors with on-site signs pertaining to the identification of the permitted use shall be flat to the primary building façade.
43. In scenic corridors, on premise, free-standing signs identifying the use of the property shall require discretionary approval by the Planning Commission based on design, setbacks, size, architectural compatibility, traffic safety, and visibility.

Fire Protection

44. Each new residential subdivision or planned unit development occurring in a development corridor shall be reviewed by the County Fire Warden or his/her agent to insure fire protection measures and standards set forth in the Tulare County Subdivision Ordinance are met.
45. New development within established development corridors shall be located within a 15-minute attack time of a County fire station. However, this standard shall not apply to the Badger Development Corridor, where attack times may exceed 15 minutes. This limited exception is justified based upon established residential density limitations and unique fire protection service facilities and capabilities existing in the Badger area. [General Plan Amendment (GPA) 83-03, 5/17/83].
46. Water for fire protection shall be available in sufficient quantity and pressure to serve the project in question.
47. Fire retardant roofing materials shall be used in new foothill developments.
48. Fire resistive construction elements shall be incorporated into stilt or cantilevered construction buildings.
49. Street house numbers shall be clearly visible from the main traveled roadway.
50. Sufficient clearance of flammable vegetation around buildings shall be maintained.
51. Fuel breaks and greenbelts shall be used to protect both developing areas and adjacent wildlands.
52. Where possible, take maximum advantage of planned or existing parks, golf courses, tennis courts, or other recreational areas to provide for a buffer zone between development and the wildland.

53. Road systems, either public or private, shall provide for a safe evacuation of residents and adequate access for fire and other emergency equipment.
54. Bridges shall have a minimum load limit of 40,000 lbs. (20 tons).
55. A fire protection plan shall be submitted on all new developments.

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Part II-Chapter 4. Mountain Framework Plan

The Mountain Framework Plan is divided into the following sections:

- Mountain Framework Plan Policies (Section 4.1)
- Work Plan/Implementation Measure (Section 4.2)

This Chapter sets out area plan policies for the Sierra Nevada region. While many of the goals and policies of Part I of the General Plan are applicable to all regions, the policies contained in this Chapter are specific to the County's mountain areas.

Key Terms:

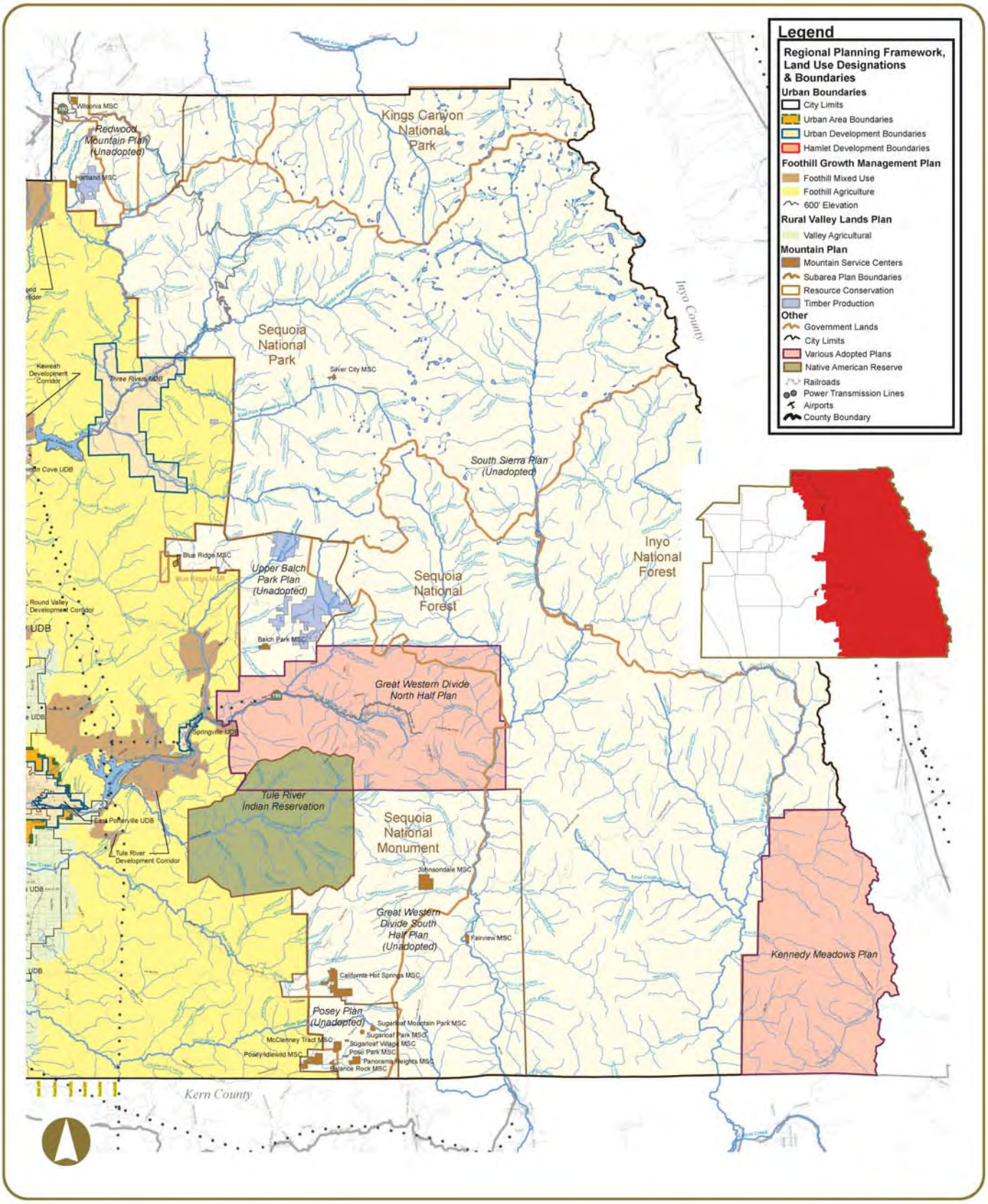
Mountain Service Areas. Private in-holdings and remote properties located outside of mountain service centers primarily located in unadopted areas of the Mountain Framework Plan.

Mountain Service Centers. Areas designated for development in existing communities or in areas adjacent to existing communities located in the Mountain Framework Plan. The Mountain Framework Plan identifies existing communities in the unadopted sub-areas as "Mountain Service Centers". These areas are designated as mixed use until such time as a sub-area plan is adopted. Upon update and adoption of existing and future sub-area plans, existing communities will be designated as Mountain Service Centers and traditional land use designations may be applied (see Figures 4-2 thru 4-17).

Planned Community Area (PCA). This designation establishes areas suitable for comprehensive planning for long term community development on large tracts of land, typically under unified ownership or development control, and allows for master planning where a community plan typically does not currently exist. Planned communities have a balance of land uses that support economic growth and promote an exceptional quality of life. Planned communities accommodate mixed use developments that include residential; commercial; administrative; industrial; and other activity. Density bonuses for residential of 25% to 35% shall be granted to Mixed Use Areas to encourage the development of affordable housing units, compact development in the implementation of development strategies that support the use of mass transit, reduction of air impacts, and implementation of measures that contribute to the reduction of global warming. Master Development Plans and Area Development Plans are required to assist in the consideration of Mixed Use development proposals. Furthermore, such communities must ensure provision of open space, infrastructure and public services needed to support growth. No PCA shall be established unless it includes a minimum of 200 continuous acres of land.

Mountain Framework Plan

The Mountain Framework Plan chapter provides policy guidance in the unincorporated mountain area on the eastern side of the County (Part II-Figure 4-1: Mountain Framework Plan). This area includes all land located east of the foothills, which generally coincides with the westerly boundary of federal lands. This includes lands under the jurisdiction of the National Park Service (Sequoia National Park), the U.S. Forest Service {USFS} (Giant Sequoia National Monument), and the Bureau of Land Management (BLM). The County has never adopted an overall plan for the mountain area. The private lands in this region amount to about 40,000 acres identified in the following seven separate geographical locations or "sub-areas":



Mountain Framework Plan | **Part II Figure 4-1**

- Kennedy Meadows (1986)
- Great Western Divide - North ½ (1990)
- Great Western Divide - South ½ (unadopted)
- Redwood Mountain (unadopted)
- Posey (unadopted)
- Upper Balch Park (unadopted)
- South Sierra (unadopted)

Of the seven sub-areas identified above, only the Kennedy Meadows and Great Western Divide (North ½) Sub-areas have adopted plans. These two plans use unique land use designations that provide for the future growth of each sub-area. These two plans collectively cover about 50 percent of the privately held land in the mountain area.

4.1 Mountain Framework Plan Policies

M-1	To provide for a balanced and orderly land use pattern within the County's mountain area and within individual places consistent with the mountain-forest setting and environment of the region.

M-1.1 Sub-area Plans

The County shall prepare, adopt, and maintain land use plans for the following sub-areas within the Mountain Framework Plan:

- Kennedy Meadows
- Great Western Divide - North ½
- Great Western Divide - South ½
- Redwood Mountain
- Posey
- Upper Balch Park
- South Sierra

The County shall develop and adopt a land use plan for each sub-area specifying desired densities and land use designations (as defined in the Land Use Element in Part I of the General Plan-Chapter 4), defining suitable areas for a full range of urban and suburban development, and recognizing the short and long term ability for the County to provide necessary services to each community. Theses sub-area plans should be reviewed and updated as necessary every five years.

M-1.2 Plan Guidance

Given the environmental sensitivities and lack of infrastructure in the mountains, the County shall allow, as necessary, only limited residential, commercial, and industrial growth in this area. New residential development in the area shall:

1. Not be located on a ridgeline or otherwise disrupt the visual setting of the area,
2. Be located on or near existing roadways, but not visible from the roadway where lot configurations allow, and

3. Be clustered whenever possible to minimize the footprint of development.

M-1.3 Mountain Area Zoning
Until such time as a sub-area plan is adopted for each of the areas, the County shall rezone all lands to reflect existing land uses that are consistent with the policies of this Mountain Framework Plan chapter.

M-1.4 Citizens Advisory Group
The County shall establish a citizen's advisory committee, comprised of representatives from affected areas, appointed by the Board of Supervisors, to review and comment on each draft sub-area plan in the Mountain Framework Plan.

M-1.5 Mountain Service Area Designations
Until such time as a Mountain Framework Plan sub-area plan is adopted, the County shall maintain in-holdings and remote properties outside of Mountain Service Centers as Resource Conservation uses.

M-1.6 Establishing Mountain Service Areas
The County shall ensure that the land use plan for each Mountain Framework Plan sub-area establishes areas for resource conservation on properties which exhibit one or more of the following criteria:

1. The land is subject to an agricultural preserve contract,
2. The land exhibits characteristics which makes it unsuitable for intense development, including but not limited to steep slopes (generally 30% or greater), soils poorly suited to intense road, riparian, and wetland habitats and/other development construction,
3. The land is isolated and surrounded by federal lands, and/or
4. The land is forested private land with an approved Timber Harvesting Plan.

M-1.7 Mountain Service Centers
The County shall designate areas identified in sub-area plans for development as mountain service centers. Mountain service centers shall be located in existing developed communities or in areas adjacent to existing communities provided they meet the following criteria:

1. The general area has a concentration of developed smaller parcels already existing,
2. Topography consists of natural slopes that average less than 30%,
3. Dependable domestic water supply is available or can be made available,
4. Soils are suitable for individual sewage disposal system or served sewer system, and
5. The area has existing developed publicly-maintained roads.

M-1.8 Existing Mountain Service Centers
The County designates the following communities as mountain service centers: Balance Rock, Balch Park, Blue Ridge, California Hot Springs/Pine Flat, Fairview, Hartland, Johnsondale, McClenney Tract, Panorama Heights, Posey/Idlewild, Poso Park, Silver City, Sugarloaf Mountain Park, Sugarloaf Park, Sugarloaf Village, and Wilsonia.

M-1.9 Agricultural Preserves
The County has designated lands within mountain service centers that are within agricultural preserves or Williamson Act Contracts as Resource Conservation in order to maintain

consistency with the requirements of the Williamson Act or preserve. When a preserve is disestablished, it could be considered for a non-agricultural designation appropriate for the area.

M-1.10 Mix of Uses

The County shall include, within a designated mountain service area, a mix of land uses that reflect the individual housing, business, open space, recreation and other types of public and private development needs of new or updated sub-area plans.

M-1.11 Resource Conservation Criteria

The County shall require that lands identified in mountain sub-areas be designated as Resource Conservation when the one or more of the following factors are present:

1. The land is subject to an agricultural preserve contract, Timber Production Zone (TPZ), or has an approved Timber Harvesting Plan,
2. The land exhibits physical characteristics which makes it unsuitable for intense development such as steep slopes (generally 30% or greater slope) and soils are poorly suited for intense road and other development construction,
3. The land is isolated and surrounded by federal lands,
4. There is lack of access, and/or
5. Services cannot be reasonably provided to the area.

The Resource Conservation designation is also intended to apply to areas that would not be used for development purposes and should be reserved for extensive agricultural uses, watershed protection, and other open space and resource conservation purposes.

M-1.12 Resource Conservation Uses

The County shall allow a variety of open space and resource management uses, with the approval of a Special Use Permit, on lands designated Resource Conservation, including growing and harvesting of timber, livestock grazing, game preserves, and recreational uses such as outdoor educational activities, public and private hunting and fishing clubs, guest ranches, camp grounds, and summer camps. Other special uses include: mineral exploration and mining, commercial energy resource development, public utility transmission stations, and other similar uses.

M-1.13 Mountain Residential Areas

The County shall ensure that mountain residential areas that are identified in the sub-area plan as unique and environmentally-sensitive are preserved and protected by limiting the potential land use and land division opportunities.

M-1.14 Minimum Parcel Sizes

The County shall evaluate proposals for projects with minimum parcel sizes smaller than the allowed minimum based on a detailed evaluation of the property, such as the availability of water, on-site soil types, and other physical site-specific characteristics which may have a bearing on the project.

M-1.15 Commercial Services

The County shall encourage retail and recreation-oriented commercial uses that provide for low intensity service related uses that serve the needs of both local residents and visitors in the mountain area.

M-1.16 Outlying Commercial Uses
The County shall review developments for general and recreation commercial uses planned outside of a mountain service center only if the physical characteristics of the site do not prohibit development, the site has direct access to a publicly maintained road adequate to serve the proposed development, the property can be developed without adversely impacting surrounding environmental features, and the property can be developed without conflict of use with existing development or adjacent parcels.

M-1.17 Commercial Design Review
The County shall require for all proposals, including expansions of minor retail uses and more intense commercial uses, site plan/design review. More intense commercial uses will also be required to obtain the approval of a Special Use Permit.

M-1.18 Low Intensity Recreation Uses
The County shall designate areas suitable for low intensity recreation commercial uses such as campgrounds, cross country skiing facilities, hiking or pack stations, etc. in the sub-area plans away from major publicly maintained roads provided the site or characteristics of the use justify a location away from a publicly maintained road.

M-1.19 United States Forest Service Support
The County shall continue to support federal agencies in the management of USFS lands for multiple uses (for example, wildlife habitat, watershed management, timber harvesting, range land, wilderness recreational pursuits).

M-1.20 Adjacent Federal Use Compatibility
The County shall ensure that the use of private lands adjacent to and within Sequoia National Park, Sequoia National Forest, BLM, State Home Forest, and Tule River Indian Reservation are compatible with existing and planned land uses designated by said agencies.

M-1.21 Federal Process Streamlining
The County shall support efforts to streamline and shorten the federal land exchange procedures in the mountains to ensure mutually beneficial consolidations are more attractive.

M-1.22 Federal Real Estate Consolidation
The County shall support federal agency real estate consolidation efforts in the mountains provided the following results are accomplished:

1. Efficient and productive management of public lands,
2. County is consulted and negative effects adequately mitigated,
3. County revenues, including a long term 25% payment, are enhanced or where no harvesting takes place, a per acre payment will be made to the County,
4. Areas slated for disposal or exchanges are included in the County General Plan and classified as to probable use, and
5. Land for land exchanges enhances the County.

M-1.23 Federal and State Purchase Payment
The County shall support the California State Association of Counties continued efforts to ensure the federal and State agencies meet their statutory obligation to annually pay local agencies full in-lieu fees for State and federal purchased properties in the mountains.

M-1.24 Acquire Federal and State Lands
The County shall support legislation and land management policies to enable the County to acquire State and federal lands in the mountains for public purpose.

M-1.25 Low Density Areas
Privately-owned land adjacent to areas identified as mountain service centers may be designated for low density residential uses. Factors to be analyzed when determining the location of low density uses includes the following:

1. The property is not subject to agricultural preserve,
2. The property is contiguous to existing urban development, and
3. Urban service and infrastructure sufficient to serve a special development project that is either available or can be made available.

M-1.26 Recreation-Oriented Uses
The County shall ensure that general and recreation-oriented commercial uses are located in mountain service centers. General and recreational commercial uses (for example, private guest ranches, camp grounds, RV parks) may be established outside mountain service centers if the property under consideration exhibits the following characteristics:

1. The physical characteristic of the site do not prohibit development of the site,
2. The property has direct access to a publicly maintained road adequate to serve the development,
3. The property can be developed without adversely impacting surrounding environmental features, and
4. The property can be developed without conflicts of use with existing development or adjacent parcels (per use permit findings).

M-1.27 Commercial Strips
The County shall discourage development of commercial strips along major roads. Grouping of commercial uses into compact well organized and accessible centers shall be encouraged within mountain service centers.

M-1.28 Mountain Service Areas Compatibility
The County shall ensure that new commercial uses are compatible with adjacent areas through adequate design features, established County site plan/design review, and Special Use Permit procedures, as needed.

M-1.29 Privately-Owned Forest Lands
The County shall protect and maintain the County's privately-owned forest land by encouraging the State to implement existing policies or adopt new policies which accomplish the following:

1. Provide new and innovative incentives that will encourage good management practices and timberland retention, and
2. Require continued reforestation on private timberlands.

M-1.30 Existing MSC Land Use Designation

Until such time as a sub-area plan is adopted, the land use designation for existing MSCs shall be mixed use which promotes the integration of a compatible mix of residential types and densities, commercial uses, public facilities and services, and employment opportunities.

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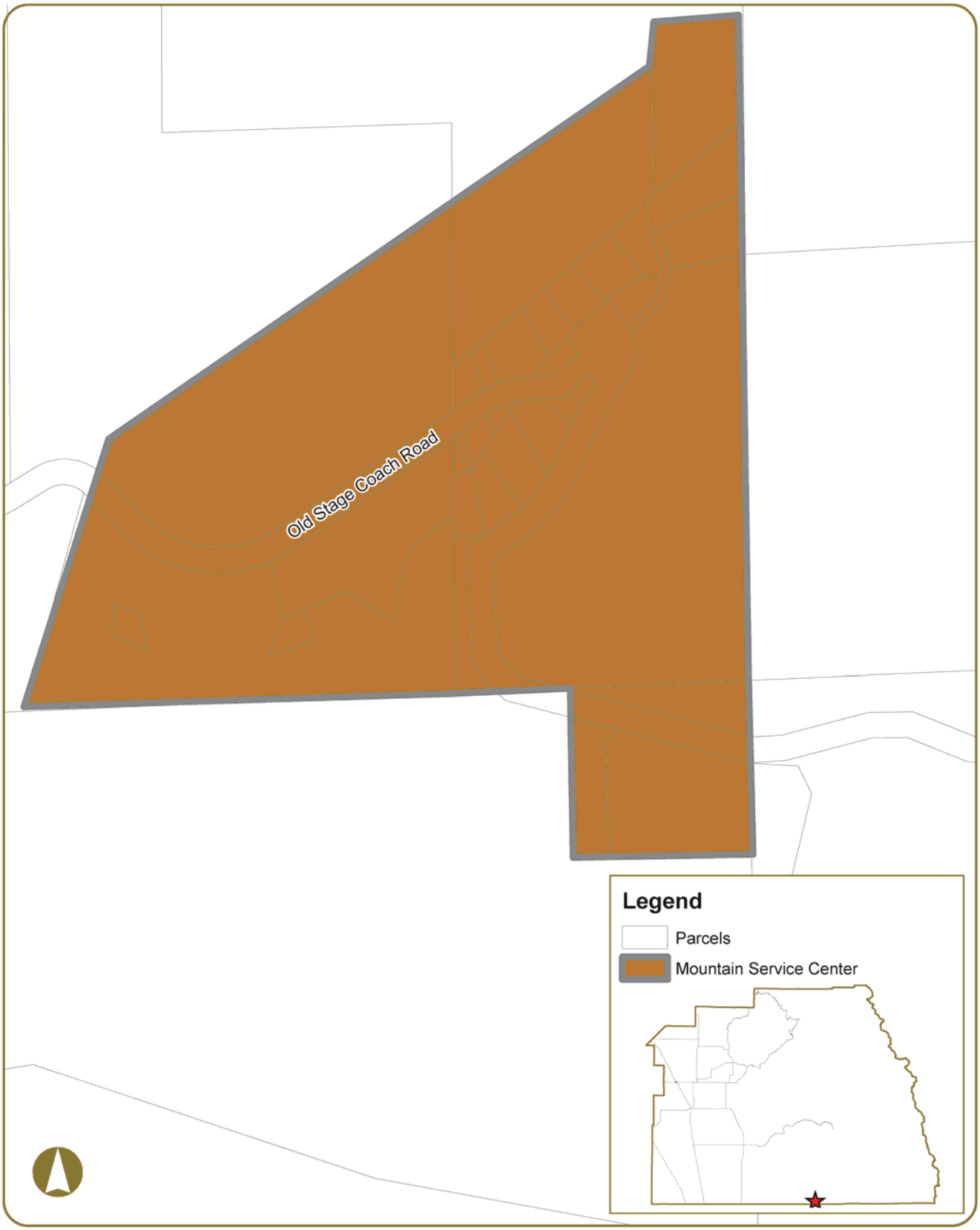
4.2 Work Plan/Implementation Measures

The following table documents the Implementation Measures included with the General Plan to implement the goals and policies included in this Chapter.

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
1. The County shall prepare, adopt, and maintain sub-area plans within the Mountain Framework Plan. These plans shall be reviewed and updated as necessary every five years to ensure that appropriate land is designated and available for single and multiple family residential, commercial, recreation, and open space uses to meet the needs of existing and future residents and tourists.	M-1.1	RMA				■
2. The County shall establish appropriate zoning within the Mountain Framework Plan that accurately reflects characteristics unique to the mountains.	M-1.3	RMA		■		
3. The County shall establish and maintain large minimum parcel zoning similar to the County's Foothill Agricultural Zone to protect those areas that exhibit characteristics suitable for grazing activities.	M-1.3	RMA		■		
4. The County shall adopt fencing standards consistent with those the State Department of Fish and Game recommends to permit deer movement: "Fences that have a high ground wire distance, 18" to 24" off the ground, or low top sire distance, 36" to 42", utilizing barbed-less wire on top or bottom wires (chain link fencing is extremely detrimental to deer movement)".	M-1.3	RMA		■		
5. The County shall require electric generators to be equipped with appropriate muffling devices and shall be housed or enclosed in a sound attenuating structure.	M-1.3	RMA	■			

Implementation	Implements what Policy	Who is Responsible	2012-2015	2015-2020	2020-2030	On-Going
6. The County shall establish appropriate conditions of approval in conjunction with those uses which are significant noise generators that establish standards for setbacks, hours of operation, landscaping, and other types of buffers.	M-1.3	RMA	■			
7. The County shall amend the site plan review procedures as set forth in the Tulare County Zoning Ordinance to include "mountain area design review", which will be used to evaluate the architectural and aesthetic qualities of commercial, multiple family, and other high intensity land uses in the mountain environment. Design review considerations shall include but not necessarily be limited to the following: a. Architectural, b. Exterior finishes (for example, materials), c. Landscaping, and d. Aesthetic compatibility in the environment.	M-1.3 M-1.17	RMA		■		
8. The County shall monitor the adequacy of the existing snow removal practices and, if appropriate, modify such practices to provide additional services to areas in need.	M-1.4	RMA	■			



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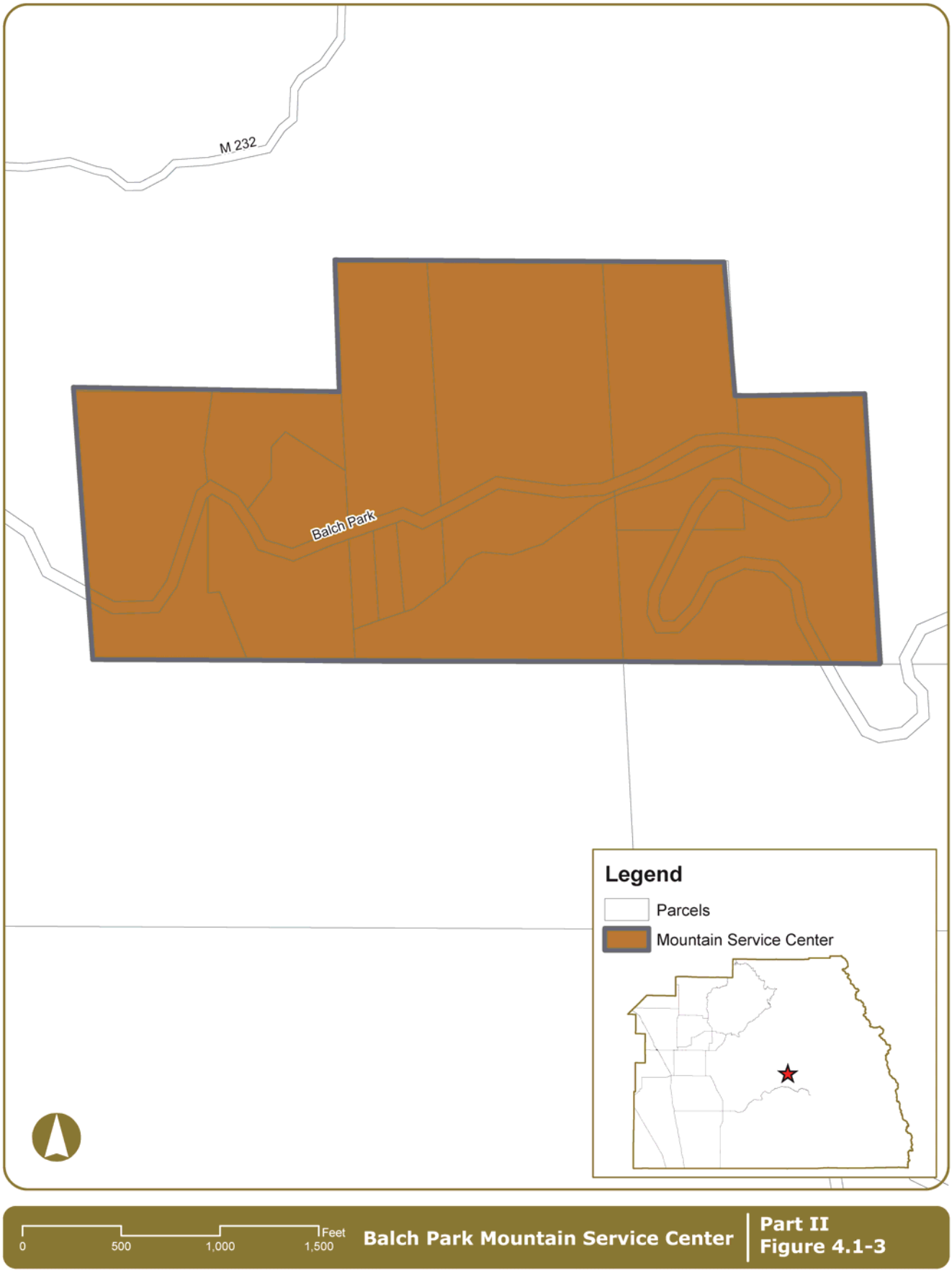
Balance Rock Mountain Service Center | **Part II Figure 4.1-2**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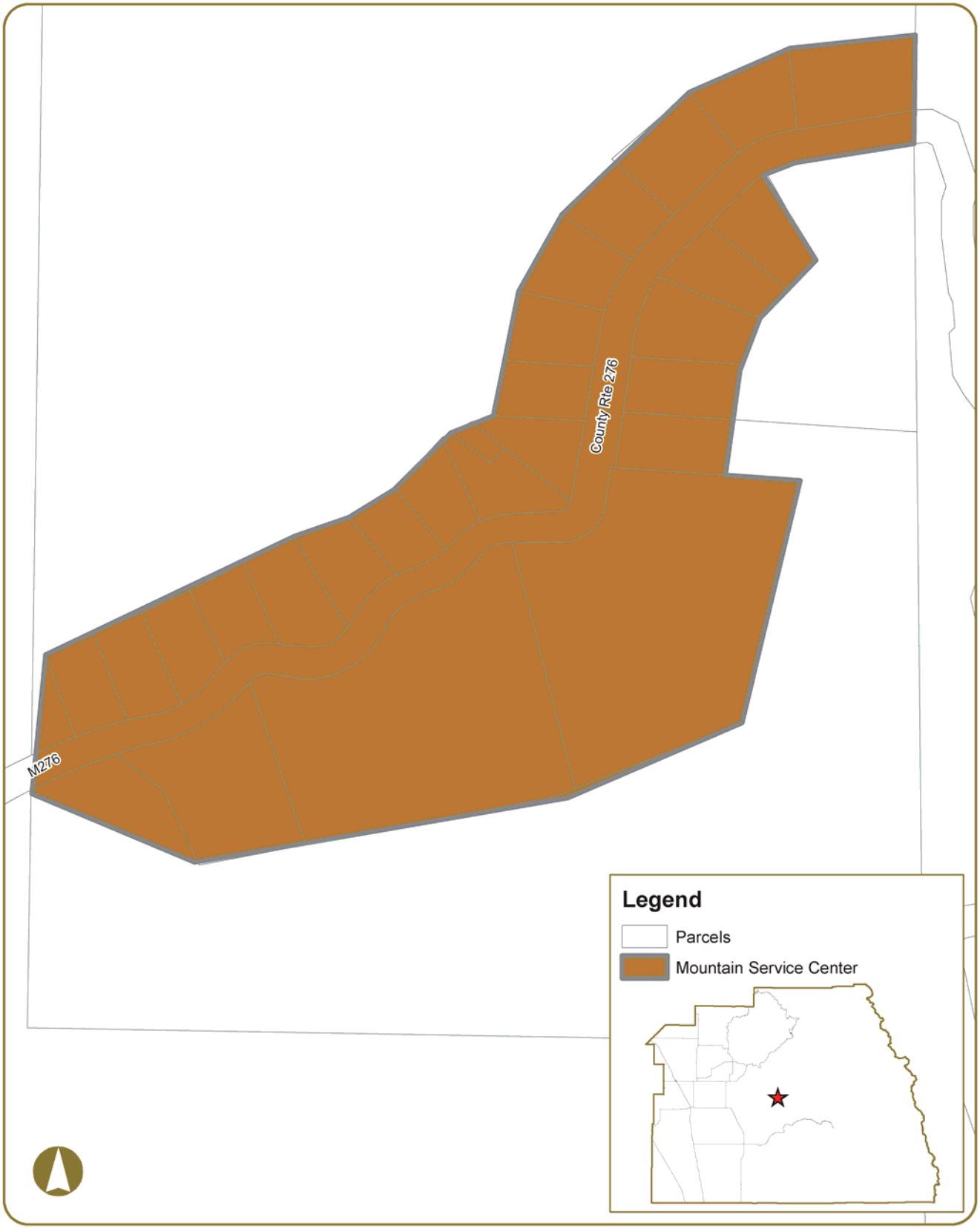
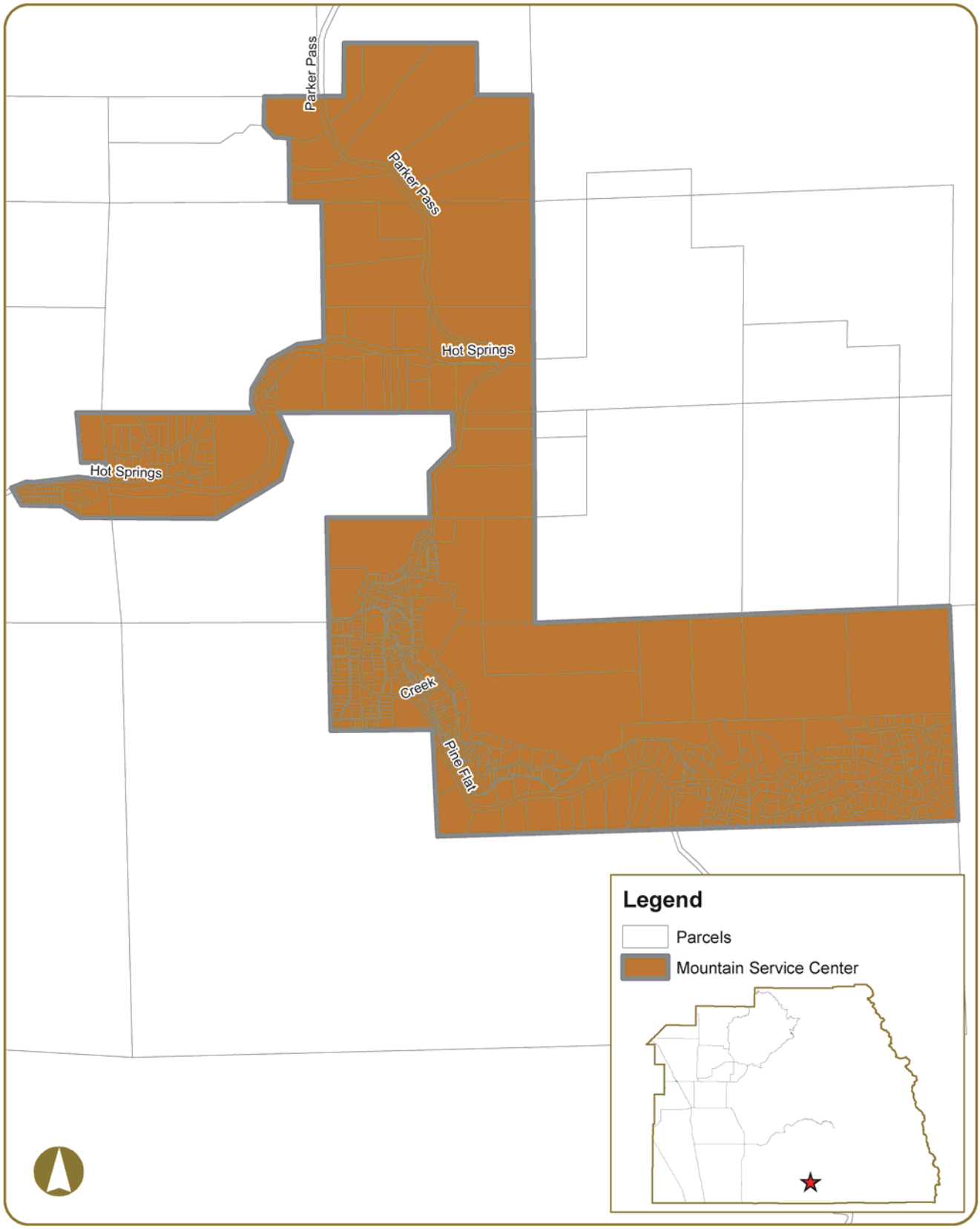
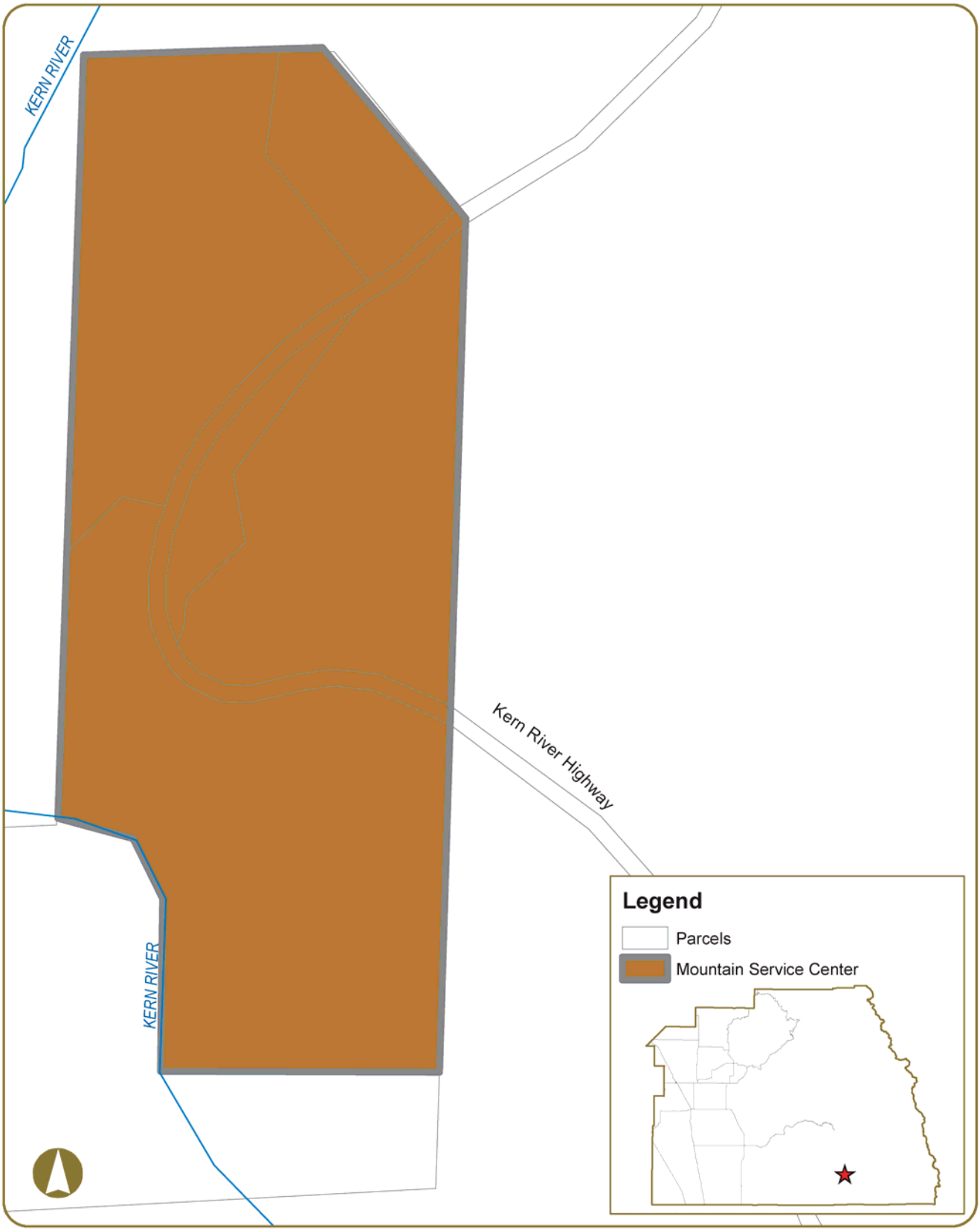
Feet
Balch Park Mountain Service Center
Part II
Figure 4.1-3



Blue Ridge Mountain Service Center | **Part II Figure 4.1-4**

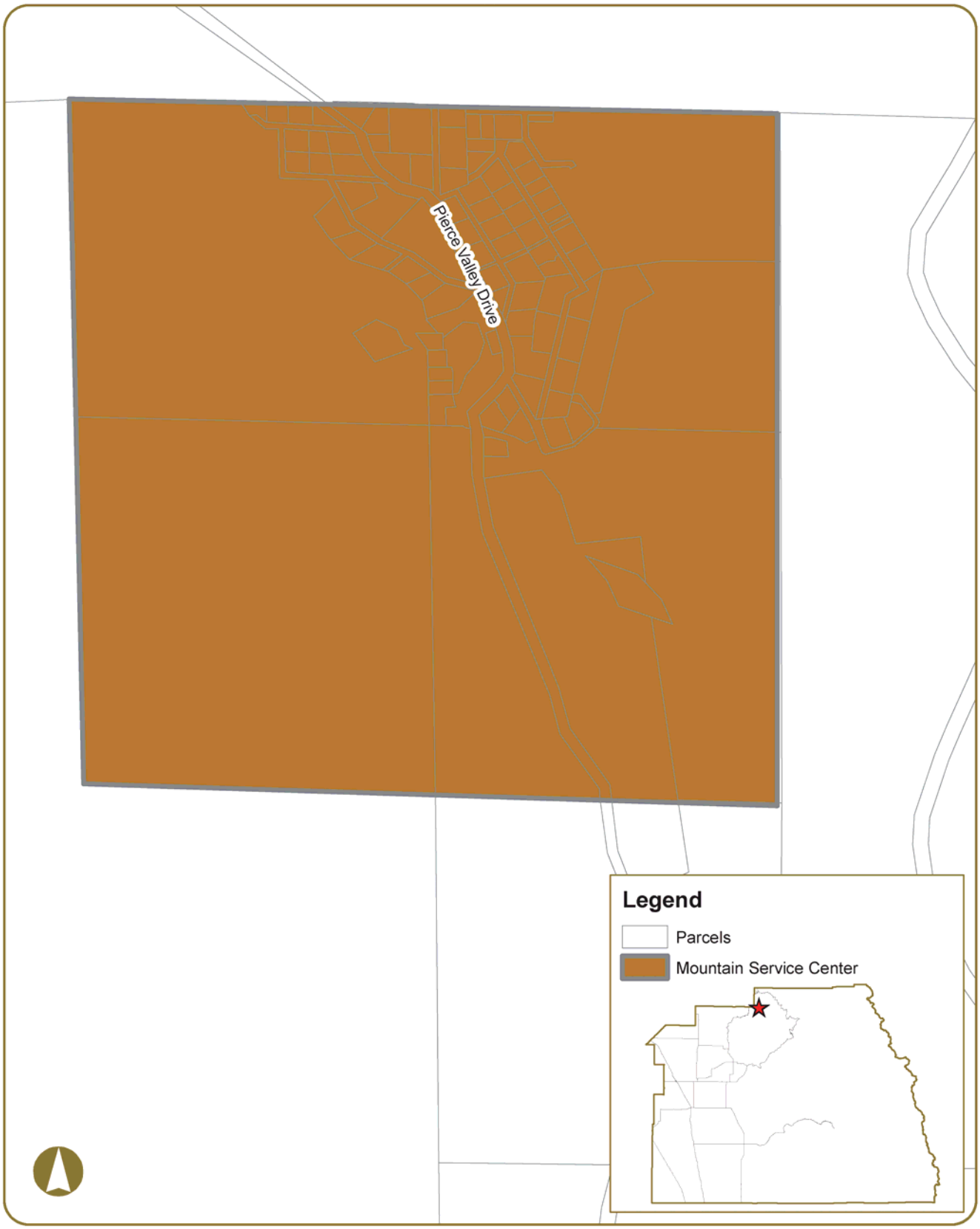


California Hot Springs/Pine Flat Mountain Service Center | **Part II Figure 4.1-5**

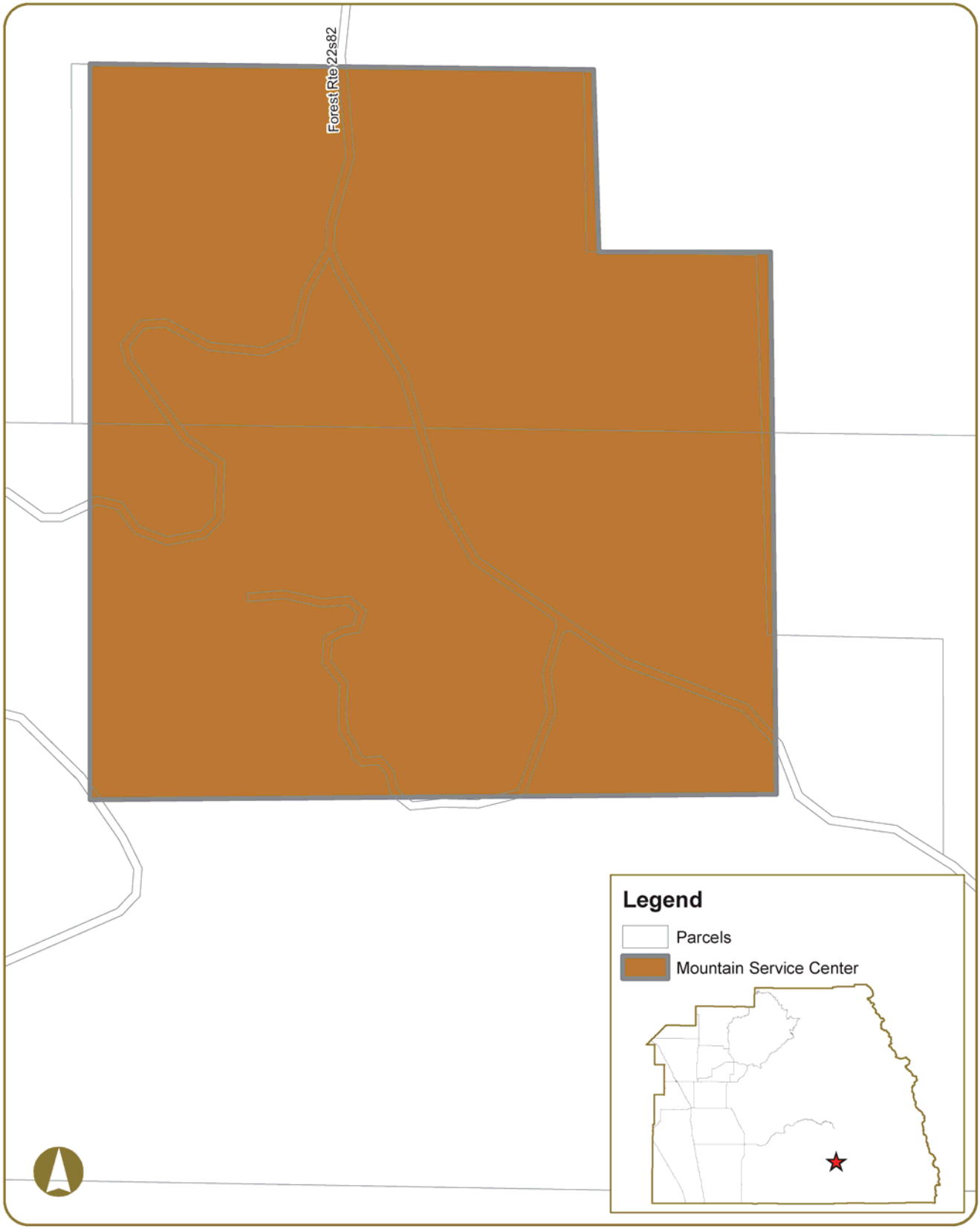


0 500 1,000 Feet

Fairview Mountain Service Center | **Part II Figure 4.1-6**

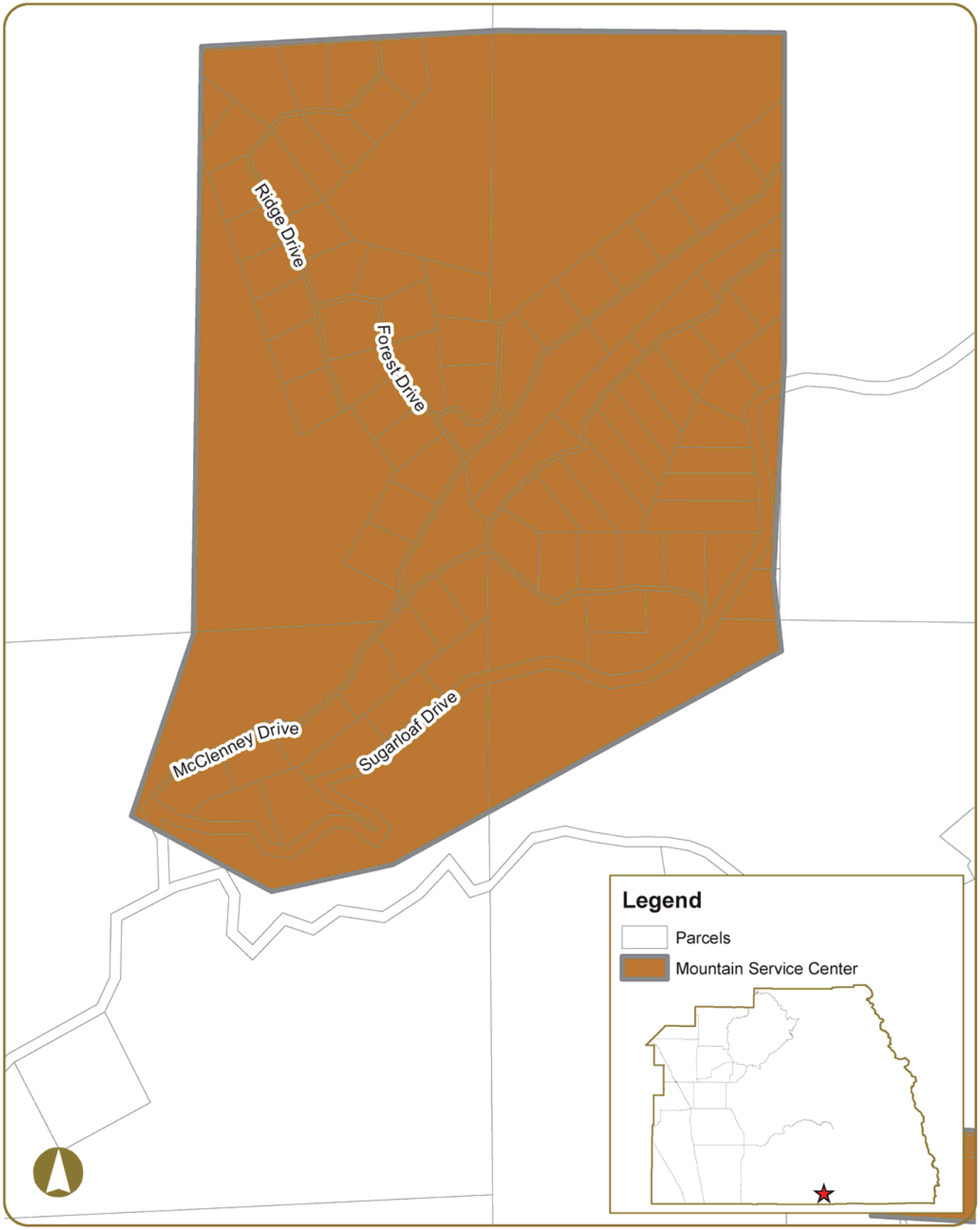


Hartland Mountain Service Center | **Part II Figure 4.1-7**

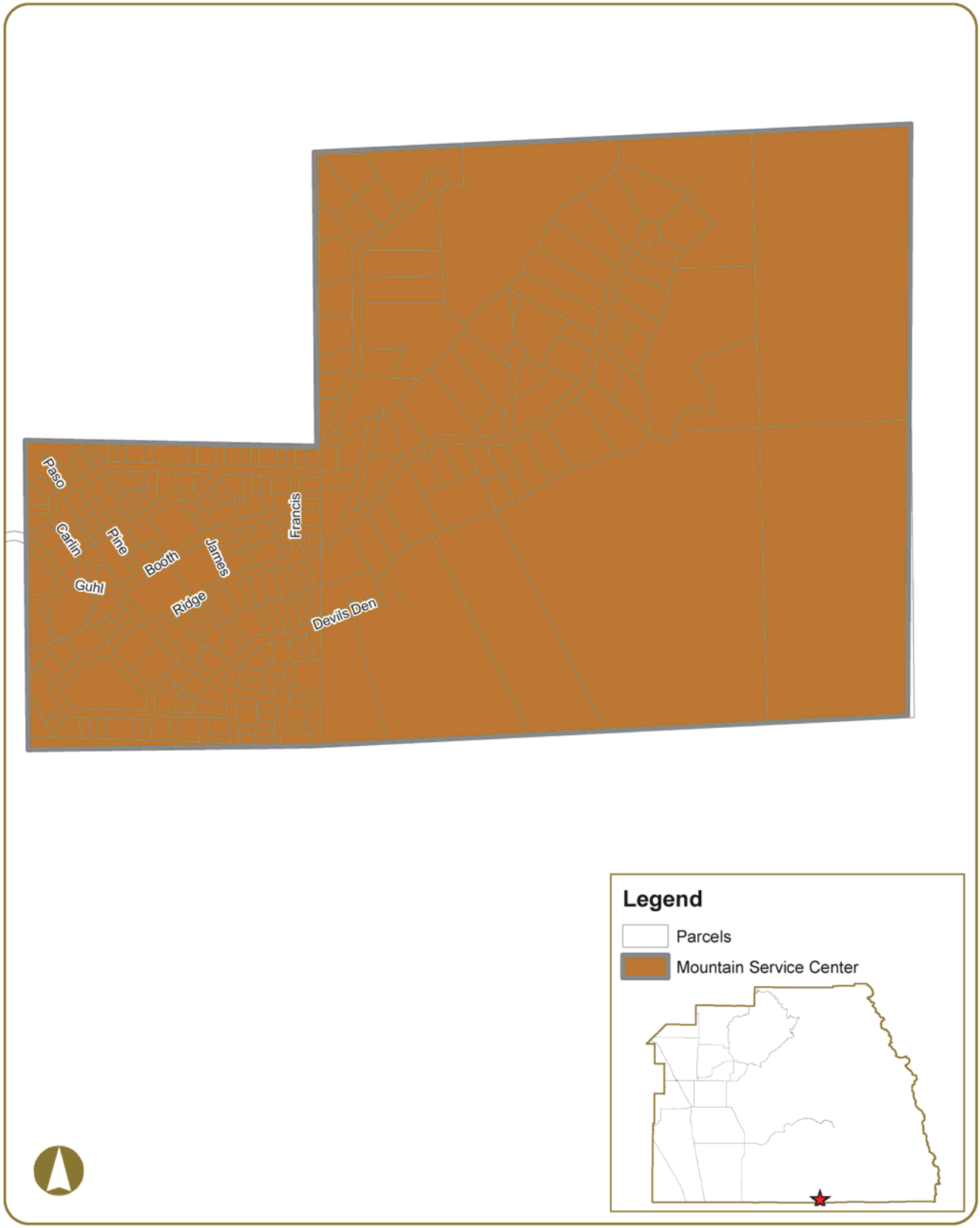


0 500 1,000 1,500 Feet

Johnsondale Mountain Service Center | **Part II Figure 4.1-8**

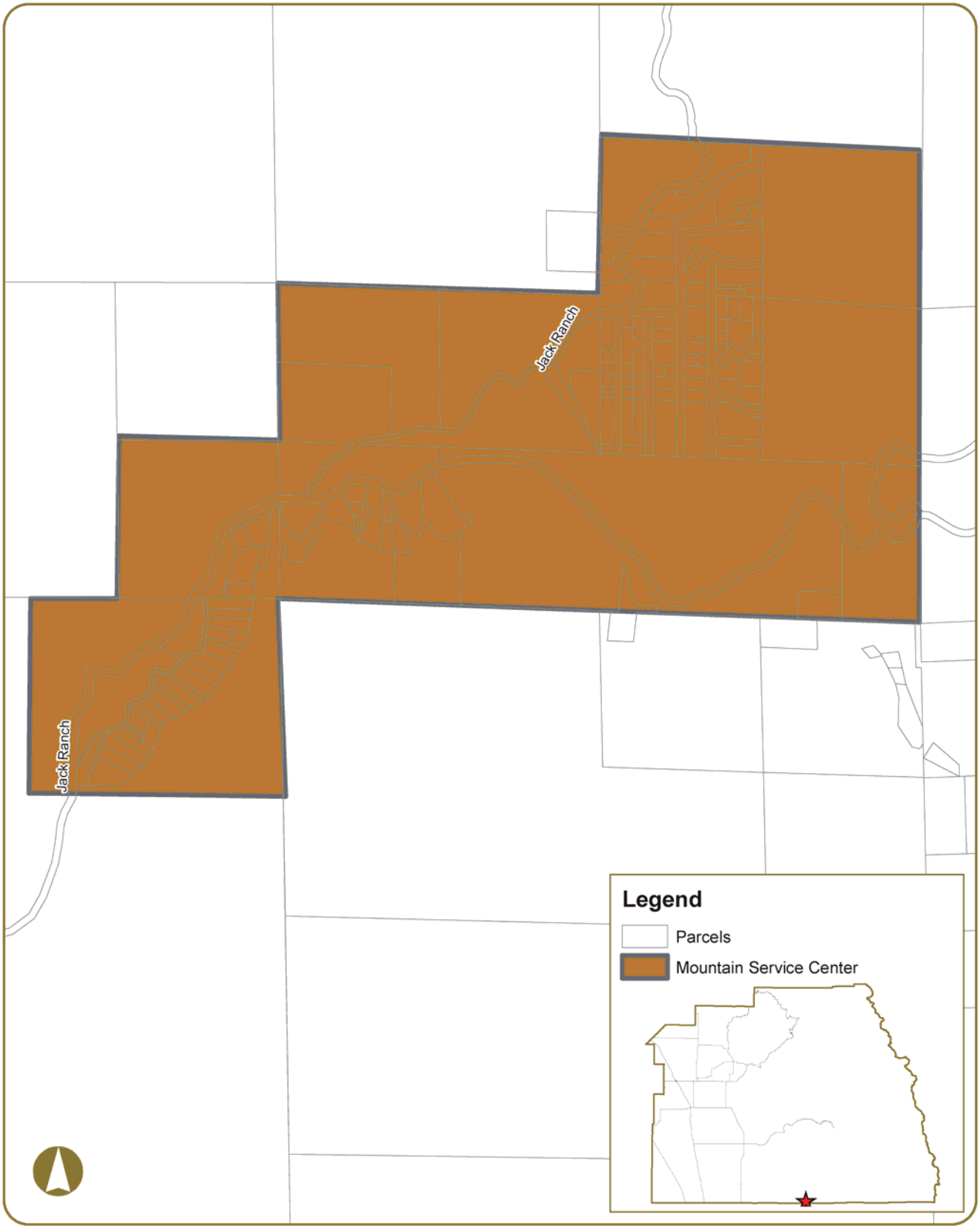


McClenney Tract Mountain Service Center | **Figure 4.1-9**



0 250 500 750 Feet

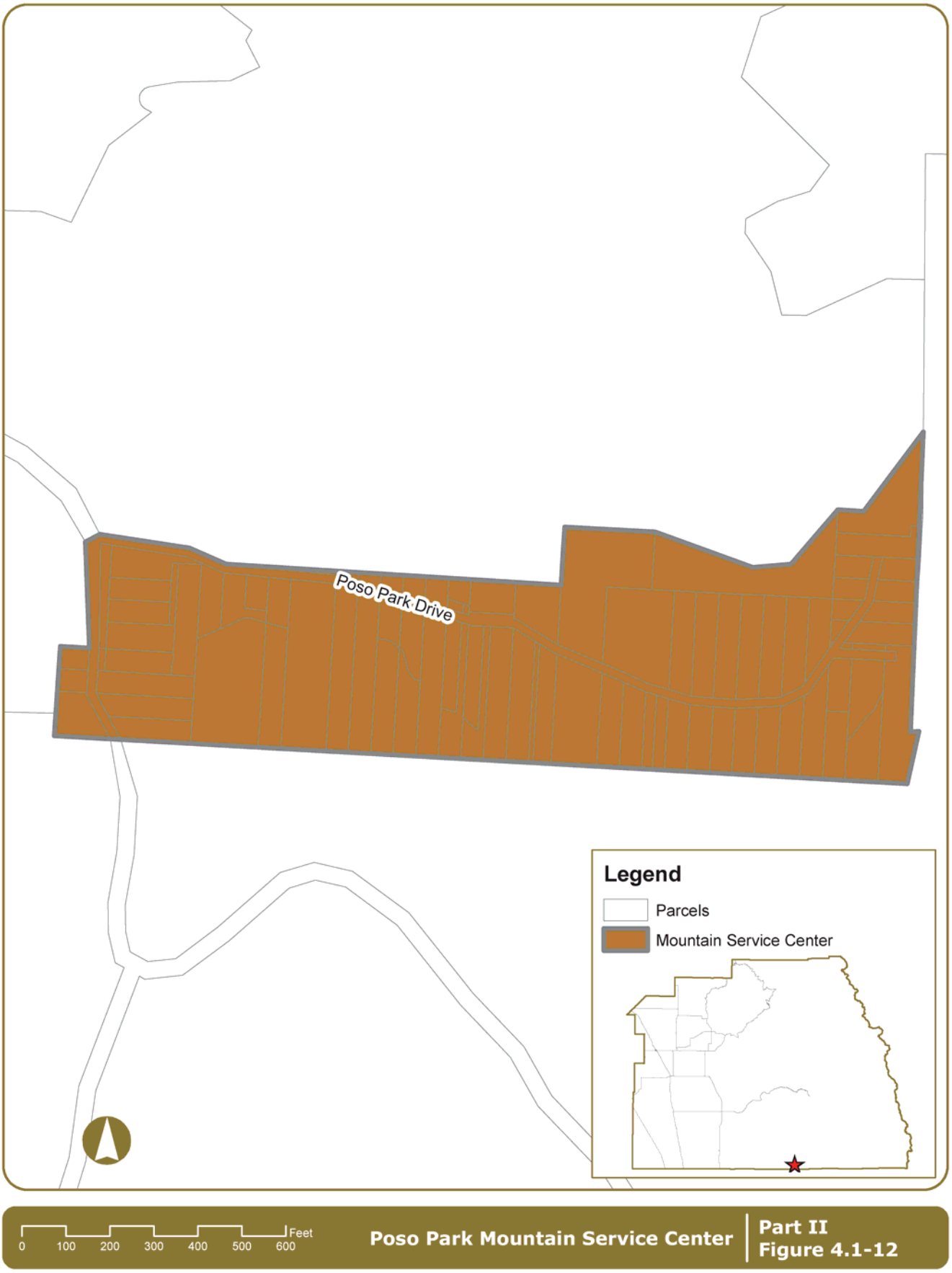
Panorama Heights Mountain Service Center | **Part II Figure 4.1-10**

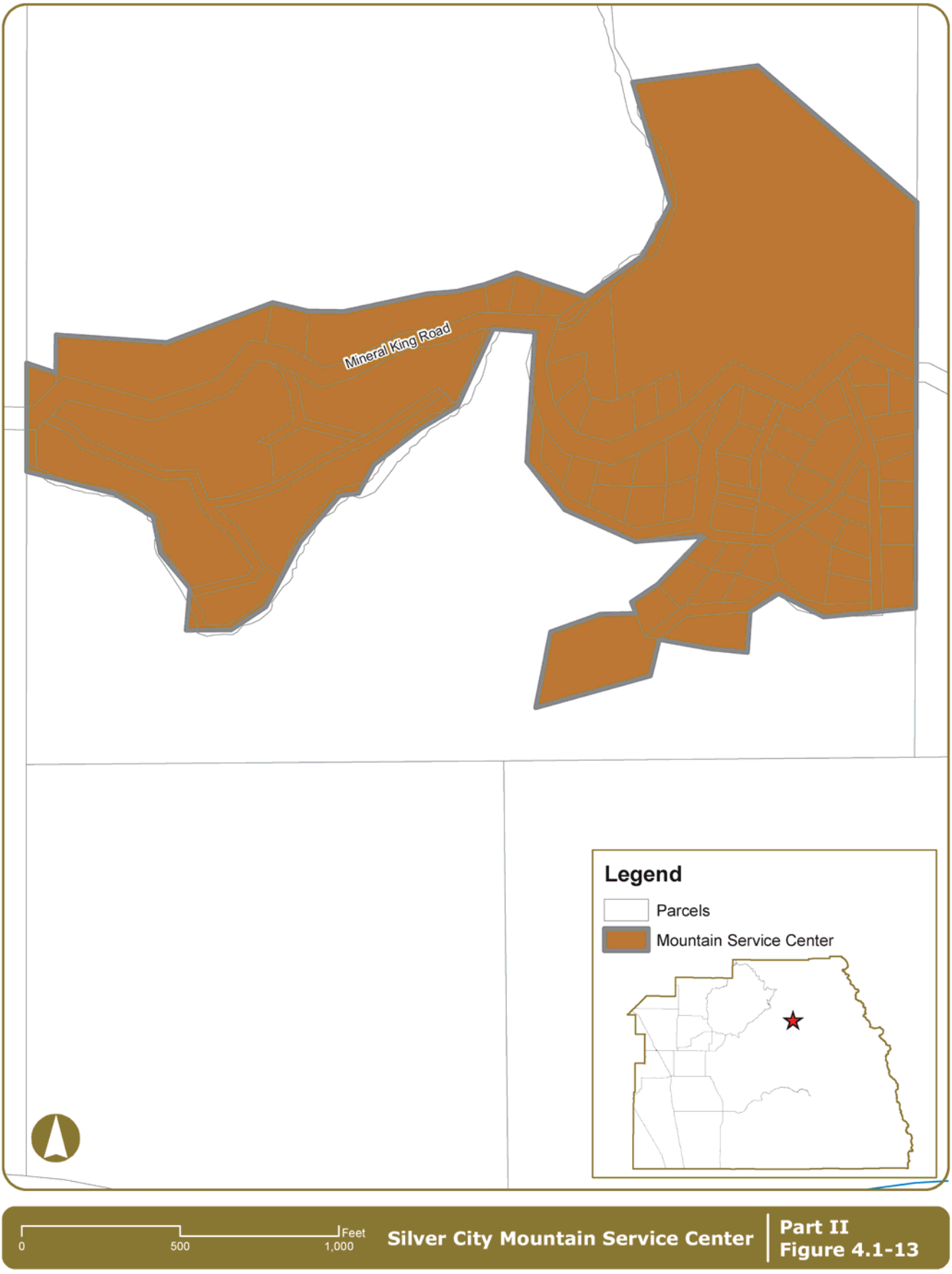


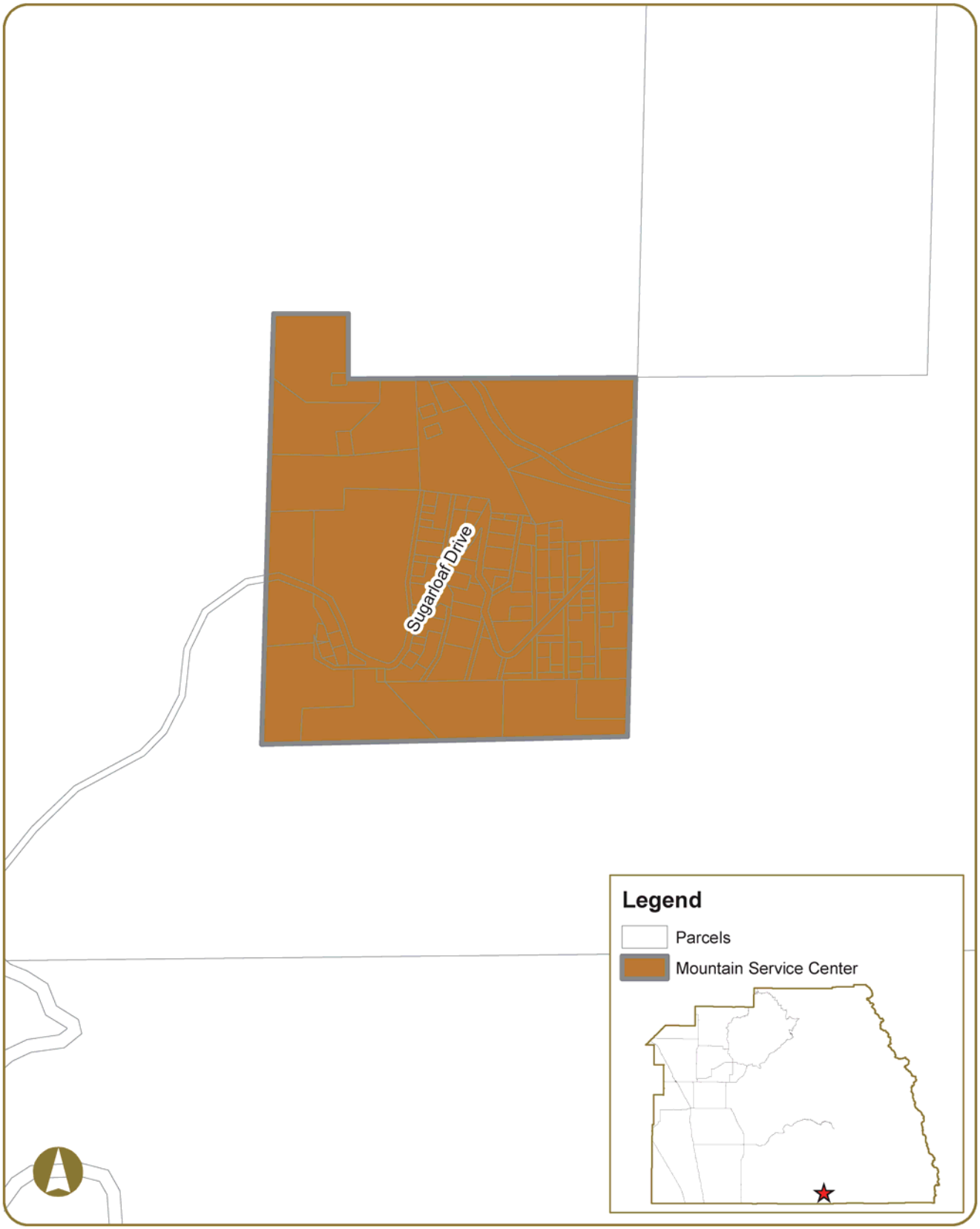
0 1,000 2,000 Feet

Posey/Idlewild Mountain Service Center

Part II
Figure 4.1-11

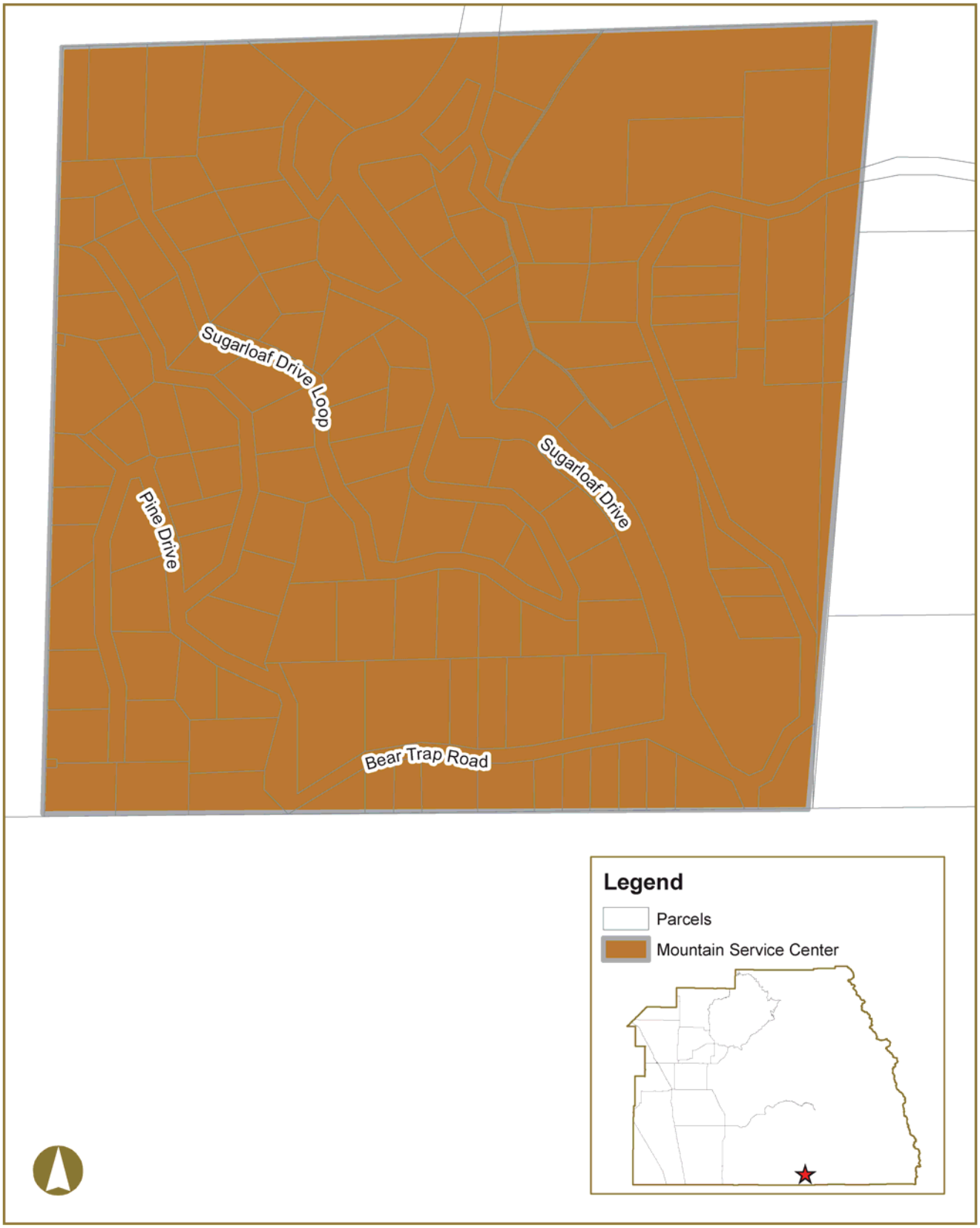

Poso Park Drive
Legend
Parcels
Mountain Service Center
0
100
200
300
400
500
600
Feet
Poso Park Mountain Service Center
Part II
Figure 4.1-12


Mineral King Road
Legend
Parcels
Mountain Service Center
0
500
1,000
Feet
Silver City Mountain Service Center
Part II
Figure 4.1-13



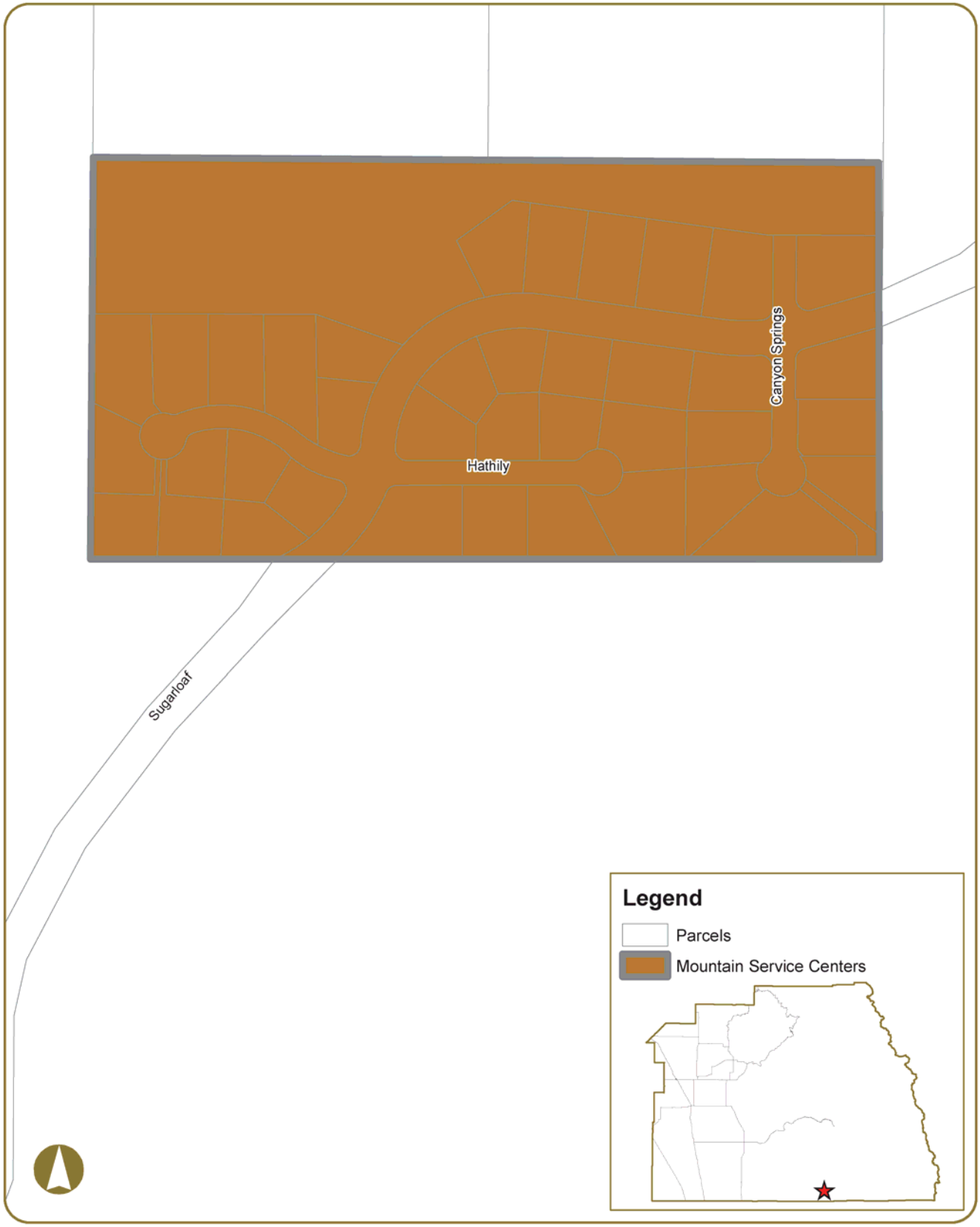
0 100 200 300 400 500 600 Feet

Sugarloaf Mountain Park Mountain Service Center | **Figure 4.1-14**



0 100 200 300 400 Feet

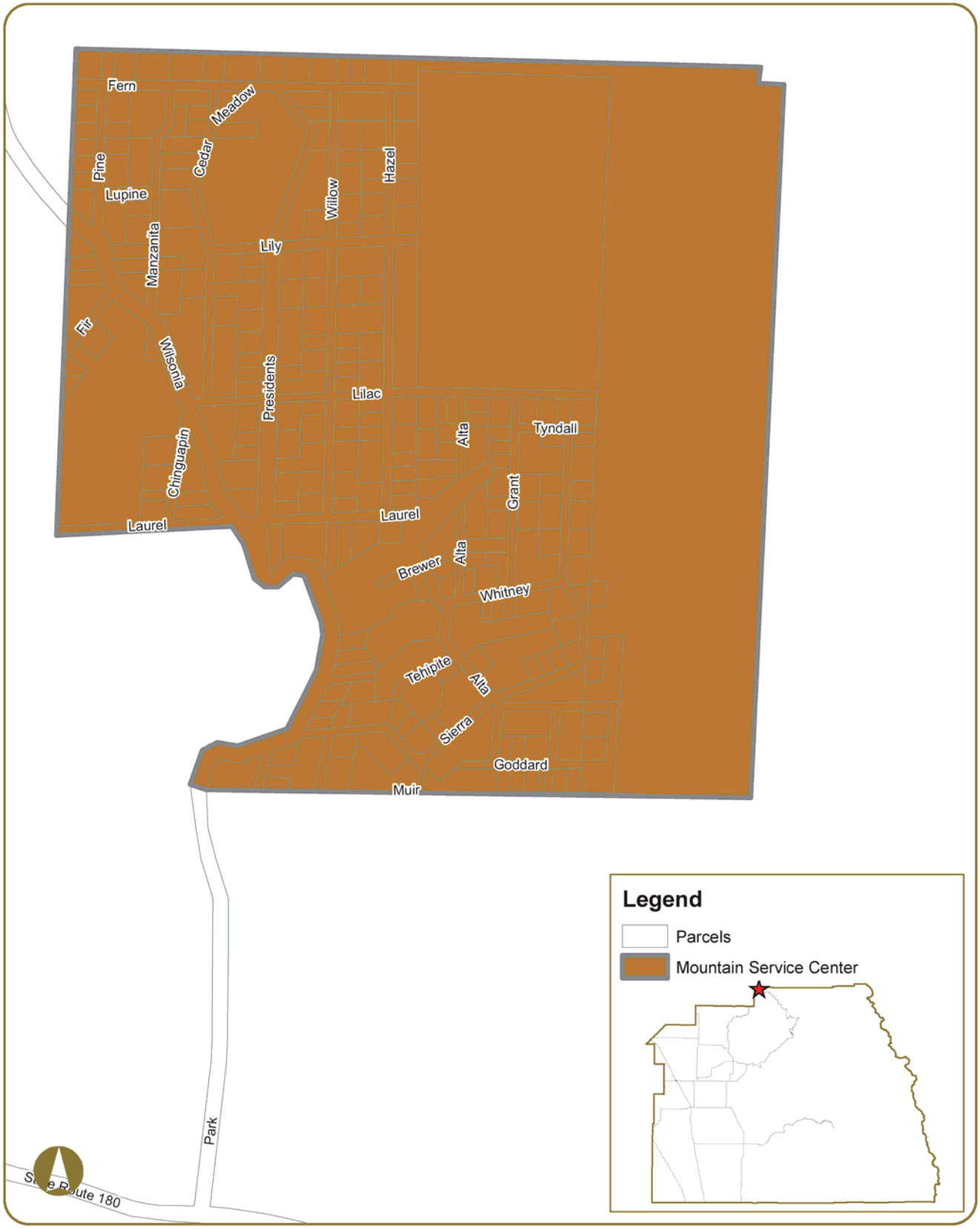
Sugarloaf Park Mountain Service Center | **Part II Figure 4.1-15**



0 100 200 300 400 Feet

Sugarloaf Village Mountain Service Center

Part II
Figure 4.1-16



0 500 1,000 Feet

Wilsonia Mountain Service Center | **Part II Figure 4.1-17**

Tulare County General Plan

Part III

Community Plans
Hamlet Plans
County Adopted City General Plans
Valley Sub-Area Plans
Corridor Sub-Area Plans
Foothill Sub-Area Plans
Mountain Sub-Area Plans

August 2012

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Tulare County General Plan

Appendix A

Policies by Alphabetical Subject

August 2012

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Policies by Alphabetical Subject

Access ……LU-5.5
Acquire Federal and State Lands …….....M-1.24
Activity Prioritization ……...ERM-5.17
Adaptive Reuse ……..LU-7.11
Addressing ……..HS-1.12
Adequate Capacity …… PFS-3.2
Adequate Facilities and Services …… ED-1.8
Adequate Systems …… PFS-2.2
Adequate Water Availability …… WR-3.3
Adjacent Federal Use Compatibility……..M-1.20
Adjacent Uses ……..HS-8.8
Advance Planning…….....ERM-4.5
Agency Coordination …… PFS-4.6
Agency Support for Small Businesses …….…….. ED-2.6
Agricultural and Ecological Tourism …….....…….. ED-5.2
Agricultural Buffers ……AG-1.11
Agricultural Education Programs …….. AG-2.8
Agricultural Enterprises…….. C-1.5
Agricultural Preservation (Farmland Trust and Funding Sources…….. AG-1.18
Agricultural Lands …… LU-2.1
Agricultural Parcel Splits …….....LU 2.2
Agricultural Preserves……..…M-1.9
Agricultural Preserves Outside Urban Boundaries ……AG-1.9
Agricultural Related Uses …… AG-1.13
Agricultural Support Facilities ……LU-2.5
Agricultural Waste ……..... PFS-5.9
Agricultural Water Resources ……..... AG-1.17
Agriculture Within Urban Boundaries ……..AG-1.8
Air Pollution Control Technology …… AQ-4.1
Air Quality Land Use Compatibility …… AQ-1.4
Airport Capacity ……..... ED-2.13
Airport Compatibility …….…..... TC-3.4
Airport Encroachment …… TC-3.6
Airport Enhancement ……...TC-3.3
Airport Land Use Compatibility Plan ……..... HS-3.1
Airport Noise Contours ……HS-8.4
Airport System Development ……...……..TC-3.2
Allowable Uses on Timber Production Lands ……ERM-5.20
Alteration of Sites with Identified Cultural Resources ……..... ERM-6.3
Alternate Sewage Disposal……...FGMP-9.5
Alternative Energy Design …….…..... AQ-3.5
Alternative Fuel Vehicle Infrastructure……AQ-1.10
Alternative Rural Wastewater Systems ……..... PFS-3.4
Amtrak Service ……..... TC-2.3
Annexations to a City within the CACUDB ……...….....PF-4.24
Annual Review …….…..... PF-7.1
Applicable Development Standards …… FGMP-1.16
Application of a Checklist to control Development in a CACUAB ……...…….. PF-4.21
Application of a Checklist to control Development in a CACUDB ……...…….. PF-4.20

Appropriate Access for Recreation ……..ERM-1.10
Appropriate Land Uses by Location ……..... PF-1.6
Appropriate Siting of Natural Gas and Electric Systems ……..…..... PFS-9.2
Approved Limits ……..... ERM-2.12
Asbestos Airborne Toxic Control and Dust Protection…… AQ 4.6
Attractive Economy ……..... ED-3.7
Automobile Noise Enforcement …… HS-8.10
Available Infrastructure ……PF-1.4
Avoiding Isolating Unincorporated Areas …… PF-4.7
Badger Density…… FGMP-2.3
Badger Development Corridor……..FGMP-2.2
Balanced Funding ……..TC-1.19
Balanced System ……...TC-1.18
Becoming a Community ……..PF-3.6
Best Management Practices (BMPs) …… WR-2.3
Bicycle/Pedestrian Trail System …… TC-5.1
Big Box Development …… LU-4.2
Bikeways ……..ED-5.9
Billboard Placement …… SL-2.6
Billboard Removal ……...SL-2.5
Biotechnology and Biofuels ……..…… AG-2.6
Buffers ……..…LU-6.2
Building Abatement ……....LU-7.8
Building and Codes ……...HS-1.4
Business Retention ……..…….. ED-2.1
Business Technology ……..…ED-3.8
CACUABs for Cities …… …….....PF-4.1
CACUDBs for Cities – Twenty Year Planning Area ……PF-4.2
California Environmental Quality Act (CEQA) Compliance ……..… AQ-1.5
Capacity Building and Self Governance …… PF-1.9
Capital Improvement Plans ……PFS-1.14
Care of Individual Systems …….. PFS-3.6
Census Boundaries …….....PF-1.7
Channel Modification …….. WR-1.10
Checklist…… RVLP-1.6
Citizens Advisory Group…… M-1.4
City 50 Year Growth Boundaries……..……... …….. PF-4.26
City Design Standards …….. PF-4.10
Climate Change (Support Statewide Solutions)……...AQ-1.8
Cluster Development ……..... FGMP-6.5
Cluster Development ……LU-3.2
Collaborative Community Planning Partnerships ……PF-2.5
Collection of Additional Groundwater Information ……..... WR-1.7
Collection of Additional Surface Water Information …… WR-1.9
Collocated Facilities …… ERM-5.5
Commercial and Industrial Highway Growth …… C-1.8
Commercial Building Design ……..LU-4.5
Commercial Design Review …….. M-1.17
Commercial Recreation …… FGMP-1.7
Commercial Service Locations …… LU-4.3
Commercial Services ……..M-1.15

Commercial Storage Facilities ……LU-4.6
Commercial Strips ……M-1.27
Common Open Space Areas …….. FGMP-4.3
Communication Technologies to Improve Citizen Participation …… PFS-6.2
Community Centers and Neighborhoods ……..... SL-3.1
Community Commercial Development …….. FGMP-2.1
Community Plans …… PF-2.4
Compact Development ……...LU-1.4
Compatibility ……..ERM-2.9
Compatibility with Surrounding Land Use ……LU-5.4
Compatible Project Design ……..PF-4.12
Compliance with Federal Aviation Administration (FAA) Regulations …… HS-3.2
Compliance with Planning Policies ……..FGMP-10.1
Comprehensive Redevelopment Plan ……..... ED-6.2
Conditions of Approval …….. ERM-2.11
Confidentiality of Archaeological Sites ……..ERM-6.9
Conservation Easements ……...AG-1.6
Conservation Plan Coordination……ERM-1.17
Conserve Mineral Deposits ……ERM-2.1
Consider Non-Motorized Modes in Planning and Development …….. TC-5.2
Construction Noise……..…HS-8.18
Construction Noise Control……..HS-8.19
Construction Site Sediment Control …… WR-2.4
Consultation on Annexation Proposals …….…… PF-6.3
Consultation with Fire Service Districts ……... HS-6.3
Contamination Prevention …… HS-4.4
Contextual and Compatible Design ……LU-7.14
Continued Evaluation of Earthquake Risks …… HS-2.1
Conversion of Agricultural Water Resources …… WR-1.4
Cooperate with Wildlife Agencies…….…… ERM-1.16
Cooperation of Property Owners ……ERM-6.7
Cooperation with Federal and State Agencies ……..... ERM-5.11
Cooperation with Individual Cities ……...PF-4.17
Cooperation with Local Jurisdictions ……...AQ-1.2
Cooperation with Other Agencies …….....AQ-1.1
Coordinate Emergency Response Services with Government Agencies …… HS-7.1
Coordination ……..... AG-1.2
Coordination of Fuel Hazards on Public Lands ……...HS-6.15
Coordination of Management on Adjacent Lands ……..... ERM-1.9
Coordination of Materials on Public Lands ……..HS-4.7
Coordination of Private Development on Public Land ……PF-6.6
Coordination of Watershed Management on Public Land ……..... WR-3.13
Coordination with Caltrans…… HS-8.17
Coordination with Cities …….. HS-6.14
Coordination with Cities in Adjacent Counties …….. PF-4.16
Coordination with Cities on Development Proposals ……..PF-4.13
Coordination with Service Providers ……...PFS-1.7
Core Area Beautification …… ED-6.6
Corridor Plans – Defined …….. C-1.1
Cost Sharing …….. PFS-7.7
County Equipment ……..HS-8.9

County Improvement Standards TC-1.2
County LOS Standards TC-1.16
County Usage of Recycled Materials and Products PFS-5.4
Crime Prevention Through Design LU-7.5
Criteria for New Towns (Planned Communities)..... PF-5.2
Crop Care Education AG-2.4
Cultural Resources Education Programs ERM-6.5
Culturally Diverse Businesses ED-6.4
Cumulative Air Quality Impacts AQ-1.3
Degraded Water Resources WR-2.6
Design Features for Crime Prevention and Reduction PFS-7.12
Design of County Roads SL-4.2
Design of Highways SL-4.1
Design Standards for Bicycle Routes TC-5.4
Designated Bike Paths TC-5.7
Designated Scenic Routes and Highways SL-2.1
Detention/Retention Basins Design PFS-4.5
Determination of Agriculture Land RVLP-1.4
Determine Transit Needs TC-4.2
Develop Additional Water Sources WR-3.1
Develop an Integrated Regional Water Master Plan WR-3.2
Develop Public/Private Partnerships ED-1.6
Development Along Scenic Highways FGMP-6.3
Development Compliance FGMP-3.3
Development Compliance with Federal, State, and Local Regulations HS-5.1
Development Constraints HS-1.2
Development Corridor Linkages FGMP-1.15
Development Drainage Patterns FGMP-8.2
Development in Chaparral FGMP-8.15
Development in Dam and Seiche Inundation Zones HS-5.5
Development in Environmentally Sensitive Areas ERM-1.2
Development in Fire Hazard Zones HS-6.2
Development in Floodplain Zones HS-5.2
Development in Hazard Areas FGMP-8.10
Development in Success Valley FGMP-1.10
Development in the Floodplain FGMP-8.3
Development in the Frazier Valley Watershed FGMP-8.6
Development Intensity RVLP-1.1
Development of a Recreation Industry ED-5.1
Development of Wastewater Systems FGMP-8.4
Development on Slopes FGMP-8.11
Development on Slopes LU-1.7
Development Requirements PFS-4.3
Development Within Scenic Corridors FGMP-6.4
Distinctive Neighborhoods LU-7.1
Diverse Economic Base ED-3.1
Diversified Agriculture AG-2.1
Diversion of Surface Water WR-3.10
Dust Suppression Measures AQ-4.2
Earthquake Hazards (Alquist-Priolo Compliance)..... HS-2.8
Economic Base Protection HS-8.1

Economic Leadership ED-1.1
Economic Strategy ED-1.3
Educational Programs WR-3.8
Efficient Expansion PFS-1.15
Emergency Access HS-1.9
Emergency Centers HS-7.5
Emergency Services Near Assisted Living Housing HS-1.10
Emergency Water Conservation Plan WR-3.7
Encourage Cluster Development ERM-1.3
Encourage Cluster Development HS-6.4
Encourage Development of Private Recreation Facilities ERM-5.9
Encourage Infill Development LU-1.8
Energy Conservation and Efficiency Measures ERM-4.1
Energy Conservation LU-7.15
Energy Efficiency Standards ERM-4.8
Energy Production AG-2.11
Enhancement of County-wide Airport System TC-3.1
Ensure Capacity PFS-5.6
Entertainment Venues ED-6.3
Environmental Contamination ERM-3.1
Erosion Mitigation Measures FGMP-8.8
Establish Citizens Advisory Committee FGMP-1.4
Establish Critical Water Supply Areas WR-3.9
Establishing Mountain Service Areas M-1.6
Establishment of Procedures to Transport Hazardous Wastes HS-4.2
Evaluation of Cultural and Archaeological Resources ERM-6.1
Excavation Operations FGMP-3.2
Existing Commercial Centers ED-6.7
Existing Development PFS-1.1
Existing Facilities TC-5.9
Existing Mountain Service Centers M-1.8
Existing MSC Land Use Designation M-1.30
Existing Parcels and Approvals RVLP-1.2
Expand Use of Reclaimed Wastewater WR-1.5
Expand Use of Reclaimed Water WR-1.6
Expansion of Gas and Electricity Facilities PFS-9.1
Extension of Infrastructure Into Agricultural Areas AG-1.10
Facilities TC-5.5
Facility Sizing PFS-1.11
Farmland Trust and Funding Sources AG-1.18
Federal and State Purchase Payment M-1.23
Federal Process Streamlining M-1.21
Federal Real Estate Consolidation M-1.22
Financial Assistance for Seismic Upgrades HS-2.5
Financing PFS-3.7
Financing Plan FGMP-10.4
Fire and Crime Protection Plan FGMP-10.3
Fire Buffers HS-6.11
Fire Protection PFS-7.1
Fire Protection Standards PFS-7.2
Fire Risk Recommendations HS-6.5

Fire Staffing and Response Time Standards PFS-7.5
Flood Control Design HS-5.10
Floodplain Development Restrictions HS-5.9
Foothill and Mountain Noise HS-8.12
Foothill Gateways ED-5.8
Foothills ED-5.7
Friendly Streets LU-7.3
Fuel Breaks HS-6.10
Fuel Modification Programs HS-6.9
Funding for Public Facilities PFS-1.5
Funding for Recreational Areas and Facilities ERM-5.13
Funding for Service Providers PFS-1.8
Funding Mechanisms PFS-1.6
Funding Sources TC-1.4
Future Land Use Entitlements in a CACUAB PF-4.19
Future Land Use Entitlements in a CACUDB PF-4.18
Future Resource Development ERM-2.3
Gateways to the Sequoias SL-2.2
Gateways/Entry-points LU-7.10
General Plan Designations Within City UDBs PF-4.8
Global Marketing AG-2.9
Government Facilities in Community Centers PFS-8.5
Grading Cultural Resources Sites ERM-6.10
Grading FGMP-1.2
Grant Funding ED-1.7
Greenhouse Gas Emissions Reduction Plan/Climate Action Plan..... AQ-1.9
Groundwater Basin Management WR-1.8
Groundwater Monitoring WR-1.2
Groundwater Overdraft..... WR-1.11
Groundwater Withdrawal WR-1.1
Habitat Conservation Coordination..... ERM-1.17
Hamlet Development Boundaries - Hamlets PF-3.1
Hamlet Plans PF-3.3
Hazard Awareness and Public Education HS-1.5
Hazardous Lands HS-1.3
Hazardous Materials HS-4.1
Hazardous Materials Studies..... HS-4.8
Hazardous Waste Disposal Capabilities PFS-5.8
Healthy Communities HS-9.1
Heritage Tourism ED-5.12
High Speed Rail (HSR) TC-2.4
High Speed Rail ED-3.5
High-Density Residential Locations LU-3.3
Higher Education ED-4.5
Higher Learning ED-3.6
High-Value-Added Food Processing AG-2.5
Highway 99 Valley Corridor C-1.7
Highway Commercial SL-3.3
Highway Completion TC-1.9
Highway Tourism ED-5.3
Hillside Development FGMP-1.11

Hillside Development ……..…… HS-2.3
Historic and Cultural Landscapes ……..... SL-2.3
Historic Buildings and Areas …….. LU-7.12
Historic Structures and Sites ……..…… ERM-6.6
Home-Based Businesses …… ED-2.7
Homeowner Associations ……..…… PFS-1.10
Hunting and Fishing …… ERM-1.11
Identification of Environmentally Sensitive Areas ……... FGMP-4.1
Identification of Scenic Highways ……... FGMP-6.2
Identification of Wildlife ……..FGMP-8.14
Identify New Resources …….. ERM-2.4
Identity of Foothill Places ……..……FGMP-1.1
Impact Mitigation ……..…… PFS-1.3
Impacts of Development with the County on City Facilities …… PF-4.27
Impacts to Downstream Properties …… HS-5.6
Improvement Standards in Communities ……..……...PF-2.7
Improvement Standards in Hamlets ……..... PF-3.5
Inappropriate Land Use ……..…… PF-2.8
Incompatible Development ……...ERM-2.10
Incompatible Land Uses …….....HS-4.3
Increase Public Awareness ……... HS-4.5
Indirect Source Review …… AQ-2.2
Industrial and Agricultural Sources …… WR-2.7
Industrial Development ……... LU-2.6
Industrial Developments ……..... LU-5.1
Industrial Park Developments …… LU-5.2
Industrial Parks …… ED-2.11
Industrial Use Buffer ……... LU-5.6
Industrial Uses Allowed on Resource Land ……... LU-5.7
Industry Clusters …… ED-3.2
Infill Near Employment …… AQ-3.2
Information on Archaeological Sensitive Areas …… FGMP-7.2
Information on Historical Sites …….....FGMP-7.1
Infrastructure Capacity ……..FGMP-9.1
Innovative Development …….....LU-1.2
Innovative Residential Design …….....FGMP-3.1
Inside Noise ……..HS-8.7
Integrate Natural Features ……..LU-7.2
Interagency Cooperation …….....ED-5.14
Interagency Cooperation ……...ERM-5.19
Interagency Fire Protection Cooperation ……...PFS-7.4
Interagency Law Enforcement Protection Cooperation …… PFS-7.10
Intergovernmental Coordination …… PF-6.2
Intermodal Connectivity …….. TC-1.6
Intermodal Freight Connections ……..... ED-2.12
Intermodal Freight Villages ……..... TC-1.7
Intermodal Hubs for Community and Hamlet Core Areas …… ED-6.5
Interpretation of Boundaries ……PF-2.11
Job Quality – Diversify Jobs …… ED-2.4
Jobs/Housing Ratio ……..... ED-2.8
Joint Exercises ……..... HS-7.7

Joint Planning Efforts PFS-1.16
Joint Use Facilities and Programs PFS-8.2
Joint Water Projects with Neighboring Counties WR-3.12
Lakes ED-5.6
Land Dedication for Roadways and Other Travel Modes TC-1.13
Land Requirements ED-2.2
Land Use and Zoning FGMP-1.13
Land Use Compatibility with Solid Waste Facilities PFS-5.1
Land Use Consistency PF-2.6
Land Uses in UDBs / HDBs PF-1.3
Landscape AQ-3.4
Landslide Areas HS-2.2
Law Enforcement Staffing Ratios PFS-7.8
Legally Conforming Commercial Uses FGMP-1.12
Level of Service Coordination TC-1.17
Library Facilities and Services PFS-8.4
Light Industrial Uses FGMP-1.9
Lighting LU-7.18
Limited Mining in Urban Areas ERM-3.2
Local and Regional Coordination ED-1.4
Local and State Programs ERM-4.3
Location and Size Criteria for Parks ERM-5.6
Location of School Sites PFS-8.3
Location of Support Services AQ-3.1
Location of Urban Development PF-1.2
Locations of Fire and Sheriff Stations/Sub-stations PFS-7.11
Low Density Areas M-1.25
Low Intensity Recreation Uses M-1.18
Maintain Emergency Evacuation Plans HS-7.3
Maintain Emergency Public Services HS-1.1
Maintain Existing Levels of Services PFS-1.2
Maintain Urban Edges PF-1.1
Maintaining a Current General Plan PF-7.2
Maintaining Planning Consistency PF-7.3
Maintenance of Infrastructure FGMP-9.3
Maintenance of Scenic Vistas FGMP-8.18
Major Drainage Management WR-2.5
Management of Oak Woodland Communities ERM-1.12
Management of Wetlands ERM-1.6
Mapping of Flood Hazard Areas HS-5.7
Market Research AG-2.2
Marketing Programs ED-5.11
Meet Changing Recreational Needs ERM-5.12
Merger of Sub Standard Agricultural Parcels LU-2.8
Minimize Adverse Impacts ERM-2.7
Minimize Hazards and Nuisances ERM-2.8
Minimize Lighting Impacts ERM-1.15
Minimize Lighting Impacts LU-7.19
Minimize Soil Disturbances FGMP-8.7
Minimum Parcel Sizes M-1.14
Mitigation and Conservation Banking Program ERM-1.14

Mitigation ……ERM-6.4
Mix of Uses ……...M-1.10
Mixed Land Uses ……AQ-3.6
Mixed Use Opportunities ……PF-3.4
Mobile Homes …… FGMP-1.8
Modification of CACUABs and CACUDBs ……PF-4.3
Modification of Community UDB ……PF-2.2
Modification of HDB - Hamlet ……..... PF-3.2
Mountain Area Zoning ……..M-1.3
Mountain Residential Areas ……M-1.13
Mountain Service Areas Compatibility ……..M-1.28
Mountain Service Areas Designations…… M-1.5
Mountain Service Centers …… M-1.7
Mountain, Rural, and Low-Density Residential ……LU-3.4
Multi-modal Development ……..TC-3.7
Multi-Purpose Flood Control Measures ……HS-5.4
Multi-Use Trails …… TC-5.8
Municipal Service Reviews (MSRs) ……..... PFS-1.13
Mutual Aid Agreement …… HS-7.2
National Parks Tourism …… ED-5.13
National Pollutant Discharge Elimination System (NPDES) Enforcement ……WR-2.2
Natural Design ……HS-5.11
Natural Landscapes …… SL-1.1
Neighborhood Commercial Centers..…….....FGMP-1.6
Neighborhood Commercial Uses …… LU-4.1
New Billboards …… SL-2.4
New Building Fire Hazards …… HS-6.1
New Development Requirements ……..PFS-3.3
New Industries ……..... ED-2.3
New Special Districts …… PFS-1.9
New Systems or Individual Wells ……PFS-2.5
New Towns (Planned Communities)……...PF-5.1
Night Sky Protection …….. ERM 5-18
Nodal Land Use Patterns that Support Public Transit …….. TC-4.4
Noise Analysis…… HS-8.13
Noise Buffering……HS-8.14
Noise (Construction Noise)……HS-8.18
Noise (Construction Noise Control)……..HS-8.19
Noise Impacted Areas ……HS-8.2
Noise Level Criteria ……..... HS-8.6
Noise Sensitive Land Uses …… HS-8.3
Non Agricultural Industries …… ED-3.3
Non-Agricultural Business Development ……..... ED-3.9
Non-Conforming Uses…… ……RVLP-1.5
Non-Conforming Uses – General ……PF-1.10
Notification ……..... PFS-5.2
NPDES Enforcement …….. PFS-4.7
Oil and Gas Extraction ……ERM-3.4
Open Space Buffers ……..... ERM-1.8
Open Space Character ……LU-2.3
Open Space Preservation ……ERM-5.15

Orderly Expansion of City Boundaries PF-4.6
Outlying Commercial Uses M-1.16
Paper Subdivision Consolidation ..... LU- 1.5
Park Amenities ERM-5.2
Park Dedication Requirements ERM-5.3
Park Design ERM-5.14
Parking Location LU-7.7
Park-Related Organizations ERM-5.4
Parks as Community Focal Points ERM-5.1
Participation in Federal Flood Insurance Program HS-5.3
Paving or Treatment of Roadways for Reduced Air Emissions AQ-4.3
Peak Noise Generators HS-8.11
Permitting Procedures and Regulations LU-1.6
Pesticide Control HS-4.6
Pesticide Use HS-4.9
Pesticides ERM-1.13
Plan Guidance M-1.2
Planned Communities SL-3.4
Planned Community Areas FGMP-1.14
Planning Areas PF-1.5
Planning in CACUDBs PF-4.4
Plans for Jurisdictions, Agencies, District, Utilities, and Native American Tribes PF-6.1
Planting of Native Vegetation ERM-1.7
Point Source Control WR-2.8
Policy Impacts to Water Resources WR-3.11
Power Transmission Lines PFS-9.4
Preparation of Community Plans, Master Development Plans, Specific Plans, Area Development Plans, and Hamlet Plans FGMP-1.3
Preservation of Agricultural Lands AG-1.7
Preservation of Historical Buildings LU-7.13
Preservation of Scenic Highways FGMP-6.1
Preservation of Unique Features FGMP-8.19
Preserving Visual Resources FGMP-1.5
Prevent Incompatible Uses LU-1.3
Primary Land Use AG-1.1
Private Ownership TC-3.5
Private Recreational Uses FGMP-4.2
Private Sewage Disposal Standards PFS-3.1
Private Use of Recycled Products PFS-5.5
Private Water Supply HS-6.8
Private Wells WR-2.9
Privately-Owned Forest Lands M-1.29
Project Design LU-3.6
Promote Energy Conservation Awareness ERM-4.4
Promoting Operational Efficiency TC-1.8
Protect Agricultural Lands FGMP-5.1
Protect Riparian Areas ERM-1.4
Protect Water Quality WR-2.1
Protection of Historical or Archaeological Sites FGMP-7.3
Protection of Lakes FGMP-8.5
Protection of Rare and Endangered Species ERM-1.1

Protection of Resources with Potential State or Federal Designations ……ERM-6.2
Protection of Soils on Slopes …….....ERM-7.3
Providing Planning Information ……..... PF-7.4
Provision of Adequate Infrastructure ……..FGMP-9.2
Provision of an Adequate Public Road Network ……..... TC-1.1
Provision of Safety Services ……..FGMP-10.2
Provision of Station Facilities and Equipment …… PFS-7.6
Provisions for Bicycle Use ……..TC-5.3
Provisions for Solid Waste Storage, Handling, and Collection …….. PFS-5.7
Proximity to Transportation …… FGMP-8.16
Public Activity Centers ……LU-6.1
Public Awareness ……..AQ-4.5
Public Outreach ……...PF-6.7
Public Road System Maintenance …… TC-1.5
Public Safety Programs ……HS-1.6
Public Water Access …… ERM-5.7
Purchase of Low Emission/Alternative Fuel Vehicles ……AQ-1.6
Rail Abandonment ……... TC-2.6
Rail Improvements …….. TC-2.2
Rail Facilities and Existing Development …….. TC-2.7
Rail Service …….. TC-2.1
Railroad Corridor Preservation …….. TC-2.5
Railroads and Rail Transit …… SL-4.3
Railways ……..... ED-2.14
Ranchettes …… AG-1.12
Reclamation of Oil and Gas Sites ……..... ERM-3.5
Recognize Mineral Deposits ……...ERM-2.2
Recreational Accommodations ……..... ED-5.4
Recreational Facilities for Special Use Groups …….....ERM-5.10
Recreation-Oriented Uses ……..M-1.26
Reduce Energy Use in County Facilities……...ERM-4.7
Reduce Vehicle Emissions …….....FGMP-8.17
Regional Bicycle Transportation Plan …… ……..... TC-5.6
Regional Cooperation …….....ED-1.5
Regional Coordination ……..... TC-1.3
Regional Growth Corridor Opportunity Areas – Interim Policy ……..…… C-1.6
Regional Growth Corridor Plans ……..…… C-1.4
Regional Planning Coordination …… PF-6.5
Regional Processing ……... ED-2.9
Regional Recreation Planning ……..... ERM-5.16
Regional Transportation ……..AG-2.10
Regionally Significant Intersections ……...TC-1.11
Removal of Natural Vegetation ……..…… FGMP-8.9
Renewable Energy ……ERM-4.6
Residential Agriculture Uses ……..LU-2.4
Residential Developments ……..LU-3.1
Resource Conservation Criteria …… M-1.11
Resource Conservation Uses …… M-1.12
Resources Development……..ERM-2.5
Response Times Planning in GIS ……HS-1.8
Restoration of Disturbed Land ……HS-6.13

Retain Local Graduates ……ED-4.7
Reuse of Abandoned Improvements in a CACUAB ……PF-4.23
Reuse of Abandoned Improvements in a CACUDB …… PF-4.22
Revenue Sharing ……PF-4.14
Revitalization of Community Centers ……ED-6.1
Ridesharing …… AQ-2.5
Right-to-Farm Noticing ……. AG-1.14
Riparian Area Development ……. FGMP-8.1
Riparian Management Plans and Mining Reclamation Plans ……..ERM-1.5
Rivers ……ED-5.5
Road Location …….. HS-5.8
Roadway Access ……LU-1.10
Roadway Facilities ……. TC-1.14
Rural Residential Designations ……LU-3.5
Rural Residential Interface …….....LU-3.8
Safe Housing and Structures ……. HS-1.7
San Joaquin Valley Intelligent Transportation System Strategic Deployment Plan ……..TC-4.6
Scenic Corridor Protection Plans ……. C-1.3
Scenic Highways and Roads ……..TC-1.12
Schools District Coordination ……....LU-6.4
Schools in Agricultural Zones ……AG-1.16
Schools Funding……PFS-8.6
Schools in Neighborhoods …… LU-6.3
Screening …….. LU-7.6
Search and Rescue ……HS-7.6
Second Dwellings ……LU-3.7
Security …… PFS-1.12
Seismic Standards for Dams …… HS-2.6
Shared Parking Facilities ……. LU-7.16
Sheriff Response Time …… PFS-7.9
Site Improvements …….. PFS-4.2
Site Investigations …… HS-1.11
Siting of Telecommunications Infrastructure …… PFS-6.3
Small Business …… ED-2.5
Small-Scale Oil and Gas Extraction ……ERM-3.3
SMARA Requirements ……..ERM-2.13
Smart Growth and Healthy Communities ……LU-1.1
Soil Conditions and Development Density …… FGMP-9.4
Soil Conservation ……. ERM-7.1
Soil Productivity ……. AG-1.15
Soil Productivity …… ERM-7.2
Solicit Input from Local Native Americans ……ERM-6.8
Solid Waste Reduction ……. PFS-5.3
Sound Attenuation Features……HS-8.14
Special District Boundaries …… PF-1.8
Specialized Training ……ED-4.3
Specialty Business Program ……ED-3.10
Specific Plans ……LU-1.9
Sphere of Influence Criteria……PF-4.25
Spheres of Influence ……PF-4.5
Staff Resources …….. ED-1.2

Standards of Approval PFS-1.4
State Noise Insulation Features.....HS-8.16
State Noise Standards HS-8.5
Storage Screening LU-5.3
Stormwater Management Plans PFS-4.1
Stormwater Retention Facilities PFS-4.4
Streamline Process ERM-2.6
Street Design AQ-3.3
Streetscape and Parking Area Improvements for Energy Conservation ERM-4.2
Streetscape Continuity LU-7.4
Structure Siting HS-2.4
Sub-area Plans M-1.1
Subsidence HS-2.7
Substandard Williamson Act Parcels AG-1.5
Support Off-Site Measures to Reduce Greenhouse Gas Emissions..... AQ-1.9
Support Statewide Climate Change Solutions AQ-1.7
Support Tulare County Area Transit TC-4.3
Supporting Agricultural Industry ED-2.10
Technical Assistance AG-2.3
Telecommunications ED-3.4
Telecommunications Services PFS-6.1
Timing of Conversion From Urban Reserve LU-2.7
Tourist-Related Agricultural Uses AG-2.7
Traffic Impact Study TC-1.15
Transit Coordination TC-4.5
Transit Ready Development TC-4.7
Transition to Agricultural Use PF-4.11
Transmission Corridors PFS-9.3
Transportation and Air Quality AQ-2.3
Transportation Demand Management Programs AQ-2.1
Transportation Management Associations AQ-2.4
Transportation Programs TC-4.1
Travel-Oriented Tourist Commercial Uses LU-4.4
Tulare County Agriculture Zones..... RVLP-1.3
UDB and Other Boundaries PF-2.3
UDBs and Interagency Coordination PF-6.4
United States Forest Service Support M-1.19
Updating Land Use Diagram in CACUDBs PF-4.9
Upgrading for Streets and Highways HS-7.4
Urban Corridor Plans C-1.2
Urban Development Boundaries – Communities PF-2.1
Urban Expansion–Edges SL-3.2
Urban Improvement Areas for Cities PF-4.15
Urban Interchanges TC-1.10
Use of Native and Drought Tolerant Landscaping WR-3.5
Use of Native Landscaping FGMP-8.13
Valley Urban Improvement Areas and Urban Area Boundaries PF-2.10
Vegetation Removal FGMP-8.12
Visible Signage for Roads and Buildings PFS-7.3
Visitor-Serving Business ED-5.10
Visual Access LU-7.9

Vocational Training in Secondary Schools ED-4.6
Walkable Communities HS-9.2
Wastewater System Failures PFS-3.5
Water Connections PFS-2.4
Water Conservation LU-7.16
Water Export Outside County WR-1.3
Water Resource Planning WR-3.4
Water Supply PFS-2.1
Water Supply System HS-6.7
Water Use Efficiency..... WR-3.6
Watercourse Development ERM-5.8
Watercourses SL-1.3
Weed Abatement HS-6.12
Well Testing PFS-2.3
Wildland Fire Management Plans HS-6.6
Wildlife (Cooperate with Wildlife Agencies).....ERM-1.6
Williamson Act AG-1.3
Williamson Act in UDBs and Hamlet Development Boundaries (HDBs) AG-1.4
Wood Burning Devices AQ-4.4
Work with Local School Districts PFS-8.1
Workforce Education ED-4.2
Workforce Programs ED-4.4
Workforce Skills Development ED-4.1
Working Landscapes SL-1.2
Zoning in Communities PF-2.9

Tulare County General Plan

Appendix B
Policy Glossary by Subject

June 2012

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Part I Policy Glossary by Subject

(For ease of use, the concepts and goals directing the County's approach to these concerns are reviewed here and a list of relevant policies spread through the General Plan 2030 Elements are compiled and listed herein.)

Aesthetics, View shed	
LU-2.4 Open Space Character LU-7.2 Integrate Natural Features LU-7.4 Streetscape Continuity LU-7.8 Building Abatement LU-7.9 Visual Access LU-7.10 Gateway/Entry Points LU-7.18 Lighting LU-7.19 Minimize Lighting Impacts SL-1.1 Natural Landscapes SL-1.2 Working Landscapes SL-1.3 Watercourses SL-2.1 Designated Scenic Routes and Highways SL-2.2 Gateways to the Sequoias	SL-2.3 Historic and Cultural Landscapes SL-2.4 New Billboards SL-2.5 Billboard Removal SL-2.6 Billboard Placement SL-3.1 Community and Neighborhoods SL-3.2 Urban Expansion-Edges SL-3.3 Highway Commercial SL-3.4 Planned Communities ERM-1.7 Planting Native Vegetation ERM-1.15 Minimize Lighting Impacts ERM-5.18, Night Sky Protection TC-1.12 Scenic Highways and Roads
Agricultural Economic	
AG-2.1 Diversified Agriculture AG-2.3 Technical Assistance AG-2.4 Crop Care Education AG-2.5 High-Value-Added Food Processing LU-2.6 Agricultural Support Facilities	AG-2.11 Energy Production AG-2.10 Regional Transportation AG-2.6 Biotechnology and Biofuels ED-2.9 Regional Processing ED-2.10 Supporting Agricultural Industry
Agriculture Preservation	
AG-1.1 Primary Land Use AG-1.2 Coordination AG-1.3 Williamson Act AG-1.5 Substandard Williamson Act Parcels AG-1.6 Conservation Easements AG-1.7 Preservation of Agricultural Lands AG-1.8 Agriculture Within Urban Boundaries AG-1.9 Agricultural Preserves Outside Urban Boundaries AG-1.10 Extension of Infrastructure Into Agricultural Areas	AG-1.13 Agricultural Related Uses AG-1.14 Right-to-Farm Noticing AG-1.15 Soil Productivity AG-1.16 Agricultural Water Resources AG-1.18 Farmland Trust and Funding Sources AG-2.8 Agricultural Education Programs LU- 1.5 Paper Subdivision Consolidation LU-2.1 Agricultural Lands LU 2.2 Agricultural Parcel Splits

AG-1.11 Agricultural Buffers AG-1.12 Ranchettes	LU-2.5 Residential Agriculture Uses LU 2.7 Industrial Development
Air Quality	
LU-1.4 Compact Development AQ-1.1 Cooperation with Other Agencies AQ-1.2 Cooperation with Local Jurisdictions AQ-1.3 Cumulative Air Quality Impacts AQ-1.4 Air Quality Land Use Compatibility AQ-1.5 CEQA Compliance AQ-1.6 Purchase of Low Emission/Alternative Fuel Vehicles AQ-1.7 Support Statewide Global Warming Solutions AQ-1.8 Greenhouse Gas Emissions/CAP AQ-1.9 Support Off-Site Measures to Reduce GHG Emissions AQ-2.1 Transportation Demand Management Programs AQ-2.2 Indirect Source Review	AQ-2.3 Transportation and Air Quality AQ-2.4 Transportation Management Associations AQ-2.5 Ridesharing AQ-3.1 Location of Support Services AQ-3.2 Infill Near Employment AQ-3.4 Landscape AQ-3.6 Mixed Land Uses AQ-4.1 Air Pollution Control Technology AQ-4.2 Dust Suppression Measures AQ-4.3 Paving or Treatment of Roadways for Reduced Air Emissions AQ-4.4 Wood Burning Devices AQ-4.5 Public Awareness
Aviation	
ED-2.12 Intermodal Freight Connections ED-2.13 Airport Capacity TC-3.1 Enhancement of County-wide Airport System TC-3.2 Airport System Development, TC-3.3 Airport Enhancement TC-3.3 Airport Enhancement TC-3.4 Airport Compatibility TC-3.5 Private Ownership (Airports)	TC-3.6 Airport Encroachment TC-3.7 Multi-modal Development HS-3.1 Airport Land Use Compatibility HS-3.2 Compliance with FAA Regulations HS-8.4 Airport Noise Contours ED-2.13 Airport Capacity
Capital Improvements/ Public Facilities, Community Planning	
PF-2.4 Community Plans PF-6.5 Regional Planning Coordination	PF-6.6 Coordination of Private Development on Public Land ED-2.2 Land Requirements
Circulation/ Highway/ General Road Policy	
LU-1.11 Roadway Access SL-4.1 Design of Highways SL-4.2 Design of County Roads TC-1.1 Provision of Adequate Public Road Network TC-1.2 County Improvement Standards TC-1.3 Regional Coordination	TC-1.10 Urban Interchanges TC-1.11 Regionally Significant Intersections TC 1.12 Scenic Highways and Roads TC-1.13 Land Dedication For Roadways and Other Travel Modes TC-1.14 Roadway Facilities TC-1.15 Traffic impact Study

TC-1.4 Funding Sources TC-1.5 Public Road System Maintenance TC-1.8 Promoting Operational Efficiency TC-1.9 Highway Completion	TC-1.16 County LOS Standards TC-1.17 Level of Service Coordination TC-1.18 Balanced System TC-1.19 Balanced Funding
Commercial Development	
LU 4.1 Neighborhood Commercial Uses LU-4.2 Big Box Development LU 4.3 Commercial Service Locations LU 4.4 Travel Orientated Tourist Commercial LU-4.5 Commercial Building Design LU-4.6 Commercial Storage Facilities	ED-6.1 Revitalization of Community Centers ED-6.2 Comprehensive Redevelopment Plan ED-6.3 Entertainment Venues ED-6.4 Culturally Diverse Businesses ED-6.6 Core Area Beautification ED-6.7 Existing Commercial Centers
Community Design- Sustainable Growth - Smart Growth	
LU 1.1 Smart Growth and Healthy Communities LU 1.2 Innovative Development LU 1.8 Encourage Infill Development LU-7.6 Screening LU-7.12 Historic Buildings and Areas LU-7.13 Preservation of Historical Buildings LU 7.14 Contextual and Compatible Design ERM 5.5 Collocated Facilities ERM- 5.18, Night Sky Protection AQ-3.3 Street Design AQ-3.6 Mixed Use Development	LU-7.16 Shared Parking Facilities LU-3.6 Project Design LU-7.2 Integrate Natural Features LU-7.3 Friendly Streets LU-7.4 Streetscape Continuity SL 3.1 Community and Neighborhoods SL 3.2 Urban Expansion-Edges SL 3.4 Planned Communities ERM 4.2 Streetscape and Parking Area Improvements for Energy Conservation
Conservation of Flora, Fauna and Biological Ecosystem Preservation	
ERM-1.1 Protection of Rare and Endangered Species Biological Resources ERM-1.2 Development in Environmentally Sensitive Areas Biological Resources ERM-1.3 Encourage Cluster Development- Biological Resources ERM-1.4 Protect Riparian Areas- Biological Resources ERM 1.5 Riparian Management Plans and Mining Reclamation Plans ERM-1.6 Management of Wetlands- Biological Resources	ERM-1.7 Planting of Native Vegetation- Biological Resources ERM-1.8 Open Space Buffers- Biological Resources ERM-1.9 Coordination of Management on Adjacent Lands Biological Resources ERM-1.12 Management of Oak Woodland Communities- Biological Resources ERM-1.16 Cooperate with Wildlife Agencies ERM-1.17 Conservation Plan Coordination

Conservation of Natural Resources /Open Space	
LU 1.5 Paper Subdivision Consolidation LU-1.7 Development on Slopes- - Growth and Development LU-2.4 Open Space Character ERM 1.4 Protect Riparian Areas ERM 1.8 Open Space Buffers ERM-1.14, Mitigation and Conservation Banking Program ERM-1.16 Cooperate with Wildlife Agencies ERM-1.17 Conservation Plan Coordination	ERM 5.15 Open Space Preservation ERM-5.20 Allowable Uses on Timber Production Lands ERM-7.1 Soil Conservation– Cultural Resources ERM-7.2 Soil Productivity Cultural Resources ERM-7.3 Protection of Soils on Slopes– Cultural Resources HS-1.3 Hazardous Lands HS-6.13 Restoration of Disturbed Land
Coordination and Cooperation/Interagency Coordination/Public Information	
PF-7.4 Providing Planning Information ERM-6.8 Solicit Input from Local Native Americans PF-6.1 Plans for Jurisdictions, Agencies, District, Utilities, and Native American Tribes PF-6.2 Intergovernmental Coordination PF-6.3 Consultation on Annexation Proposals PF-6.7 Public Outreach LU-4.4 Travel-Oriented Tourist Commercial Uses LU-6.1 Public Activity Centers LU 6.3 Schools in Neighborhoods LU 6.4 Schools District Coordination ED-1.4 Local and Regional Coordination ED-1.5 Regional Cooperation ED-1.6 Develop Public/Private Partnerships ED-5.13 National Parks Tourism ED-5.14 Interagency Cooperation SL 4.1 Design of Highways SL 4.3 Railroads and Rail Transit ERM 1.9 Coordination of Management on Adjacent Lands ERM 1.13 Pesticides ERM 1.14 Mitigation and Conservation Banking ERM-1.16 Cooperate with Wildlife Agencies ERM-1.17 Conservation Plan Coordination ERM 4.3 Local and State Programs ERM 4.4 Promote Energy Conservation Awareness ERM 4.5 Advance Planning ERM 5.4 Park Related Organizations	WR-1.1 Groundwater Withdrawal WR 1.7 Collection of Additional Groundwater Information WR-2.8 Point Source Control WR-3.4 Water Resource Planning WR-3.5 Use of Native and Drought Tolerant Landscaping WR-3.6 Agricultural Irrigation Efficiency WR-3.8 Educational Programs WR-3.11 Policy Impacts to Water Resources WR-3.12 Joint Water Projects with Neighboring Counties WR-3.13 Coordination of Watershed Management on Public Land TC-1.3 Regional Coordination TC-1.4 Funding Sources TC-1.10 Urban Interchanges TC-1.11 Regionally Significant Intersections TC 1.12 Scenic Highways and Roads TC-1.17 Level of Service Coordination TC-2.1 Rail Service TC 2.2 Rail Improvements TC-2.3 Amtrak Service TC-2.4 High Speed Rail TC-2.5 Railroad Corridor Preservation TC-2.6 Rail Abandonment TC-3.1 Enhancement of County-wide Airport System TC-4.1 Transportation Programs TC-4.2 Determine Transit Needs TC-4.3 Support Tulare County Area Transit TC 4.5 Transit Coordination

ERM 5.11 Cooperation with Federal and State Agencies ERM 5.12 Meet Changing Recreational Needs ERM 5.19 Interagency Cooperation ERM-6.1 Evaluation of Cultural and Archaeological Resources ERM-6.5 Cultural Resources Education Programs, ERM-7.2 Soil Productivity AQ-1.1 Cooperation with Other Agencies AQ-1.2 Cooperation with Local Jurisdictions AQ 1.7 Support Statewide Global Warming Solutions AQ-2.1 Transportation Demand Management Programs HS-1.5 Hazard Awareness and Public Education HS-1.6 Public Safety Programs HS-2.6 Seismic Standards for Dams HS-4.2 Establishment of Procedures to Transport Hazardous Wastes HS-4.5 Increase Public Awareness HS-4.7 Coordination of Materials on Public Lands HS-6.14 Coordination with Cities HS-6.15 Coordination of Fuel Hazards on Public Lands HS-7.7 Joint Exercises HS-8.10 Automobile Noise Enforcement HS-8.17 Coordinate with Caltrans	TC-5.1 Bicycle/Pedestrian Trail System TC-5.3 Provisions for Bicycle Use PFS-1.7 Coordination with Service Providers PFS-1.8 Funding for Service Providers PFS-1.16 Joint Planning Efforts PFS-3.6 Care of Individual Systems PFS-3.7 Financing PFS-4.6 Agency Coordination PFS-4.7 NPDES Enforcement PFS-5.4 County Usage of Recycled materials and Products PFS-5.5 Private Use of Recycled Products PFS-7.4 Interagency Fire Protection Cooperation PFS-7.9 Sheriff Response Time PFS-7.10 Interagency Law Enforcement Protection Cooperation PFS-8.1 Work with Local School Districts PFS-8.3 Location of School Sites PFS-8.5 Government Facilities in Community Centers PFS-9.1 Expansion of Gas and Electricity Facilities PFS-9.2 Appropriate Siting of Natural Gas and Electric Systems PFS-9.4 Power Transmission Lines
Development Required Conditions	
LU-1.7 Development on Slopes LU 1.11 Roadway Access LU 2.4 Open Space Character LU 2.5 Residential Agriculture Uses LU 2.8 Timing of Conversion From Urban Reserve LU 3.4 Mountain, Rural and Low Density Residential LU 3.5 Rural Residential Designations LU 3.6 Project Design LU 4.3 Commercial Service Locations LU 4.4 Travel Orientated Tourist Commercial Uses LU-4.6 Commercial Storage Facilities LU 5.3 Storage Screening LU 5.4 Compatibility with Surrounding Land Use LU 5.5 Access LU 5.6 Industrial Use Buffer LU 6.2 Buffers LU 7.6 Screening	HS-5.10 Flood Control Design HS-6.1 New Building Fire Hazards HS-6.2 Development in Fire Hazards HS-6.3 Consultation with Fire Service Districts HS-6.6 Wildland Fire Management Plans HS-6.7 Water Supply System HS-6.8 Private Water Supply HS-6.10 Fuel Breaks HS-8.1Economic Base Protection HS-8.2 Noise Impacted Areas HS-8.3 Noise Sensitive Land Uses HS-8.4 Airport Noise Contours HS-8.5 State Noise Standards HS-8.6 Noise Level Criteria HS-8.7 Inside Noise HS-8.8 Adjacent Uses HS-8.11 Peak Noise Generators

LU 7.9 Visual Access ED-2.2 Land Requirements SL 1.1 Natural Landscapes SL 1.2 Working Landscapes SL 2.4 New Billboards SL 2.6 Billboard Placement ERM 5.3 Park Dedication Requirements ERM 6.4 Mitigation ERM-6.8 Solicit Input from Native Americans ERM-6.9 Confidentiality of Archaeological Sites ERM-7.1 Soil Conservation ERM-7.3 Protection of Soils on Slopes AQ-1.3 Cumulative Air Quality Impacts AQ-1.5 California Environmental Quality Act Compliance AQ-2.2 Indirect Source Review AQ-4.2 Dust Suppression Measures, AQ-4.3 Paving or Treatment of Roadways for Reduced Air Emissions, AQ-4.4 Wood Burning Devices, HS-1.2 Development Constraints HS-1.4 Building and Codes HS-2.2 Landslide Areas HS-2.3 Hillside Development HS-2.4 Structure Siting HS-2.7 Subsidence HS-4.3 Incompatible Land Uses HS-5.1 Development Compliance with Federal, State, and Local Regulations HS-5.2 Development in Floodplain Zones HS-5.8 Road Location HS-5.9 Floodplain Development Restrictions	WR-1.1 Groundwater Withdrawal WR 1.7 Collection of Additional Groundwater Information WR-2.1 Protect Water Quality WR-2.2 NPDES Enforcement WR-2.3 Best Management Practices WR-2.4 Construction site Sediment WR-2.9 Private Wells TC-1.2 County Improvement Standards TC-1.13 Land Dedication For Roadways and Other Travel Modes TC-1.14 Roadway Facilities TC-1.15 Traffic impact Study PFS-1.2 Maintain Existing Levels of Services PFS-1.3 Impact Mitigation PFS-1.4 Standards of Approval PFS-2.1 Water Supply PFS-2.2 Adequate Systems PFS-2.3 Well Testing PFS-2.5 New Systems or Individual Wells PFS-3.2 Adequate Capacity PFS-3.3 New Development Requirements PFS-3.5 Wastewater System Failures PFS-4.2 Site Improvements PFS-4.4 Stormwater Retention Facilities PFS-4.5 Detention/Retention Basins Design PFS-5.6 Ensure Capacity PFS-5.7 Provisions for Solid Waste Storage, Handling, and Collection PFS-7.2 Fire Protection Standards PFS-7.7 Cost Sharing PFS-7.8 Law Enforcement Staffing Ratios
Development Discretionary Conditions	
LU 3.1 Residential Developments LU 3.2 Cluster Development LU 4.1 Neighborhood Commercial Uses LU 4.2 Big Box Development LU 4.5 Commercial Building Design LU 6.1 Public Activity Centers LU 7.1 Distinctive Neighborhoods LU 7.3 Friendly Streets	AQ-2.4 Transportation Management Associations AQ-3.4 Landscape AQ-3.5 Alternative Energy Design AQ-3.6 Mixed Use Development HS-4.4 Contamination Prevention HS-5.4 Multi-Purpose Flood Control Measures HS-5.5 Development in Dam and Seiche Inundation Zones HS-5.11 Natural Design

LU 7.4 Streetscape Continuity LU 7.5 Crime Prevention Through Design LU 7.7 Parking Location LU 7.14 Contextual and Compatible Design LU 7.16 Shared parking Facilities SL 4.2 Design of County Roads ERM-1.1 Protection of Rare and Endangered Species Biological Resources, ERM-1.2 Development in Environmentally Sensitive Areas Biological Resources, ERM-1.3 Encourage Cluster Development- Biological Resources, ERM 1.7 Planting Native Vegetation ERM 4.1 Energy Conservation and Efficiency Measures ERM 5.6 Location and Size Criteria for Parks ERM 5.8 Watercourse Development ERM 5.9 Encourage Development of Private Recreation Facilities ERM 5.14 Park Design ERM 5.15 Open Space Preservation ERM 5.17 Activity Prioritization ERM-6.3 Alteration of Sites with Identified Cultural Resources ERM-6.10 Grading Cultural Resources Sites ERM-7.2 Soil Productivity AQ-1.4 Air Quality Land Use Compatibility	WR-1.2 Groundwater Monitoring WR-1.4 Conversion of Agricultural Water Resources WR-1.6 Expand Use of Reclaimed Water WR-1.9 Collection of additional Surface Water Information WR-2.6 Degraded Water Resources WR-3.3 Adequate Water Availability WR-3.5 Use of Native and Drought Tolerant Landscaping TC-1.16 County LOS Standards TC-5.2 Consider Non-Motorized Modes in Planning and Development TC-5.4 Design Standards for Bicycle Routes TC-5.5 Facilities TC-5.7 Designated Bike Paths TC-5.8 Multi-Use Trails TC-4.4 Nodal Land Use Patterns that Support Public Transit, TC-4.7 Transit Ready Development PFS-1.10 Homeowner Associations PFS-1.15 Efficient Expansion PFS-3.4 Alternative Rural Wastewater Systems PFS-4.3 Development Requirements PFS-7.11 Locations of Fire and Sheriff Stations/substations PFS-7.12 Design Features for Crime Prevention and Reduction
Economic	
ED-1.1 Economic Leadership ED-1.2 Staff Resources ED-1.3 Economic Strategy ED-1.4 Local and Regional Coordination ED-1.5 Regional Cooperation ED-1.6 Develop Public/Private Partnerships ED-1.7 Grant Funding ED-1.8 Adequate Facilities and Services ED-2.1 Business Retention ED-2.2 Land Requirements ED-2.3 New Industries ED-2.4 Job Quality – Diversify Jobs ED-2.5 Small Business ED-2.6 Agency Support for Small Businesses ED-2.7 Home-Based Businesses	ED-4.5 Higher Education ED-4.6 Vocational Training in Secondary Schools ED-4.7 Retain Local Graduates ED-5.1 Development of Recreation Industry ED-5.2 Agricultural and Ecological Tourism ED-5.3 Highway Tourism ED-5.4 Recreational Accommodations ED-5.5 Rivers ED-5.6 Lakes ED-5.7 Foothills ED-5.8 Foothill Gateways ED-5.9 Bikeways ED-5.10 Visitor Serving Business ED-5.11 Marketing Programs ED-5.12 Heritage Tourism

ED-2.8 Jobs/Housing Ratio ED-2.12 Intermodal Freight Connections ED-3.1 Diverse Economic Base ED-3.2 Industry Clusters ED-3.3 Non Agricultural Industries ED-3.4 Telecommunications ED-3.5 High Speed Rail ED-3.6 Higher Learning ED-3.7 Attractive Economy ED-3.8 Business Technology ED-3.9 Non-Agricultural Business Development ED-3.10 Specialty Business Program ED-4.1 Workforce Skills Development ED-4.2 Workforce Education ED-4.3 Specialized Training ED-4.4 Workforce Programs	ED-5.13 National Parks Tourism ED-5.14 Interagency Cooperation ED-6.1 Revitalization of Community Centers ED-6.2 Comprehensive Redevelopment Plan ED-6.3 Entertainment Venues ED-6.4 Culturally Diverse Businesses ED-6.5 Intermodal Hubs for Community and Hamlet Core Areas ED-6.6 Core Area Beautification ED-6.7 Existing Commercial Centers LU 5.1 Industrial Developments LU 5.2 Industrial Park Developments LU 7.10 Gateway/Entry Points HS-8.1Economic Base Protection TC-1.7 Intermodal Freight Villages TC-1.8 Promoting Operational Efficiency
Emergency Services	
ED-2.1 Business Retention LU-6.3 Schools in Neighborhood LU-6.4 Schools District Coordination LU-7.5 Crime Prevention Through Design HS-1.1 Maintain Emergency Public Services HS-1.3 Hazardous Lands HS-1.4 Building and Codes HS-1.5 Hazard Awareness and Public Education HS-1.6 Public Safety Programs HS-1.7 Safe Housing and Structures HS-1.8 Response Times Planning in GIS HS-1.9 Emergency Access HS-1.10 Emergency Services Near Assisted Living HS-1.11 Site Investigations HS-1.12 Addressing HS-7.4 Upgrading for Streets and Highways	HS-8.1 Economic Base Protection HS-8.2 Noise Impacted Areas HS-8.3 Noise Sensitive Land Uses HS-8.4 Airport Noise Contours HS-8.5 State Noise Standards HS-8.6 Noise Level Criteria HS-8.7 Inside Noise HS-8.8 Adjacent Uses HS-8.9 County Equipment HS-8.10 Automobile Noise Enforcement HS-8.11 Peak Noise Generators HS-7.1 Coordinate Emergency Response Services with Government Agencies HS-7.3 Maintain Emergency Evacuation Plans HS-7.5 Emergency Centers HS-7.6 Search and Rescue HS-7.7 Joint Exercises HS-4.2 Establishment of Procedures to Transport Hazardous Wastes
Energy	
LU 7.15 Energy Conservation ERM 4.1 Energy Conservation and Efficiency Measures	ERM-4.7 Reduce Energy Use in County ERM 4.8 Energy Efficiency Standards

ERM 4.2 Streetscape and Parking Area Improvements for Energy Conservation ERM 4.3 Local and State Programs ERM 4.4 Promote Energy Conservation Awareness ERM 4.5 Advance Planning ERM 4.6 Renewable Energy	AQ-3.5 Alternative Energy Design PFS-9.1 Expansion of Gas and Electricity Facilities PFS-9.2 Appropriate Siting of Natural Gas and Electric Systems PFS-9.3 Transmission Corridors PFS-9.4 Power Transmission Lines
Flood Hazard	
HS-5.1 Development Compliance with Federal, State, and Local Regulations HS-5.2 Development in Floodplain Zones HS-5.3 Participation in Federal Flood Insurance Program HS-5.4 Multi-Purpose Flood Control Measures HS-5.5 Development in Dam and Seiche Inundation Zones HS-5.6 Impacts to Downstream Properties	HS-5.7 Mapping of Flood Hazard Areas HS-5.8 Road Location HS-5.9 Floodplain Development Restrictions HS-5.10 Flood Control Design HS-5.11 Natural Design
Fire Hazards	
HS-6.1 New Building Fire Hazards HS-6.2 Development in Fire Hazards HS-6.3 Consultation with Fire Service Districts HS-6.4 Encourage Cluster Development HS-6.5 Fire Risk Recommendations HS-6.6 Wildland Fire Management Plans HS-6.7 Water Supply System HS-6.8 Private Water Supply	HS-6.9 Fuel Modification Programs HS-6.10 Fuel Breaks HS-6.11 Fire Buffers HS-6.12 Weed Abatement HS-6.13 Restoration of Disturbed Land HS-6.14 Coordination with Cities HS-6.15 Coordination of Fuel Hazards on Public Lands
Geologic Hazards	
HS-2.1 Continued Evaluation of Earthquake Risks HS-2.2 Landslide Areas HS-2.3 Hillside Development HS-2.4 Structure Siting	HS-2.5 Financial assistance for Seismic Upgrades HS-2.6 Seismic Standards for Dams HS-2.7 Subsidence HS-2.8 Alquist-Priolo Act Compliance

Hazardous Materials	
HS-4.1 Hazardous Materials HS-4.2 Establishment of Procedures to Transport Hazardous Wastes HS-4.3 Incompatible Land Uses	HS-4.6 Pesticide Control HS-4.7 Coordination of Materials on Public Lands HS-4.8 Hazardous Materials Studies

HS-4.4 Contamination Prevention HS-4.5 Increase Public Awareness	HS-1.2 Development Constraints
Historic Buildings	
LU-7.11 Adaptive Reuse LU 7.12 Historic Buildings and Areas	LU 7.13 Preservation of Historical Buildings ERM-6.4 Mitigation–Cultural Resources
Historic Preservation/ Cultural Resource Preservation	
SL 2.3 Historic and Cultural Landscapes ERM-6.1 Evaluation of Cultural and Archaeological Resources ERM-6.2 Protection of Resources with Potential State or Federal Designations ERM-6.3 Alteration of Sites with Identified Cultural Resources ERM 6.4 Mitigation ERM-6.5 Cultural Resources Education Programs,	ERM-6.6 Historic Structures and Sites, ERM-6.7 Cooperation of Property Owners, ERM-6.8 Solicit Input from Native Americans ERM-6.9 Confidentiality of Archaeological Sites ERM-6.10 Grading Cultural Resources Sites
Industrial Development	
LU 2.7 Industrial Development LU-5.1- Industrial Developments LU-5.2 Industrial Park Developments LU-5.3 Storage Screening LU-5.4 Compatibility with Surrounding Land Use LU-5.5 Access LU-5.6 Industrial Use Buffer	LU-5.7 Industrial Uses Allowed on Resource Land HS-1.4 Building and Codes ED-2.2 Land Requirements ED-2.3 New Industries ED-2.11 Industrial Parks ED-1.8 Adequate Facilities and Services
Intermodal Connectivity	
ED-2.12 Intermodal Freight Connections AQ-2.3 Transportation and Air Quality AQ-2.5 Ridesharing TC-1.6 Intermodal Connectivity TC-1.7 Intermodal Freight Villages TC-1.13 Land Dedication For Roadways and Other Travel Modes TC-5.1 Bicycle/Pedestrian Trail System TC-5.2 Consider Non-Motorized Modes in Planning and Development	TC-5.3 Provisions for Bicycle TC-5.4 Design Standards for Bicycle Routes TC-5.5 Facilities TC-5.6 Regional Bicycle Plan TC-5.7 Designated Bike Paths TC-5.8 Multi-Use Trails TC-5.9 Existing Facilities AQ-3.3 Street Design
Land Use Policies	
PF-2.7 Land Use Consistency PF-2.6 Collaborative Community Planning Partnerships	HS-6.4 Encourage Cluster Development PF-2.9 Interpretation of Boundaries PF-7.1 Annual Review

LU-1.2 Innovative Development LU 1.3 Prevent Incompatible Uses LU 1.4 Compact Development LU-2.8 Merger of Sub Standard Agricultural Parcels LU-3.8 Rural Residential Interface PF-7 General Plan Maintenance LU-1.10 Specific Plans PF-4.11 Transition to Agricultural Use HS-1.3 Hazardous Lands	PF-7.2 Maintaining a Current General Plan PF-7.3 Maintaining Planning Consistency LU-4.3 Commercial Service Locations ERM-2.10 Compatibility LU 5.7 Industrial Uses Allowed on Resource Land AQ-3.1 Location of Support Services AQ-3.2 Infill Near Employment AQ-3.6 Mixed Use Development
Mining and Reclamation Policy	
ERM-1.5 Riparian Management Plans and Mining Reclamation Plans ERM-2.11 Incompatible Development ERM-2.1 Conserve Mineral Deposits ERM-2.2 Recognize Mineral Deposits ERM-2.3 Future Resource Development ERM-2.4 Identify New Resources ERM-2.5 Resources Development	ERM-2.6 Streamline Process ERM-2.8 Minimize Adverse Impacts ERM-2.9 Minimize Hazards and Nuisances ERM-2.12 Conditions of Approval ERM-2.13 Approved Limits ERM-2.14 SMARA Requirements
Noise	
HS-8.1Economic Base Protection HS-8.2 Noise Impacted Areas HS-8.3 Noise Sensitive Land Uses HS-8.4 Airport Noise Contours HS-8.5 State Noise Standards HS-8.6 Noise Level Criteria HS-8.7 Inside Noise HS-8.8 Adjacent Uses HS-8.9 County Equipment HS-8.10 Automobile Noise Enforcement	HS-8.11 Peak Noise Generators HS-8.12 Foothill and Mountain Noise HS-8.13 Noise Analysis HS-8.14 Sound Attenuation Features HS-8.15 Noise Buffering HS-8.16 State Noise Insulation HS-8.17 Coordinate with Caltrans HS-8.18 Construction Noise HS-8.19 Construction Noise Control
Pesticides	
ERM-1.13 Pesticides	HS-4.6 Pesticide Control
Planning, Zoning and Building Regulations	
PF-2.5 Land Use Consistency PF-2.7 Zoning in Communities	LU-3.7 Second Units LU-7.8 Building Abatement

LU-1.3 Prevent Incompatible Uses LU-1.6 Permitting Procedures and Regulations	ERM-6.10 Grading Cultural Resources Sites HS-1.4 Building and Codes
Public Facilities and Services	
PFS-1.1 Existing Development Communities PFS-1.2 Maintain Existing Levels of Services PFS-1.3 Impact Mitigation PFS-1.4 Standards of Approval PFS-1.5 Funding for Public Facilities PFS-1.6 Funding Mechanisms PFS-1.7 Coordination with Service Providers, PFS-1.8 Funding for Service Providers PFS-1.9 New Special Districts, PFS-1.10 Homeowner Associations PFS-1.11 Facility Sizing PFS-1.12 Security PFS-1.13 Municipal Service Reviews (MSRs) PFS-1.14 Capital Improvement Plans PFS-1.15 Efficient Expansion PFS-1.16 Joint Planning Efforts PFS-2.1 Water Supply PFS-2.1 Water Supply PFS-2.2 Adequate Systems PFS-2.3 Well Testing PFS-2.5 New Systems or Individual Wells PFS-3.1 Private Sewage Disposal Standards PFS-3.2 Adequate Capacity PFS-3.3 New Development Requirements PFS-3.4 Alternative Rural Wastewater Systems PFS-3.5 Wastewater System Failures	PFS-3.6 Care of Individual Systems PFS-3.7 Financing PFS-4.1 Stormwater Management Plans PFS-4.2 Site Improvements PFS-4.3 Development Requirements PFS-4.4 Stormwater Retention Facilities PFS-4.5 Detention/Retention Basins Design PFS-4.6 Agency Coordination PFS-4.7 NPDES Enforcement PFS-5.1 Land Use Compatibility with Solid Waste Facilities PFS-5.2 Notification PFS-5.3 Solid Waste Reduction PFS-5.4 County Usage of Recycled materials and Products PFS-5.5 Private Use of Recycled Products PFS-5.6 Ensure Capacity PFS-5.7 Provisions for Solid Waste Storage, Handling, and Collection PFS-5.8 Hazardous Waste Disposal Capabilities PFS-5.9 Agriculture Waste PFS-6.1 Telecommunications Services PFS-6.2 Communication Technologies to Improve Citizen Participation PFS-6.3 Siting of Telecommunications Infrastructure PFS-7.6 Provision of Station Facilities and Equipment PFS-7.7 Cost Sharing PFS-8.2 Joint Use Facilities and Programs PFS-8.4 Library Facilities and Services
Public Safety	
ED-2.1 Business Retention LU-6.3 Schools in Neighborhood LU-6.4 Schools District Coordination LU-7.5 Crime Prevention Through Design HS-1.1 Maintain Emergency Public Services HS-1.3 Hazardous Lands HS-1.4 Building and Codes	HS-7.4 Upgrading for Streets and Highways HS-7.5 Emergency Centers HS-7.6 Search and Rescue HS-7.7 Joint Exercises HS-8.1 Economic Base Protection HS-8.2 Noise Impacted Areas HS-8.3 Noise Sensitive Land Uses

HS-1.5 Hazard Awareness and Public Education HS-1.6 Public Safety Programs HS-1.7 Safe Housing and Structures HS-1.8 Emergency Access HS-1.9 Emergency Access HS-1.10 Emergency Services Near Assisted Living HS-1.11 Site Investigations HS-1.12 Addressing HS-2.1 Continued Evaluation of Earthquake Risks HS-2.2 Landslide Areas HS-2.3 Hillside Development HS-2.4 Structure Siting HS-2.5 Financial assistance for Seismic Upgrades HS-2.6 Seismic Standards for Dams HS-2.7 Subsidence HS-2.8 Alquist-Priolo Act Compliance HS-4.2 Establishment of Procedures to Transport Hazardous Wastes HS-4.8 Hazardous Materials Safety HS-7.1 Coordinate Emergency Response Services with Government Agencies HS-7.3 Maintain Emergency Evacuation Plans	HS-8.4 Airport Noise Contours HS-8.5 State Noise Standards HS-8.6 Noise Level Criteria HS-8.7 Inside Noise HS-8.8 Adjacent Uses HS-8.9 County Equipment HS-8.10 Automobile Noise Enforcement HS-8.11 Peak Noise Generators PFS-7.1 Fire Protection PFS-7.2 Fire Protection Standards PFS-7.3 Visible Signage for Roads and Buildings PFS-7.4 Interagency Fire Protection Cooperation PFS-7.5 Fire Staffing and Response time Standards PFS-7.6 Provision of Station Facilities and Equipment PFS-7.7 Cost Sharing PFS-7.8 Law Enforcement Staffing Ratios PFS-7.9 Sheriff Response Time PFS-7.10 Interagency Law Enforcement Protection Cooperation PFS-7.11 Locations of Fire and Sheriff Stations/substations PFS-7.12 Design Features for Crime Prevention and Reduction
Public Transportation	
TC-4.1 Transportation Programs, TC-4.2 Determine Transit Needs, TC-4.3 Support Tulare County Area Transit , TC-4.4 Nodal Land Use Patterns that Support Public Transit, TC-4.5 Transit Coordination, TC-4.6 San Joaquin Valley Intelligent Transportation System Strategic Deployment Plan TC-4.7 Transit Ready Development	TC-5.1 Bicycle/Pedestrian Trail System TC-5.2 Consider Non-Motorized Modes in Planning and Development TC-5.3 Provisions for Bicycle Use TC-5.4 Design Standards for Bicycle Routes TC-5.5 Facilities TC-5.6 Regional Bicycle Plan TC-5.7 Designated Bike Paths TC-5.8 Multi-Use Trails
Railway, High Speed Rail	
ED-2.14 Railways ED-3.5 High Speed Rail TC-2.1 Rail Service TC-2.2 Rail Improvements TC-2.3 Amtrak	TC-2.4 High Speed Rail (HSR) TC-2.5 Railroad Corridor Preservation TC-2.6 Rail Abandonment TC-2.7 Rail Facilities and Existing Development SL-4.3 Railroads and Rail Transit

Recreation	
ED-5.1 Development of Recreation Industry ED-5.4 Recreational Accommodations ED-5.5 Rivers ED-5.6 Lakes ED-5.7 Foothills ED-5.8 Foothill Gateways ED-5.9 Bikeways ERM 1.10 Appropriate Access for Recreation ERM 1.11 Hunting and Fishing ERM 5.1 Parks as Community Focal Points ERM 5.2 Park Amenities ERM 5.3 Park Dedication Requirements ERM 5.4 Park Related Organizations	ERM 5.5 Collocated Facilities ERM 5.6 Location and Size Criteria for Parks ERM 5.7 Public Water Access ERM 5.8 Watercourse Development ERM 5.9 Encourage Development of Private Recreation Facilities ERM 5.10 Recreational Facilities for Special Use Groups ERM 5.11 Cooperation with Federal and State Agencies ERM 5.12 Meet Changing Recreational Needs ERM 5.13 Funding for Recreational Areas and Facilities ERM 5.14 Park Design ERM 5.16 Regional Recreation Planning ERM 5.17 Activity Prioritization
Regional Transportation	
TC-1.8 Promoting Operational Efficiency TC-1.9 Highway Completion TC-1.10 Urban Interchanges TC-1.11 Regionally Significant Intersections TC-1.12 Scenic Highways and Roads TC-1.13 Land Dedication for Roadways and Other Travel Modes	TC-1.14 Roadway Facilities TC-1.15 Traffic Impact Study TC-1.16 County LOS Standards TC-1.17 Level of Service Coordination TC-1.18 Balanced System TC-1.19 Balanced Funding
Residential Development	
LU-3.1 Residential Developments LU-3.2 Cluster Development LU-3.3 High-Density Residential Locations LU-3.4 Mountain, Rural, and Low-Density Residential	LU-3.5 Rural Residential Designations LU-7.1 Distinctive Neighborhoods HS-1.7 Safe Housing and Structures LU-6.2 Buffers- Public/Institutional Development
Sustainability and Greenhouse Gas Emissions	
PF-1.2 Location of Urban Development PF-1.3 Land Uses in UDBs/HDBs PF-1.4 Available Infrastructure AG-1.7 Conservation Easements AG-1.8 Agriculture Within Urban Boundaries AG-1.11 Agricultural Buffers	ERM-1.8 Open Space Buffers ERM-1.14 Mitigation and Conservation Banking Program ERM-4.1 Energy Conservation and Efficiency Measures ERM-4.2 Streetscape and Parking Area Improvements for Energy Conservation ERM-4.3 Local and State Programs

AG-1.14 Right to Farm Noticing LU-1.1 Smart Growth and Healthy Communities LU-1.2 Innovative Development LU-1.3 Prevent Incompatible Uses LU-1.4 Compact Development LU-1.8 Encourage Infill Development LU-2.1 Agricultural Lands LU-3.2 Cluster Development LU-3.3 High-Density Residential Locations LU-4.1 Neighborhood Commercial Uses LU-7.1 Distinctive Neighborhoods LU-7.2 Integrate Natural Features LU-7.3 Friendly Streets LU-7.15 Energy Conservation ED-2.3 New Industries ED-6.1 Revitalization of Community Centers ED-6.2 Comprehensive Redevelopment Plan ED-6.3 Entertainment Venues ED-6.4 Culturally Diverse Business ED-6.5 Intermodal Hubs for Community and Hamlet Core Areas ED-6.7 Existing Commercial Centers SL-3.1 Community Centers and Neighborhoods ERM-1.1 Protection of Rare and Endangered Species ERM-1.2 Development in Environmentally Sensitive Areas ERM-1.3 Encourage Cluster Development ERM-1.4 Protect Riparian Management Plans and Mining Reclamation Plans ERM-1.6 Management of Wetlands ERM-1.7 Planting of Native Vegetation	ERM-4.6 Renewable Energy ERM-4.7 Reduce Energy Use in County Facilities ERM-4.8 Energy Efficiency Standards ERM-5.1 Parks as Community Focal Points ERM-5.6 Location and Size Criteria for Parks ERM-5.15 Open Space Preservation Chapter 9: Air Quality HS-1.4 Building and Codes Chapter 11: Water Resources TC-4.4 Nodal Land Use Patterns that Support Public Transit TC-5.1 Bicycle/Pedestrian Trail System TC-5.2 Consider Non-Motorized Modes in Planning and Development TC-5.3 Provisions for Bicycle Use TC-5.4 Design Standards for Bicycle Routes TC-5.5 Facilities TC-5.6 Regional Bicycle Plan TC-5.7 Designated Bike Paths TC-5.8 Multi-Use Trails PFS-1.3 Impact Mitigation PFS-1.15 Efficient Expansion PFS-2.1 Water Supply PFS-2.3 Adequate Systems PFS-3.3 New Development Requirements PFS-5.3 Solid Waste Reduction PFS-5.4 County Usage of Recycled Materials and Products PFS-5.5 Private Use of Recycled Products PFS-8.3 Location of School Sites PFS-8.5 Government Facilities and Services Part II, Chapter 1: The Rural Valley Lands
Urban Boundaries- Policies	
PF-1.1 Maintain Urban Edges PF-1.2 Location of Urban Development PF-1.5 Planning Areas PF-1.6 Appropriate Land Uses by Location PF-1.8 Special District Boundaries PF-1.9 Capacity Building and Self Governance, PF-2.2 Modification of Community UDB PF-2.5 Improvement Standards in Communities LU-2.7 Industrial Development	PF-6.4 UDBs and Interagency Coordination PF-4.8 General Plan Designations Within City UDBs LU-2.7 Timing of Conversion From Urban Reserve AG-1.4 Williamson Act in UDBs and Hamlet Development Boundaries (HDBs) LU-1.1 Smart Growth and Healthy Communities PF-4.12 Compatible Project Design PF-4.3 Modification of City UABs and UDBs PF-4.4 Planning in UDBs

PF-2.8 Valley Urban Improvement Areas and Urban Area Boundaries	PF-2.5 Improvement Standards in Communities
Water Supply	
WR-1.1 Groundwater Withdrawal WR-1.3 Water Export Outside County WR-1.4 Conversion of Agricultural Water Resources WR-1.5 Expand Use of Reclaimed Wastewater WR-1.6 Expand Use of Reclaimed Water WR 1.7 Collection of Additional Groundwater Information WR-1.8 Groundwater Basin Management WR-1.9 Collection of additional Surface Water Information WR-1.10 Channel Modification WR-3.1 Develop Additional Water Sources WR-3.2 Develop an Integrated Regional Water Master Plan WR-3.3 Adequate Water Availability WR-3.4 Water Resource Planning	WR-3.5 Use of Native and Drought Tolerant Landscaping WR-3.6 Agricultural Irrigation Efficiency WR 3.7 Emergency Water Conservation Plan WR-3.8 Educational Programs WR-3.9 Establish Critical Water Supply Areas WR-3.10 Diversion of Surface Water WR-3.11 Policy Impacts to Water Resources WR-3.12 Joint Water Projects with Neighboring Counties WR-3.13 Coordination of Watershed Management on Public Land PFS-2.1 Water Supply PFS-2.2 Adequate Systems PFS-2.3 Well Testing PFS-2.5 New Systems or Individual Wells
Water Quality	
WR-1.2 Groundwater Monitoring WR 1.7 Collection of Additional Groundwater Information WR-1.8 Groundwater Basin Management WR-2.1 Protect Water Quality WR-2.2 NPDES Enforcement WR-2.3 Best Management Practices WR-2.4 Construction site Sediment	WR-2.5 Major Drainage Management WR-2.6 Degraded Water Resources WR-2.7 Industrial and Agricultural Sources WR-2.8 Point Source Control WR-2.9 Private Wells PFS-2.1 Water Supply PFS-2.5 New Systems or Individual Wells

Tulare County General Plan

Appendix C

Goals & Policies Report Acronyms

June 2012

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GENERAL PLAN ACRONYMS

AB	Assembly Bill
AC	Asphaltic Concrete
ACFP	Animal Confinement Facilities Plan
ACOE	Army Corps of Engineers
aeg/m3	Micrograms Per Cubic Meter
BACM(s)	Best Attainment Control Measures
BLM	Bureau of Land Management
BMPs	Best Management Practices
BN&SF	Burlington Northern & Santa Fe Railroad
BOS	Board of Supervisors
CACUAB	County Adopted City Urban Area Boundary
CACUDB	County Adopted City Urban Development Boundary
CalEMA	California Emergency Management Agency
CAO	County Administrative Officer
CARB	California Air Resources Control Board
CC	Community Commercial
CDBG	Community Development Block Grant
CDF	California Department of Forestry and Fire Protection
CDP	Census Designated Places
CDFG	California Department of Fish and Game
CDP	Census Designated Places
CEDS	Comprehensive Economic Development Strategy
CEQA	California Environmental Quality Act
CLG	Certified Local Government
CNPS	California Native Plant Society
CALUP	Comprehensive Airport Land Use Plan
CCR	California Code of Regulations
CF	California Fire (Cal Fire)
CEQA	California Environmental Quality Act
CH_4	Methane
CHP	California Highway Patrol
CIP	Capital Improvement Program
CNEL	Community Noise Equivalent Level
CO	Commercial Office
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CONC	California Office of Noise Control
CPTED	Crime Prevention Through Environmental Design
CR	Commercial Recreation
CSA	County Service Area
CSD	Community Service District
CVP	Central Valley Project
dBA	Decibel
DBCP	Dibromochloropropane
DU/Acre	Dwelling Units Per Acre
EDA	Economic Development Administration
EDC	Economic Development Corporation
EDD	Employment Development Department
EIR	Environmental Impact Report

EPA	Environmental Protection Agency
ERME	Environmental Resource Management Element
FA	Foothill Agriculture
FAA	Federal Aviation Administration
FARs	Floor-area Ratios
FEMA	Federal Emergency Management Administration
FGMP	Foothill Growth Management Plan
FMU	Foothill Mixed Use
FTIP	Federal Transportation Improvement Program
GC	General Commercial
GIS	Geographic Information Systems
GPA	General Plan Amendment
GPI	General Plan Initiation
GPR	General Plan Referral
H_2S	Hydrogen Sulfide
HC	Highway Commercial
HCFCs	Halogenated Fluorocarbons
HDB(s)	Hamlet Development Boundary(ies)
HDR	High Density Residential
HFCs	Hydrofluorocarbons
HHSA	Health and Human Service Agency
HI	Heavy Industrial
HMU	Hamlet Mixed Use
HSR	High Speed Rail
ISO	Insurance Service Office
ITE	Institute of Transportation Engineers
JPA	Joint Power Agreements
LAFCO	Local Agency Formation Commission
LAFCo	Local Agency Formation Commission
Ldn	Day/Night Average Noise Level
LDR	Low Density Residential
LEED	Leadership in Energy and Environmental Design
LEED-ND	Leadership in Energy and Environmental- Neighborhood Design
LEEND	Leadership in Energy and Environmental Neighborhood Development
LI	Light Industrial
LMDR	Low-Medium-Density Residential
LOS	Level of Service
LU	Land Use
MDR	Medium Density Residential
MHDR	Medium-High-Density Residential
MOA	Military Operations Area
MOUs	Memorandum of Understanding
MR	Mountain Residential
MRPAC	Mineral Resources Policy Advisory Committee
MRZ	Mineral Resource Zones
MSRs	Municipal Service Reviews
MU	Mixed Use
N_2O	Nitrous Oxide
NAR	Native American Reserve
NC	Neighborhood Commercial
NDDB	National Diversity Database
NFIP	National Flood Insurance Program

NIMS	National Incident Management System
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NOx	Nitrogen Oxides (Oxides of Nitrogen)
NPDES	National Pollution Discharge Elimination System
NRCS	Natural Resource Conservation Services
NRDC	Natural Resources Defense Council
O_3	Ozone
OC	Office Commercial
OES	Office of Emergency Services
P/QP	Public/Quasi Public
Pb	Lead
PCA	Planned Community Development
PCC	Portland Cement Concrete
PFCs	Perfluorinated Carbons
PG&E	Pacific Gas and Electric
PHD	Public Health Department
PM10	Particulate Matter 10 Micrometers
PM2.5	Particulate Matter 2.5 Micrometers
PMS	Pavement Management System
ppm	Parts Per Million
PR	Public Recreation
PUC	Public Utilities Commission
PUD	Public Utility District
RACM(s)	Reasonably Available Control Measures
RC	Resource Conservation
RDA	Redevelopment Agency
REC	Recreation Commercial
ROG	Reactive Organic Gases
ROW	Right of Way
RR	Rural Residential
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
RVLP	Rural Valley Lands Plan
SBA	Small Business Administration
SC	Service Commercial
SDWA	Safe Drinking Water Act
SEMS	Standardized Emergency Management System
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SJVRR	San Joaquin Valley Railroad
SMARA	Surface Mining and Reclamation Act
SO_2	Sulfur Dioxide
SOI(s)	Sphere(s) of Influence
SOx	Sulfur Oxide Gases
SPRC	Site Plan Review Committee
SUA	Special Use Airspace
SWP	State Water Project
TAC	Technical Advisory Committee
TC	Town Center
TCAG	Tulare County Association of Governments
TDP	Transit Development Plan

TMAs	Transportation Management Associations
TP	Timber Production
TPZ	Timber Production Zone
UAB(s)	Urban Area Boundary(ies)
UC	University of California
UIAs	Urban Improvement Areas
UR	Urban Reserve
UR HI	Urban Reserve – Heavy Industrial
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGBC	U.S. Green Building Council
USGS	U.S. Geological Survey
VA	Valley Agriculture
UABs	Urban Area Boundaries
UBC	Uniform Building Code
UAB	Urban Area Boundary
UDBs	Urban Development Boundaries
UP	Union Pacific Railroad

Tulare County General Plan

Appendix D

Disadvantaged Communities Assessment

November 2015

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SENATE BILL 244
DISADVANTAGED COMMUNITIES ASSESSMENT:

PART I: COMMUNITIES AND HAMLETS

PART II: OTHER DISADVANTAGED COMMUNITIES

OCTOBER 2015

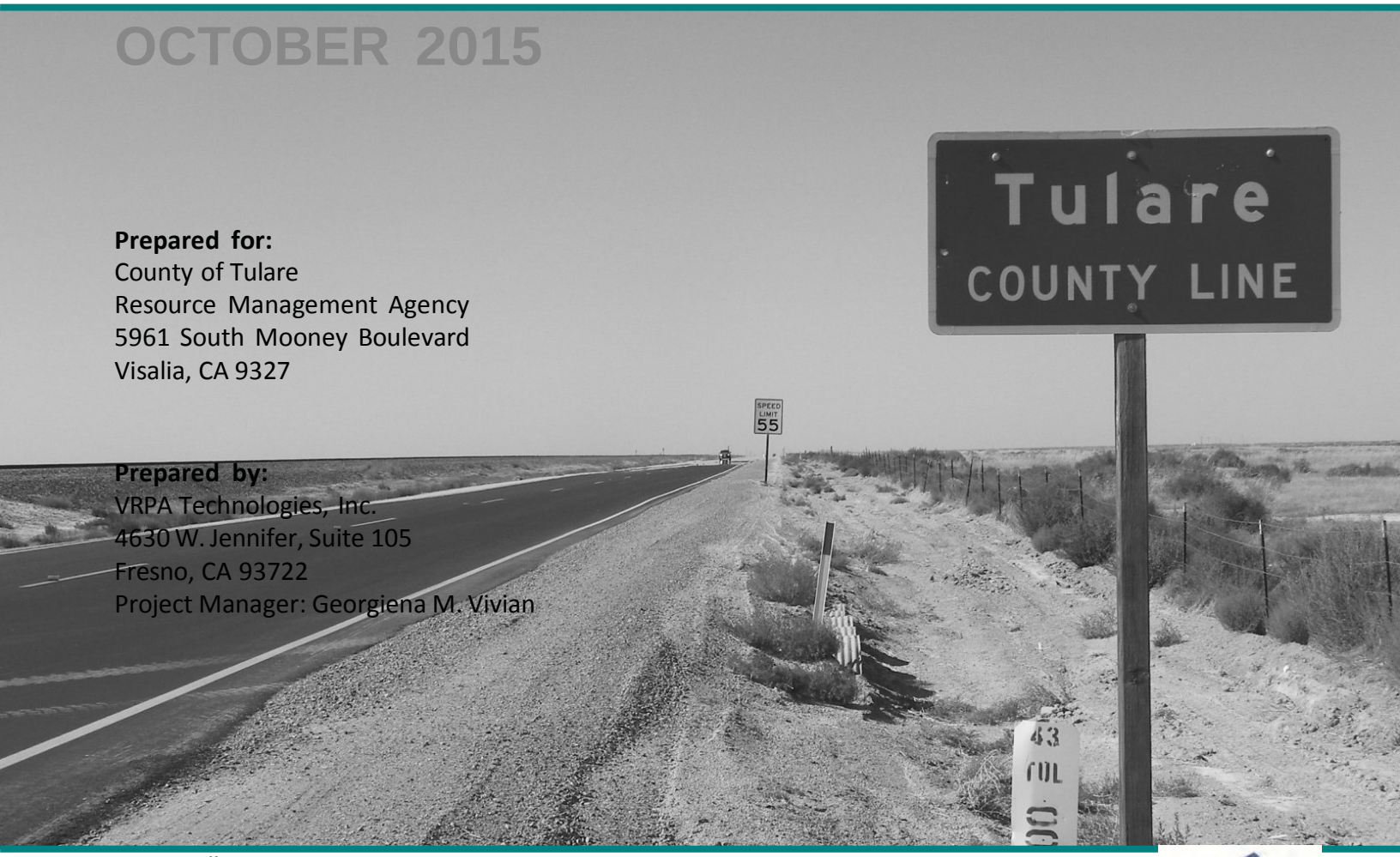

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Table of Contents

Part I: Communities and Hamlets

SECTION	DESCRIPTION	PAGE
INTRODUCTION		1
ACTION PROGRAM 9		2
REPORT PRESENTATION		6
COMMUNITIES		
1.	Alpaugh	1-1
2.	Cutler-Orosi	2-1
3.	Ducor	3-1
4.	Earlimart	4-1
5.	East Orosi	5-1
6.	Goshen	6-1
7.	Ivanhoe	7-1
8.	Lemon Cove	8-1
9.	London	9-1
10.	Pixley	10-1
11.	Plainview	11-1
12.	Poplar-Cotton Center	12-1
13.	Richgrove	13-1
14.	Springville	14-1
15.	Strathmore	15-1
16.	Sultana	16-1
17.	Terra Bella	17-1
18.	Three Rivers	18-1
19.	Tipton	19-1
20.	Traver	20-1
21.	Woodville	21-1
HAMLETS		
22.	Allensworth	22-1
23.	Delft Colony	23-1
24.	East Tulare Villa	24-1
25.	Lindcove	25-1
26.	Monson	26-1
27.	Seville	27-1

28. Teviston 28-1
29. Tonyville 29-1
30. Waukena 30-1
31. West Goshen 31-1
32. Yettem 32-1
33. Matheny Tract 33-1

DATA RELATED TO SB 244

34. Fire Infrastructure and Response Times 34-1
35. Infrastructure Needs 35-1
36. Potential Funding Sources 36-1

LIST OF TABLES

Table 1-1 Existing Water & Wastewater Connections in Alpaugh 1-2
Table 1-2 Roads in Need of Major and Medium Repair in Alpaugh 1-5
Table 1-3 Existing ADA Curb Ramps in Alpaugh 1-6
Table 1-4 Existing Sidewalks in Alpaugh 1-7
Table 1-5 Existing Street Lights in Alpaugh 1-8
Table 2-1 Existing Water & Wastewater Connections in Cutler-Orosi 2-4
Table 2-2 Existing Storm Drainage Facilities in Cutler-Orosi 2-5
Table 2-3 Roads in Need of Major and Medium Repair in Cutler-Orosi 2-9
Table 2-4 Existing ADA Curb Ramps in Cutler-Orosi 2-12
Table 2-5 Existing Sidewalks in Cutler-Orosi 2-18
Table 2-6 Existing Street Lights in Cutler-Orosi 2-23
Table 3-1 Existing Water & Wastewater Connections in Ducor 3-3
Table 3-2 Roads in Need of Major and Medium Repair in Ducor 3-5
Table 3-3 Existing ADA Curb Ramps in Ducor 3-6
Table 3-4 Existing Sidewalks in Ducor 3-6
Table 3-5 Existing Street Lights in Ducor 3-7
Table 4-1 Existing Water & Wastewater Connections in Earlimart 4-2
Table 4-2 Existing Storm Drainage Facilities in Earlimart 4-3
Table 4-3 Roads in Need of Major and Medium Repair in Earlimart 4-7
Table 4-4 Existing ADA Curb Ramps in Earlimart 4-10
Table 4-5 Existing Sidewalks in Earlimart 4-14
Table 4-6 Existing Street Lights in Earlimart 4-17
Table 5-1 Existing Water & Wastewater Connections in East Orosi 5-4
Table 5-2 Roads in Need of Major and Medium Repair in East Orosi 5-5
Table 5-3 Existing Street Lights in East Orosi 5-7
Table 6-1 Existing Water & Wastewater Connections in Goshen 6-3
Table 6-2 Existing Storm Drainage Facilities in Goshen 6-4
Table 6-3 Roads in Need of Major and Medium Repair in Goshen 6-8
Table 6-4 Existing ADA Curb Ramps in Goshen 6-9
Table 6-5 Existing Sidewalks in Goshen 6-13
Table 6-6 Existing Street Lights in Goshen 6-15
Table 7-1 Existing Water & Wastewater Connections in Ivanhoe 7-2
Table 7-2 Existing Storm Drainage Facilities in Ivanhoe 7-3
Table 7-3 Roads in Need of Major and Medium Repair in Ivanhoe 7-7
Table 7-4 Existing ADA Curb Ramps in Ivanhoe 7-9
Table 7-5 Existing Sidewalks in Ivanhoe 7-11
Table 7-6 Existing Street Lights in Ivanhoe 7-13

Table 8-1 Existing Water & Wastewater Connections in Lemon Cove 8-2
Table 8-2 Roads in Need of Major and Medium Repair in Lemon Cove 8-4
Table 8-3 Existing Sidewalks in Lemon Cove 8-5
Table 8-4 Existing Street Lights in Lemon Cove 8-6
Table 9-1 Existing Water & Wastewater Connections in London 9-2
Table 9-2 Roads in Need of Major and Medium Repair in London 9-6
Table 9-3 Existing Sidewalks in London 9-7
Table 9-4 Existing Street Lights in London 9-8
Table 10-1 Existing Water & Wastewater Connections in Pixley 10-2
Table 10-2 Existing Storm Drainage Facilities in Pixley 10-3
Table 10-3 Roads in Need of Major and Medium Repair in Pixley 10-7
Table 10-4 Existing ADA Curb Ramps in Pixley 10-9
Table 10-5 Existing Sidewalks in Pixley 10-11
Table 10-6 Existing Street Lights in Pixley 10-12
Table 11-1 Existing Water & Wastewater Connections in Plainview 11-1
Table 11-2 Roads in Need of Major and Medium Repair in Plainview 11-4
Table 11-3 Existing Street Lights in Plainview 11-6
Table 12-1 Existing Water & Wastewater Connections in Poplar-Cotton Center 12-2
Table 12-2 Roads in Need of Major and Medium Repair in Poplar-Cotton Center 12-4
Table 12-3 Existing ADA Curb Ramps in Poplar-Cotton Center 12-5
Table 12-4 Existing Sidewalks in Poplar-Cotton Center 12-6
Table 12-5 Existing Street Lights in Poplar-Cotton Center 12-7
Table 13-1 Existing Water & Wastewater Connections in Richgrove 13-2
Table 13-2 Roads in Need of Major and Medium Repair in Richgrove 13-4
Table 13-3 Existing ADA Curb Ramps in Richgrove 13-5
Table 13-4 Existing Sidewalks in Richgrove 13-8
Table 13-5 Existing Street Lights in Richgrove 13-9
Table 14-1 Existing Water & Wastewater Connections in Springville 14-3
Table 14-2 Roads in Need of Major and Medium Repair in Springville 14-6
Table 14-3 Existing ADA Curb Ramps in Springville 14-7
Table 14-4 Existing Sidewalks in Springville 14-8
Table 14-5 Existing Street Lights in Springville 14-9
Table 15-1 Existing Water & Wastewater Connections in Strathmore 15-2
Table 15-2 Existing Storm Drainage Facilities in Strathmore 15-3
Table 15-3 Roads in Need of Major and Medium Repair in Strathmore 15-6
Table 15-4 Existing ADA Curb Ramps in Strathmore 15-8
Table 15-5 Existing Sidewalks in Strathmore 15-9
Table 15-6 Existing Street Lights in Strathmore 15-10
Table 16-1 Existing Water & Wastewater Connections in Sultana 16-2
Table 16-2 Roads in Need of Major and Medium Repair in Sultana 16-4
Table 16-3 Existing ADA Curb Ramps in Sultana 16-5
Table 16-4 Existing Sidewalks in Sultana 16-6
Table 16-5 Existing Street Lights in Sultana 16-7
Table 17-1 Existing Water & Wastewater Connections in Terra Bella 17-2
Table 17-2 Existing Storm Drainage Facilities in Terra Bella 17-3
Table 17-3 Roads in Need of Major and Medium Repair in Terra Bella 17-5
Table 17-4 Existing ADA Curb Ramps in Terra Bella 17-7
Table 17-5 Existing Sidewalks in Terra Bella 17-8
Table 17-6 Existing Street Lights in Terra Bella 17-9
Table 18-1 Existing Water & Wastewater Connections in Three Rivers 18-2
Table 18-2 Roads in Need of Major and Medium Repair in Three Rivers 18-3

Table 18-3 Existing Street Lights in Three Rivers 18-6
Table 19-1 Existing Water & Wastewater Connections in Tipton 19-3
Table 19-2 Existing Storm Drainage Facilities in Tipton 19-3
Table 19-3 Roads in Need of Major and Medium Repair in Tipton 19-7
Table 19-4 Existing ADA Curb Ramps in Tipton 19-9
Table 19-5 Existing Sidewalks in Tipton 19-10
Table 19-6 Existing Street Lights in Tipton 19-12
Table 20-1 Existing Water & Wastewater Connections in Traver 20-1
Table 20-2 Proposed Storm Drainage Facilities in Traver 20-2
Table 20-3 Roads in Need of Major and Medium Repair in Traver 20-4
Table 20-4 Existing ADA Curb Ramps in Traver 20-5
Table 20-5 Existing Sidewalks in Traver 20-6
Table 20-6 Existing Street Lights in Traver 20-6
Table 21-1 Existing Water & Wastewater Connections in Woodville 21-2
Table 21-2 Existing Storm Drainage Facilities in Woodville 21-3
Table 21-3 Roads in Need of Major and Medium Repair in Woodville 21-6
Table 21-4 Existing ADA Curb Ramps in Woodville 21-7
Table 21-5 Existing Sidewalks in Woodville 21-8
Table 21-6 Existing Street Lights in Woodville 21-9
Table 22-1 Existing Water & Wastewater Connections in Allensworth 22-2
Table 22-2 Roads in Need of Major and Medium Repair in Allensworth 22-4
Table 22-3 Existing Street Lights in Allensworth 22-5
Table 23-1 Existing Water & Wastewater Connections in Delft Colony 23-1
Table 23-2 Roads in Need of Major and Medium Repair in Delft Colony 23-3
Table 23-3 Existing Sidewalks in Delft Colony 23-4
Table 23-4 Existing Street Lights in Delft Colony 23-4
Table 24-1 Roads in Need of Major and Medium Repair in East Tulare Villa 24-2
Table 24-2 Existing Sidewalks in East Tulare Villa 24-4
Table 24-3 Existing Street Lights in East Tulare Villa 24-4
Table 25-1 Roads in Need of Major and Medium Repair in Lindcove 25-2
Table 26-1 Roads in Need of Major and Medium Repair in Monson 26-2
Table 26-2 Existing Street Lights in Monson 26-4
Table 27-1 Existing Water & Wastewater Connections in Seville 27-1
Table 27-2 Roads in Need of Major and Medium Repair in Seville 27-3
Table 27-3 Existing ADA Curb Ramps in Seville 27-3
Table 27-4 Existing Street Lights in Seville 27-4
Table 28-1 Existing Water & Wastewater Connections in Teviston 28-2
Table 28-2 Roads in Need of Major and Medium Repair in Teviston 28-3
Table 28-3 Existing Street Lights in Teviston 28-5
Table 29-1 Existing Water & Wastewater Connections in Tonyville 29-1
Table 29-2 Roads in Need of Major and Medium Repair in Tonyville 29-4
Table 29-3 Existing Street Lights in Tonyville 29-6
Table 30-1 Roads in Need of Major and Medium Repair in Waukena 30-2
Table 30-2 Existing ADA Curb Ramps in Waukena 30-3
Table 30-3 Existing Sidewalks in Waukena 30-4
Table 30-4 Existing Street Lights in Waukena 30-4
Table 31-1 Existing Water & Wastewater Connections in West Goshen 31-1
Table 31-2 Roads in Need of Major and Medium Repair in West Goshen 31-3
Table 32-1 Existing Water & Wastewater Connections in Yettem 32-1
Table 32-2 Roads in Need of Major and Medium Repair in Yettem 32-3
Table 32-3 Existing Street Lights in Yettem 32-4

Table 34-1 Existing Fire Response Times 34-2
Table 34-2 Existing Fire Infrastructure in Alpaugh 34-4
Table 34-3 Existing Fire Infrastructure in Cutler-Orosi 34-6
Table 34-4 Existing Fire Infrastructure in Ducor 34-11
Table 34-5 Existing Fire Infrastructure in Earlimart 34-13
Table 34-6 Existing Fire Infrastructure in East Orosi 34-16
Table 34-7 Existing Fire Infrastructure in Lemon Cove 34-18
Table 34-8 Existing Fire Infrastructure in London 34-20
Table 34-9 Existing Fire Infrastructure in Pixley 34-22
Table 34-10 Existing Fire Infrastructure in Plainview 34-25
Table 34-11 Existing Fire Infrastructure in Poplar-Cotton Center 34-27
Table 34-12 Existing Fire Infrastructure in Richgrove 34-29
Table 34-13 Existing Fire Infrastructure in Springville 34-31
Table 34-14 Existing Fire Infrastructure in Strathmore 34-33
Table 34-15 Existing Fire Infrastructure in Sultana 34-36
Table 34-16 Existing Fire Infrastructure in Terra Bella 34-38
Table 34-17 Existing Fire Infrastructure in Three Rivers 34-40
Table 34-18 Existing Fire Infrastructure in Tipton 34-42
Table 34-19 Existing Fire Infrastructure in Traver 34-45
Table 34-20 Existing Fire Infrastructure in Woodville 34-47
Table 34-21 Existing Fire Infrastructure in Allensworth 34-49
Table 34-22 Existing Fire Infrastructure in Delft Colony 34-51
Table 34-23 Existing Fire Infrastructure in Teviston 34-56
Table 34-24 Existing Fire Infrastructure in Tonyville 34-58
Table 34-25 Existing Fire Infrastructure in Yettem 34-62
Table 35-1 Planned Infrastructure Projects 35-2
Table 35-2 Infrastructure Deficiencies 35-5
Table 36-1 Potential Funding Sources 36-2

LIST OF FIGURES

Figure 1-1 Inventory of Water Services in Alpaugh 1-4
Figure 1-2 Inventory of Roadway Facilities in Alpaugh 1-9
Figure 2-1 Inventory of Water Services in Cutler-Orosi 2-7
Figure 2-2 Inventory of Sewer Services in Cutler-Orosi 2-8
Figure 2-3 Inventory of Roadway Facilities in Cutler-Orosi 2-30
Figure 3-1 Inventory of Roadway Facilities in Ducor 3-8
Figure 4-1 Inventory of Water Services in Earlimart 4-5
Figure 4-2 Inventory of Sewer Services in Earlimart 4-6
Figure 4-3 Inventory of Roadway Facilities in Earlimart 4-20
Figure 5-1 Inventory of Roadway Facilities in East Orosi 5-8
Figure 6-1 Inventory of Water Services in Goshen 6-5
Figure 6-2 Inventory of Sewer Services in Goshen 6-6
Figure 6-3 Inventory of Roadway Facilities in Goshen 6-17
Figure 7-1 Inventory of Water Services in Ivanhoe 7-5
Figure 7-2 Inventory of Sewer Services in Ivanhoe 7-6
Figure 7-3 Inventory of Roadway Facilities in Ivanhoe 7-15
Figure 8-1 Inventory of Roadway Facilities in Lemon Cove 8-7
Figure 9-1 Inventory of Water Services in London 9-4
Figure 9-2 Inventory of Sewer Services in London 9-5

Figure 9-3 Inventory of Roadway Facilities in London 9-9
Figure 10-1 Inventory of Water Services in Pixley 10-5
Figure 10-2 Inventory of Sewer Services in Pixley 10-6
Figure 10-3 Inventory of Roadway Facilities in Pixley 10-14
Figure 11-1 Inventory of Water Services in Plainview 11-3
Figure 11-2 Inventory of Roadway Facilities in Plainview 11-7
Figure 12-1 Inventory of Roadway Facilities in Poplar-Cotton Center 12-8
Figure 13-1 Inventory of Roadway Facilities in Richgrove 13-10
Figure 14-1 Inventory of Water Services in Springville 14-4
Figure 14-2 Inventory of Sewer Services in Springville 14-5
Figure 14-3 Inventory of Roadway Facilities in Springville 14-10
Figure 15-1 Inventory of Water Services in Strathmore 15-4
Figure 15-2 Inventory of Sewer Services in Strathmore 15-5
Figure 15-3 Inventory of Roadway Facilities in Strathmore 15-12
Figure 16-1 Inventory of Roadway Facilities in Sultana 16-8
Figure 17-1 Inventory of Water Services in Terra Bella 17-4
Figure 17-2 Inventory of Roadway Facilities in Terra Bella 17-10
Figure 18-1 Inventory of Roadway Facilities in Three Rivers 18-7
Figure 19-1 Inventory of Water Services in Tipton 19-5
Figure 19-2 Inventory of Sewer Services in Tipton 19-6
Figure 19-3 Inventory of Roadway Facilities in Tipton 19-13
Figure 20-1 Inventory of Water Services in Traver 20-3
Figure 20-2 Inventory of Roadway Facilities in Traver 20-8
Figure 21-1 Inventory of Water Services in Woodville 21-4
Figure 21-2 Inventory of Sewer Services in Woodville 21-5
Figure 21-3 Inventory of Roadway Facilities in Woodville 21-10
Figure 22-1 Inventory of Roadway Facilities in Allensworth 22-6
Figure 23-1 Inventory of Roadway Facilities in Delft Colony 23-5
Figure 24-1 Inventory of Roadway Facilities in East Tulare Villa 24-5
Figure 25-1 Inventory of Roadway Facilities in Lindcove 25-4
Figure 26-1 Inventory of Roadway Facilities in Monson 26-5
Figure 27-1 Inventory of Roadway Facilities in Seville 27-5
Figure 28-1 Inventory of Roadway Facilities in Teviston 28-6
Figure 29-1 Inventory of Water Services in Tonyville 29-3
Figure 29-2 Inventory of Roadway Facilities in Tonyville 29-7
Figure 30-1 Inventory of Roadway Facilities in Waukena 30-5
Figure 31-1 Inventory of Roadway Facilities in West Goshen 31-5
Figure 32-1 Inventory of Roadway Facilities in Yettem 32-5
Figure 33-1 Aerial Photo of Matheny Tract 33-2
Figure 33-2 Tulare Irrigation District Service Area Near Matheny Tract 33-6
Figure 33-3 Storm Water Survey of North Matheny Tract 33-6
Figure 33-4 Existing Curbs and Sidewalks of Matheny Tract 33-10
Figure 33-5 Existing Street Lights, Utility Poles and Fire Hydrants of Matheny Tract 33-13
Figure 33-6 Emergency Services for Matheny Tract 33-16
Figure 34-1 Inventory of Fire Infrastructure in Alpaugh 34-3
Figure 34-2 Inventory of Fire Infrastructure in Cutler-Orosi 34-5
Figure 34-3 Inventory of Fire Infrastructure in Ducor 34-10
Figure 34-4 Inventory of Fire Infrastructure in Earlimart 34-12
Figure 34-5 Inventory of Fire Infrastructure in East Orosi 34-15
Figure 34-6 Inventory of Fire Infrastructure in Lemon Cove 34-17
Figure 34-7 Inventory of Fire Infrastructure in London 34-19

Figure 34-8 Inventory of Fire Infrastructure in Pixley 34-21
Figure 34-9 Inventory of Fire Infrastructure in Plainview 34-24
Figure 34-10 Inventory of Fire Infrastructure in Poplar-Cotton Center 34-26
Figure 34-11 Inventory of Fire Infrastructure in Richgrove 34-28
Figure 34-12 Inventory of Fire Infrastructure in Springville 34-30
Figure 34-13 Inventory of Fire Infrastructure in Strathmore 34-32
Figure 34-14 Inventory of Fire Infrastructure in Sultana 34-35
Figure 34-15 Inventory of Fire Infrastructure in Terra Bella 34-37
Figure 34-16 Inventory of Fire Infrastructure in Three Rivers 34-39
Figure 34-17 Inventory of Fire Infrastructure in Tipton 34-41
Figure 34-18 Inventory of Fire Infrastructure in Traver 34-44
Figure 34-19 Inventory of Fire Infrastructure in Woodville 34-46
Figure 34-20 Inventory of Fire Infrastructure in Allensworth 34-48
Figure 34-21 Inventory of Fire Infrastructure in Delft Colony 34-50
Figure 34-22 Inventory of Fire Infrastructure in Lindcove 34-52
Figure 34-23 Inventory of Fire Infrastructure in Monson 34-53
Figure 34-24 Inventory of Fire Infrastructure in Seville 34-54
Figure 34-25 Inventory of Fire Infrastructure in Teviston 34-55
Figure 34-26 Inventory of Fire Infrastructure in Tonyville 34-57
Figure 34-27 Inventory of Fire Infrastructure in Waukena 34-59
Figure 34-28 Inventory of Fire Infrastructure in West Goshen 34-60
Figure 34-29 Inventory of Fire Infrastructure in Yettem 34-61

Part II: OTHER DISADVANTAGED COMMUNITIES

1.	INTRODUCTION	1-1
1.1	Senate Bill 244	1-1
1.2	Requirements	1-1
1.3	Tulare County's Approach	1-3
1.4	Identification of DUCs	1-3
2.	EXISTING INFRASTRUCTURE	2-1
2.1	General Information	2-1
2.2	Domestic Water & Wastewater	2-1
2.3	Storm Drainage	2-3
2.4	ADA Curb Ramps	2-3
2.5	Sidewalks	2-3
2.6	Street Lights	2-4
2.7	Fire Infrastructure and Response Times	2-4
3.	INFRASTRUCTURE NEEDS	3-1
3.1	General	3-1
3.2	Applicable Projects	3-1
3.3	Remaining Infrastructure Needs	3-1
4.	POTENTIAL FUNDING SOURCES	4-1
4.1	General	4-1
4.2	Potential Funding Sources	4-1
5.	REFERENCES	
5.1	Documents and Websites	
5.2	Persons and Agencies	

LIST OF TABLES

Table 2-1	Existing Infrastructure in DUCs Existing Fire	2-2
Table 2-2	Infrastructure in DUCs Streetlight Site Inventory in	2-6
Table 2-3	Calgro	2-9
Table 2-4	Fire Hydrant Site Inventory in Deer Creek Colony	2-12
Table 2-5	Streetlight Site Inventory in East Porterville	2-14
Table 2-6	Sidewalk Site Inventory in East Porterville	2-15
Table 2-7	ADA Curb Ramp Site Inventory in East Porterville	2-17

Table 2-8	Fire Hydrant Site Inventory in East Porterville	2-18
Table 2-9	Streetlight Site Inventory in El Monte Mobile Village	2-20
Table 2-10	Streetlight Site Inventory in Jones Corner	2-25
Table 2-11	Sidewalk Site Inventory in Jones Corner	2-25
Table 2-12	Fire Hydrant Site Inventory in Jones Corner	2-25
Table 2-13	Streetlight Site Inventory in Naranjo	2-29
Table 2-14	Streetlight Site Inventory in Paige	2-31
Table 2-15	Streetlight Site Inventory in Ponca	2-34
Table 2-16	Sidewalk Site Inventory in Ponca	2-36
Table 2-17	ADA Curb Ramp Site Inventory in Ponca	2-37
Table 2-18	Fire Hydrant Site Inventory in Ponca	2-37
Table 2-19	Streetlight Site Inventory in Tooleville	2-41
Table 2-20	Streetlight Site Inventory in Vance	2-43
Table 2-21	Sidewalk Site Inventory in Vance	2-44
Table 2-22	ADA Curb Ramp Inventory in Vance	2-46
Table 2-23	Streetlight Site Inventory in California Hot Springs	2-58
Table 2-24	Sidewalk Site Inventory in California Hot Springs	2-58
Table 2-25	Streetlight Site Inventory in Johnsondale	2-65
Table 3-1	Planned Infrastructure Projects	3-2
Table 3-2	Infrastructure Definitions	3-3
Table 3-3	Explanations of Infrastructure Deficiencies	3-4
Table 3-4	Infrastructure Deficiencies	3-5
Table 4-1	Potential Funding Sources	4-2

LIST OF FIGURES

Figure 1-1	Tulare County Regional Location	1-2
Figure 1-2	DUC Communities by Planning Area	1-4
Figure 2-1	Inventory of Services in Calgro	2-8
Figure 2-2	Inventory of Services in Citro	2-10
Figure 2-3	Inventory of Services in Deer Creek Colony	2-11
Figure 2-4	Inventory of Service in East Porterville	2-13
Figure 2-5	Inventory of Services in El Monte Mobile Village	2-19
Figure 2-6	Inventory of Services in Hawkins	2-21
Figure 2-7	Inventory of Services in Higby	2-22
Figure 2-8	Inventory of Services in Hypericum	2-23
Figure 2-9	Inventory of Services in Jones Corner	2-24
Figure 2-10	Inventory of Services in Jovista	2-26
Figure 2-11	Inventory of Services in Lort	2-27
Figure 2-12	Inventory of Services in Naranjo	2-28
Figure 2-13	Inventory of Services in Paige	2-30
Figure 2-14	Inventory of Services in Peral	2-32
Figure 2-15	Inventory of Services in Ponca	2-33

Figure 2-16	Inventory of Services in Sandspur	2-38
Figure 2-17	Inventory of Services in Taurusa	2-39
Figure 2-18	Inventory of Services in Tooleville	2-40
Figure 2-19	Inventory of Services in Vance	2-42
Figure 2-20	Inventory of Services in Venida	2-48
Figure 2-21	Inventory of Services in West Venida	2-49
Figure 2-22	Inventory of Services in Worth	2-50
Figure 2-23	Inventory of Services in Yokohl	2-51
Figure 2-24	Inventory of Services in Zante	2-52
Figure 2-25	Inventory of Services in Badger	2-53
Figure 2-26	Inventory of Services in Elderwood	2-54
Figure 2-27	Inventory of Services in Globe	2-55
Figure 2-28	Inventory of Services in Balance Rock	2-56
Figure 2-29	Inventory of Services in California Hot Springs	2-57
Figure 2-30	Inventory of Services in Camp Nelson	2-59
Figure 2-31	Inventory of Services in Cedar Slope	2-60
Figure 2-32	Inventory of Services in Fairview	2-61
Figure 2-33	Inventory of Services in Hartland	2-62
Figure 2-34	Inventory of Services in Idlewild	2-63
Figure 2-35	Inventory of Services in Johnsondale	2-64
Figure 2-36	Inventory of Services in Kennedy Meadows	2-66
Figure 2-37	Inventory of Services in Panorama Heights	2-67
Figure 2-38	Inventory of Services in Pine Flat	2-68
Figure 2-39	Inventory of Services in Ponderosa	2-69
Figure 2-40	Inventory of Services in Posey	2-70
Figure 2-41	Inventory of Services in Silver City	2-71
Figure 2-42	Inventory of Services in Sugarloaf Mountain Park	2-72
Figure 2-43	Inventory of Services in Sugarloaf Park/Guernsey Mill	2-73
Figure 2-44	Inventory of Services in Sugarloaf Village	2-74
Figure 2-45	Inventory of Services in Wilsonia	2-75

A-1 APPENDIX A
Groundwater Ambient Monitoring and Assessment (GAMA) *Domestic Well Project Groundwater Quality Data Report Tulare County Focus Area*

A-2 APPENDIX B
Classification of Water Systems

SENATE BILL 244 DISADVANTAGED COMMUNITIES ASSESSMENT:

PART I: COMMUNITIES AND HAMLETS

OCTOBER 2015

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Introduction

Tulare County is composed of eight incorporated cities and numerous unincorporated communities and hamlets. Most of the unincorporated communities and hamlets are located on the Valley floor. The 2009 Update of the Tulare County Housing Element is a comprehensive assessment of current and future housing needs for all segments of the County's population living in unincorporated areas, as well as a program for meeting those needs. It serves as a policy guide to address issues related to the provision of adequate and affordable housing, as well as the comprehensive housing needs of the unincorporated areas of Tulare County during the 2009 to 2014 planning period and beyond.

According to the 2009 Update, the purpose of the Housing Element is to:

- Determine the existing and projected housing needs of residents of the unincorporated areas;
- Establish goals, objectives, policies, and programs that guide decision-making to address housing needs; and
- Implement actions that encourage the private sector to build housing, while ensuring that governmental policies do not serve as a constraint to housing production.

A major constraint to development of affordable housing throughout Tulare County is the lack of sufficient infrastructure such as domestic water, wastewater, storm drainage, and street lights. Government Code Section 65583(a)(3) requires local governments to prepare an inventory of land suitable for residential development, including vacant sites and sites having the potential for redevelopment, and an analysis of the relationship of zoning and public facilities and services to these sites. This inventory is designed to be used to identify sites that can be developed for housing within the planning period of the Housing Element. The purpose of this report is to document the existing infrastructure provided in the disadvantaged unincorporated communities and hamlets.

Action Program 9

Housing Related Infrastructure Needs

As stated in the 2009 Update of the Tulare County Housing Element, a major constraint to development of affordable housing throughout the County is the lack of sufficient infrastructure and basic municipal services. The County continues to identify housing related infrastructure needs, such as; water, sewer, natural gas or streetlights, using community needs assessments, housing condition surveys, public comments at community meetings, redevelopment implementation plans and amendments, community plans and other relevant information from the Health & Human Services Agency (HHSA) Environmental Health Services, Regional Water Quality Control Board, public utility districts, community services districts and other agencies.

In August 2010, in an effort to address the drinking and wastewater needs for disadvantaged communities in the Tulare Lake Basin, which includes Fresno, Kern, Kings, and Tulare counties. The Board of Supervisors approved an agreement with the California Department of Water Resources to accept $2 million in funding for the Tulare Lake Basin Disadvantaged Community Water Study Project.

This funding came as a direct result of lobbying efforts by the Tulare County Water Commission, an advisory board made up of local water experts including engineers, water district managers, elected officials and community activists. The $2 million grant will fund a water study project which will seek to identify the water and wastewater problems affecting disadvantaged communities in the Tulare Lake Basin and develop recommended solutions to address these problems through pilot projects and studies. The project will develop a plan that provides rural, disadvantaged communities with a safe, clean and affordable potable water supply and effective and affordable wastewater treatments and disposal. Tasks included in the water study project are: developing a database of all disadvantaged communities in the Tulare Lake Basin that includes data covering groundwater, groundwater recharge areas, etc.; stakeholder consultation and community outreach; selecting and designing pilot projects and studies to develop priority issues; implementing pilot projects; and preparing and finalizing a report to the State Legislature, among others. This study will be a tremendous step to address the drinking and wastewater needs for some of our region's poorest communities.

In addition, Tulare County has taken an important step to replace an aging water distribution system in the unincorporated community of Seville. At its December 7th, 2011 meeting, the Tulare County Board of Supervisors unanimously approved the submission of a grant application to seek more than $1 million in Federal funding for the replacement of deteriorating distribution lines and water storage facilities in Seville, otherwise known as the Seville Water System Rehabilitation Project. The total cost of the project is estimated to be more than $2 million. The grant application for Federal funding and an existing grant application for State funding would cover the cost of the project. Self-Help Enterprises has worked extensively with Tulare County in the preparation of the grant application.

Tulare County will continue to seek grant and loan opportunities to provide and assist in the delivery of reliable, clean water and/or wastewater services, stormwater drainage, and other critical municipal services to the lower income and disadvantaged unincorporated communities in Tulare County.

In addition to this commitment, the County will also take the following steps:

Technical Assistance to local service providers:

- Create a referral system with an initial response within 3-5 days, with the goal of providing timely responses and technical assistance to Public Utility Districts (PUDs), Community Services Districts (CSDs) and other water and wastewater providers including Mutual Water Companies (MWCs), on issues related to public health goals, board governance and effective service delivery; board member responsibilities; compliance with local, state and federal mandates; identification of and support in preparing applications for local, State, Federal, and private grant and loan opportunities to improve water, wastewater and other basic infrastructure, such as sidewalks, curbs, gutters, streetlights, parks and community centers. Recommend to those representing PUDs, CSDs and MWCs that they attend future Government 101 trainings and other available and known trainings that will provide technical assistance to special districts (within one year of adoption and going forth on a continuous basis throughout the planning period).

- Seek grant funding to provide annual trainings designed to increase the capacity of PUDs, CSDs and other service providers (e.g., MWCs). Trainings will include board member roles and responsibilities; relevant local, state and federal mandates; and potential local, state, federal, and private funding opportunities for water, wastewater, stormwater, natural gas, streetlights, and sidewalk improvements (seek grant funding within one year of adoption and going forth on a continuous basis throughout the planning period).

Infrastructure Development Priorities:

- Create a matrix of Infrastructure Development Priorities for disadvantaged unincorporated communities in Tulare County that establishes infrastructure development priorities in four phases. The matrix will determine evaluation criteria to assess current infrastructure conditions and the affordability and adequacy of delivery of municipal services to disadvantaged unincorporated communities in Tulare County. The matrix shall establish infrastructure development priorities for basic infrastructure services, including: drinking water, wastewater, stormwater drainage, curbs, gutters, roads, and street lights. The matrix shall establish priorities for Tulare County's applications and use of funds for infrastructure development during the Housing Element planning period and in future years
    - Phase One: Aggregate and compile existing information and data from extant documents and studies as well as from relevant stakeholders regarding infrastructure and service needs and availability. Information and data will be gathered from stakeholders at an initial stakeholder meeting and through written comments submitted during this phase (within 6 months of adoption and going forth on a continuous basis throughout the planning period)
    - Phase Two: Seek grant funding to expand and further investigate the data compiled as part of Phase One to include communities not identified in Phase One and more thorough information regarding infrastructure and services (seek grant funding within 12 months of adoption and continuous throughout the planning period)
    - Phase Three: Seek grant funding to design the matrix of Infrastructure Development Priorities that will address inadequate infrastructure and service delivery needs to disadvantaged communities identified in Phase One and Two. Prior to adoption, the Resource Management Agency (RMA) will release a draft matrix and hold a public meeting to consider comments from stakeholders (seek grant funding within 12 months of adoption and going forth on a continuous

basis throughout the planning period)

- Phase Four: Seek grant funding to implement the completed Infrastructure Development Priorities matrix with the goal of providing infrastructure sufficient to support new low-income housing on the sites identified in the adequate sites inventory that lack necessary infrastructure (seek grant funding within 12 months of adoption and going forth on a continuous basis throughout the planning period)

- Annual Public Meeting: The County will hold a public meeting annually, where the County informs the community of the steps taken in meeting its goals and objectives to remedy infrastructure and municipal services needs in lower income, disadvantaged communities in the unincorporated areas, where community members, community organizations and other stakeholders can provide input/comments, ask questions and receive technical assistance. These meetings will be held at a time and location accessible to working community members. Meetings and related notices will be provided in Spanish and any other language spoken by a significant proportion of Tulare County residents. Interpreters will be supplied for the meetings (12 months from adoption and anually going forth throughout the planning period)

- Matrix Content: The adopted matrix of Infrastructure Development Priorities will include at least the following components:
    - An analysis of the specific infrastructure and service needs in each of the unincorporated communities of Tulare County. This infrastructure analysis should include: water system capacity, water quality, necessary water system repairs, availability of a public sewer system, wastewater capacity (if applicable), quality and functionality of septic systems, stormwater drainage, flood control, the availability of natural gas services, adequacy of streetlights, sidewalks, road quality and existence of parks and community centers
    - An analysis of less costly methods to address infrastructure needs by implementing municipal service review recommendations prepared by Local Agency Formation Commission (L.A.F.C.O.), including consolidations and extension of services from one system to another
    - An analysis of potential Local, State, and Federal programs and other public resources available that would remedy the specific infrastructure and municipal service needs identified. This analysis would consider potential sources of matching funds available to complete these projects. This analysis would consider the feasibility of crating Assessment Districts and Tax-Increment Financing Districts to support capital infrastructure investment and on-going operations and maintenance costs
    - Identification of past or on-going infrastructure and municipal services funds and/or in-kind assistance to expand or repair infrastructure in each unincorporated community that was provided by any infrastructure service provider or Tulare County, including the time period this assistance was provided
    - Methodology to establish priorities for infrastructure and municipal services repair and expansion that includes all of the unincorporated communities in Tulare County. The priorities will include the following factors: whether a project will address a threat to public health (i.e. drinking water contamination, overflowing septic systems), the frequency of infrastructure assistance provided by the County in the past, and whether a community is "disadvantaged"

- Support applications from cities, special districts and non-profit organizations for Federal and State grant funds and other appropriate funding sources to upgrade public facilities

- Utilize benefit assessment districts, County Service Areas (CSAs), Municipal Improvement Act 1913 and/or similar vehicles to establish and maintain new public facilities in unincorporated communities (whenever appropriate)

- In redevelopment areas, use Redevelopment Agency funds to leverage other funds and resources as a means to subsidize expansion or repair of infrastructure and municipal services (continuous throughout the planning period), provided that the County continues its participation as a Redevelopment Agency

- During building permit process, review applications to ensure adequate water source and proper liquid waste disposal (current policy and going forth on a continuous basis)

- Where community sewer systems are not available, the County will evaluate soil data to regulate and monitor installation of septic systems to assure public health and safety (current policy and going forth on a continuous basis)

- Support and provide technical assistance for applications from cities and non-profit organizations for Federal and State grant funds and other appropriate funding sources to upgrade public facilities to assure adequate capacity for affordable housing (whenever funding opportunities are available)

- For new improvements which serve both new and existing residents, and over which the County has fee-setting authority, the County will balance new charges and assessments between new and existing residents (current policy and going forth on a continuous basis)

Report Presentation

The remainder of this report is presented in chapters separated into each of the communities and hamlets. Each chapter identifies the existing infrastructure for domestic water and sewer services, and storm drainage facilities. They also identify the location of existing street lights, sidewalks, Americans with Disabilities Act (ADA) compliant curbs, and roads in need of repair. The existing infrastructure is documented in tables as well as maps, when available and appropriate.

The information presented in this report was compiled from a variety of sources including Tulare County RMA, the 2009 Update of the Housing Element, Tulare County L.A.F.C.O. Municipal Service Reviews (MSRs), and discussions with individual Public Utility Districts (PUDs) and Community Services Districts (CSDs). Information was verified using Google Earth and Google Maps programs.

1. COMMUNITY OF ALPAUGH

1.1 General Information

Alpaugh is a census-designated place located in the southwest portion of Tulare County. It is generally bounded by Avenue 50 in the south, Avenue 58 in the north, Road 34 in the west, and Road 42 in the east and encompasses one (1) square mile of land. It is not directly served by any State Route. The Tulare County/Kings County Line is located approximately two miles west of Alpaugh, and the Tulare County/Kern County Line is located approximately seven miles south of Alpaugh. Communities located near Alpaugh include Allensworth and Earlimart to the east, Pixley to the northeast, Delano to the southeast, and Corcoran to the northwest. Alpaugh is an agriculturally oriented service community surrounded on all sides by lands in agricultural production, scattered rural residential uses, and vacant land.

Based on the 2010 Census, the population in Alpaugh was 1,026. Similar to other communities in Tulare County, the population of Alpaugh is racially diverse with 37% White, less than 1% African American, 1% Native American, less than 1% Asian/Pacific Islander, 58% from other races, and 3% from 2 or more races. 85% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 243 housing units located within Alpaugh, of which 53% are owner-occupied and 47% are renter-occupied.

1.2 Domestic Water & Wastewater

Domestic water service in Alpaugh is provided by the Alpaugh Joint Powers Authority (AJPA) which was formed in March 2003. It is a separate governing agency responsible for all operations and maintenance to the domestic water system in the rural community. Table 1-1 shows the number of existing water connections, the capacity of the system, and the number of additional connections the system can accommodate for new development (AJPA, February 2014). These connections do not directly correspond to number of housing units but include the number of service connections, both residential and commercial. Figure 1-1 graphically displays the approximate location of water wells and water lines. These are based on correspondence with AJPA because accurate mapping is unavailable.

According to the Municipal Service Review 2006 (MSR), domestic water service providers for Alpaugh have been unable to support any new connections to their water system in recent years due to severe water quality problems (including arsenic contamination), inadequate system pressures, and deterioration of water pipelines resulting in breaks and leaks. Water system problems have halted any new development from occurring in the community.

Alpaugh's water problems have long been documented. Since its formation, the AJPA has received over $4 million in grants and loans to improve the community's water supply and distribution system. The water supply is currently derived from a single well (Well #10). Well #9, owned and operated by the Alpaugh Irrigation District (AID), is used as a backup in case Well #10 fails to function. The AJPA expects to have an additional well drilled in the future, at which time Well #10 would function as the backup well.

While the AJPA has struggled over recent years to supply customers with safe, affordable drinking water, they appear to be taking steps in the right direction by obtaining funding necessary for a complete overhaul of its water system. While the AJPA is unable to support additional connections at this time, ongoing system improvements will improve the system capacity and level of service and allow for additional service connections in the future. Assuming 290 equivalent dwelling units (EDUs) in order to meet Tulare County Improvement Standards, the AJPA water system would need to be capable of delivering a combined flow rate (from all source and storage facilities) of 1,030 gallons per minute (GPM) (500 GPM fire flow and 530 GPM domestic demand) for a period of two hours while maintaining a minimum pressure of 25 pounds per square inch (PSI) to each lot served. EDUs include housing units and other types of connections such as commercial uses. The current pumping efficiency of the AJPA water system is unknown, and therefore it cannot be determined if the water system meets the requirements of the Tulare County Improvement Standards.

Alpaugh lacks a sanitary sewer system and is served by individual or community septic systems.

TABLE 1-1

Existing Water & Wastewater Connections in Alpaugh

Description of Existing Infrastructure					
Drinking Water*			Waste Water		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
377 [1]	377 [2]	0	Septic Only		

* Data current as of February 2014 (per conversations with Alpaugh CSD)

1 Twenty (20) of these connections are not currently in use

2 Per Alpaugh CSD, the system is not technically "at capacity" since at present they are using only half the delivery capability of the two wells. The real "capacity" problem arises from sinking of the water table.

1.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage

- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Alpaugh does not currently have a storm drainage system.

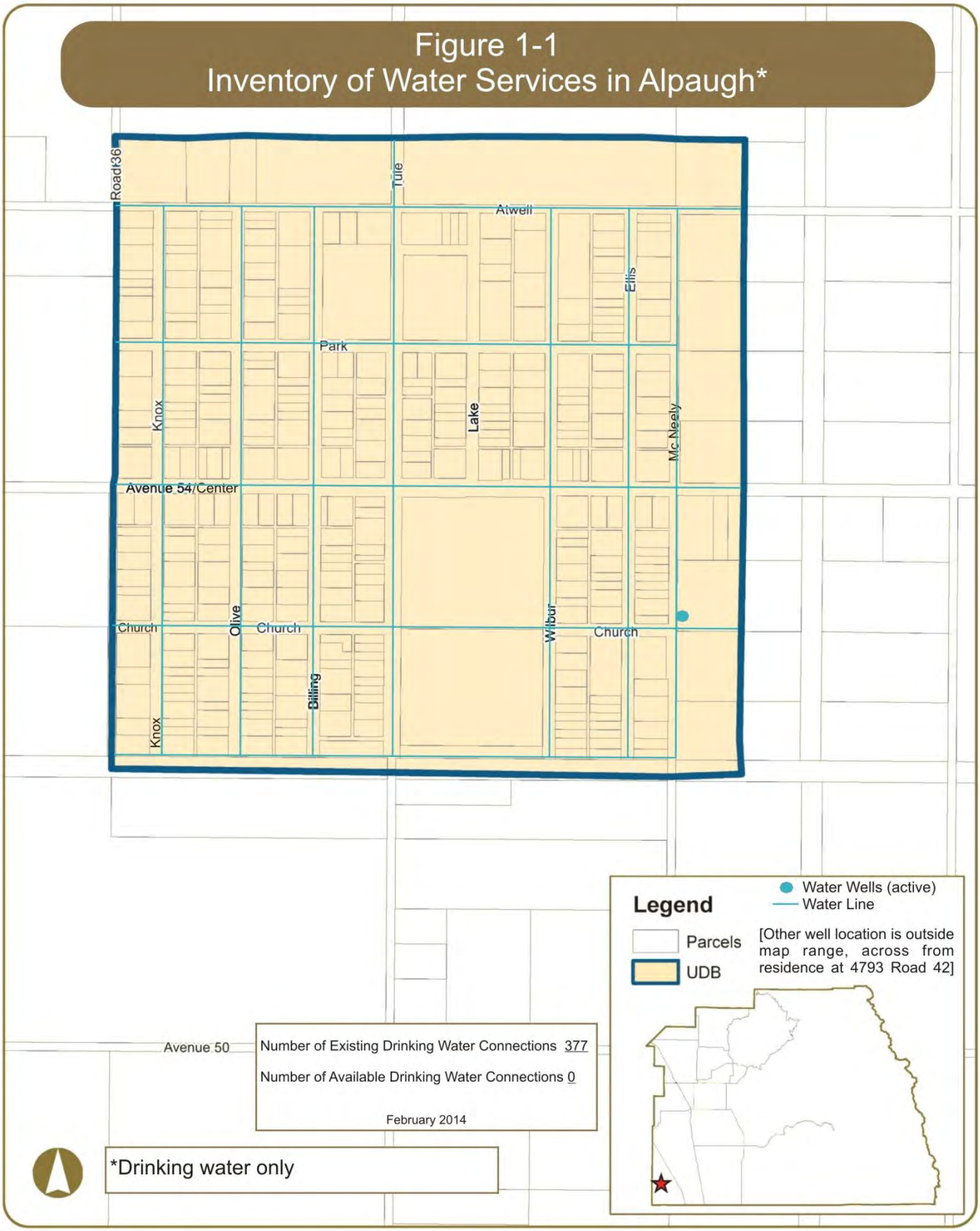


Figure 1-1
Inventory of Water Services in Alpaugh*
Road36
Tule
Atwell
Ellis
Park
Knox
Lake
Mc Neely
Avenue 54/Center
Church
Olive
Church
Wilbur
Church
Billing
Knox
Avenue 50
Number of Existing Drinking Water Connections 377
Number of Available Drinking Water Connections 0
February 2014
*Drinking water only
Legend
Water Wells (active)
Water Line
Parcels
UDB
[Other well location is outside map range, across from residence at 4793 Road 42]

1.4 Roads

There are various roadways in Alpaugh that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 1-2 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 1-2 graphically displays this information on a map.

TABLE 1-2

Roads in Need of Major and Medium Repair in Alpaugh

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Billing Road	Atwell Avenue to south end	CHIP
2	Center Street	Knox Road to Tule Road	GRX
3	Center Street	Tule Road to Wilbur Road	CHIP
4	Center Street	Wilbur Road to Mc Neely Road	GRX
5	Church Avenue	Knox Road to Tule Road	CHIP
6	Ellis Road	Church Avenue to Center Street	GRX
7	Ellis Road	Center Street to Park Avenue	CHIP
8	Knox Road	Atwell Avenue to south end	CHIP
9	Lake Road	Center Street to north end	CHIP
10	Mc Neely Road	Center Street to north end	CHIP

TABLE 1-2 (Continued)

Roads in Need of Major and Medium Repair in Alpaugh

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
11	Olive Road	Center Street to south end	GRX
12	Tule Road	Park Avenue to Atwell Avenue	GRX
13	Wilbur Road	Boswell Avenue to Center Street	CHIP
14	Wilbur Road	Center Street to Park Avenue	GRX

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

(Source: County of Tulare Public Works, 2012)

1.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are several ADA compliant curb ramps located within Alpaugh and are listed in Table 1-3 and displayed in Figure 1-2.

TABLE 1-3

Existing ADA Curb Ramps in Alpaugh

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
1	Center Street	Wilbur Road	NW Corner
2	Center Street	Tule Road	NE Corner

(Source: County of Tulare Public Works, August 2013)

1.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in clear width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 1-4 identifies the location of existing sidewalks in Alpaugh. Figure 1-2 also displays this information graphically. The sidewalks represented in Table 1-4 and Figure 1-2 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 1-4
Existing Sidewalks in Alpaugh

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
1	Center Street	Tule Road to 150' east	North side
2	Center Street	Tule Road to Wilbur Road	South side
3	Center Street	Lake Road to Wilbur Road	North side
4	Lake Road	Center Street to 100' north	East side
5	Park Avenue	Tule Road to 150' east	North side
6	Tule Road	Park Avenue to 150' north	East side
7	Tule Road	Center Street to 400' north	East side
8	Wilbur Road	Center Street to 150' north	West side
9	Wilbur Road	Center Street to 100' north of Boswell Avenue	West side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

1.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 1-5 identifies the location of existing street lights that are maintained by Tulare County, in Alpaugh,

as well as their specifications. Figure 1-2 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type "W" represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 1-5
Existing Street Lights in Alpaugh

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Atwell Street	Tule Road	South of Atwell (W side)	GTC1039233	5800	W	E	PG&E
2	Center Street	Billing Road	NW Corner	859	5800	W	S	PG&E
3	Center Street	Tule Road	NW Corner	857	5800	W	S	PG&E
4	Center Street	Lake Road	NE Corner	858	5800	W	S	PG&E
5	Center Street	Wilbur Road	NE Corner	861	5800	W	S	PG&E
6	Center Street	Ellis Road	NW Corner	866	5800	W	S	PG&E
7	Center Street	Mc Neely Road	NE Corner	862	5800	W	N	PG&E
8	Church Avenue	Billing Road	NW Corner	860	5800	W	E	PG&E
9	Church Avenue	Tule Road	NW Corner	855	5800	W	E	PG&E
10	Church Avenue	Wilbur Road	SE Corner	856	5800	W	N	PG&E
11	Park Avenue	Billing Road	NE Corner	865	5800	W	S	PG&E
12	Park Avenue	Tule Road	NW Corner	863	5800	W	E	PG&E

(Source: Tulare County Public Works, March 2013)

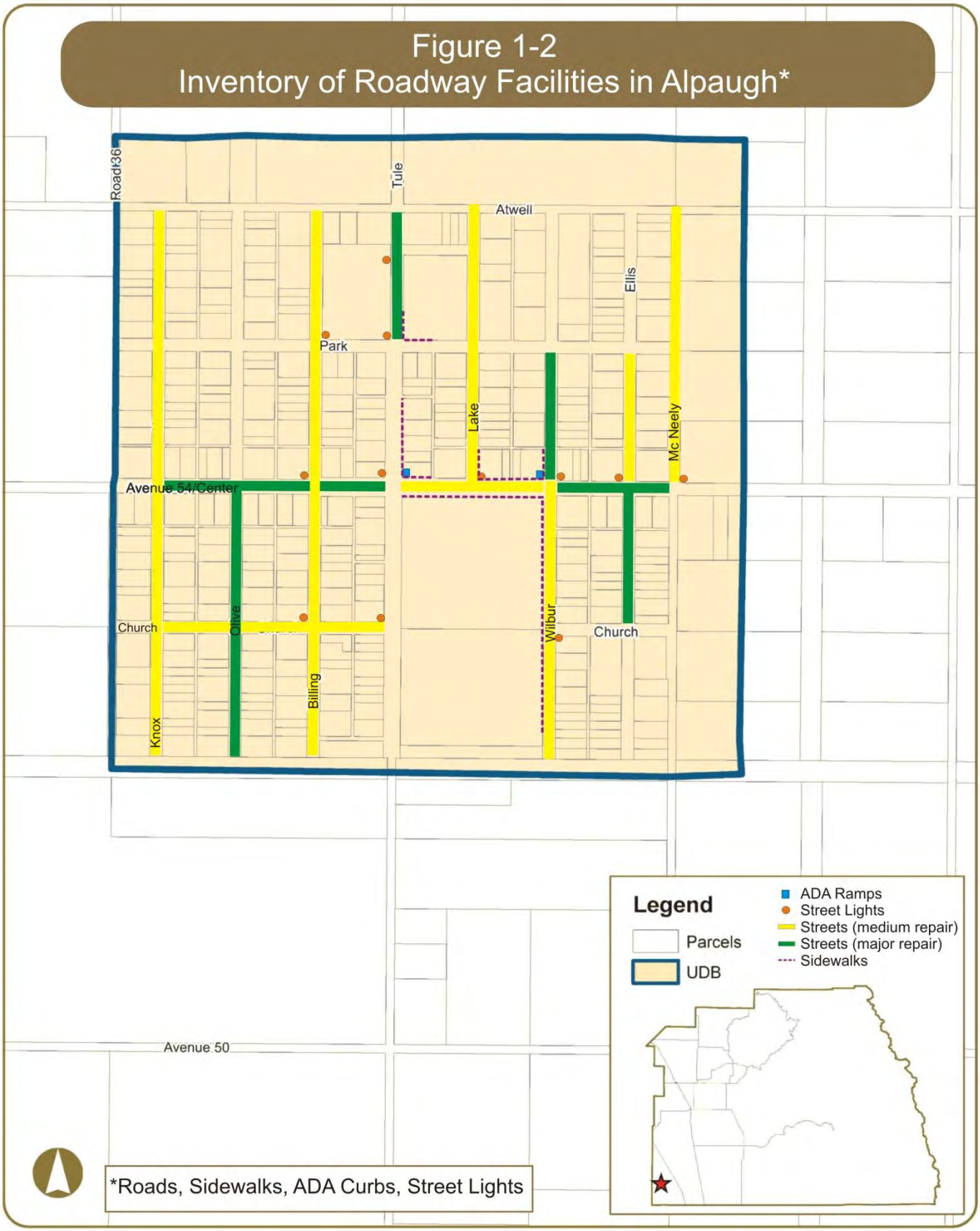


Figure 1-2
Inventory of Roadway Facilities in Alpaugh*
Road36
Tule
Atwell
Ellis
Park
Lake
Mc Neely
Avenue 54/Center
Church
Olive
Billing
Wilbur
Church
Knox
Avenue 50
Legend
Parcels
UDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, ADA Curbs, Street Lights

2. COMMUNITIES OF CUTLER AND OROSI

2.1 General Information

Cutler is a census-designated place located in the northwest portion of Tulare County. It is generally bounded by Avenue 402 in the south, Avenue 408 in the north, Road 120 in the west, and the Bowhay Ditch in the east and encompasses 0.8 square miles of land. It is directly served by State Route (SR) 63. Cutler is located south of and adjacent to the community of Orosi. Cutler is an agriculturally oriented service community surrounded on the south, west and east by lands in agricultural production, vacant lands, and scattered residential homes. Cities and communities surrounding Cutler include Visalia to the south, Dinuba to the west, the community of Orosi to the north, and the community of East Orosi to the northeast. The Tulare County/Fresno County Line is located approximately 3.3 miles northwest of Cutler.

Based on the 2010 Census, the population in Cutler was 5,000. Similar to other communities in Tulare County, the population of Cutler is racially diverse with 48% White, 1% African American, 1% Native American, 1% Asian/Pacific Islander, 45% from other races, and 3% from 2 or more races. 97% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 1,136 housing units located within Cutler, of which 44% are owner-occupied and 56% are renter-occupied.

Orosi is a census-designated place located in the northwest portion of Tulare County. It is generally bounded by Avenue 408 in the south, Alta East Branch Canal in the north, Road 120 in the west, and the Bowhay Ditch and Sand Creek in the east and encompasses 2.4 square miles of land. It is directly served by State Route (SR) 63. Orosi is located north of and adjacent to the community of Cutler. Orosi is an agriculturally oriented service community surrounded on the north, west and east by lands in agricultural production, vacant lands, and scattered residential homes.

Based on the 2010 Census, the population in Orosi was 8,770. Similar to other communities in Tulare County, the population of Orosi is racially diverse with 44% White, 1% African American, 1% Native American, 9% Asian/Pacific Islander, 42% from other races, and 4% from 2 or more races. 87% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 2,070 housing units located within Orosi, of which 56% are owner-occupied and 44% are renter-occupied.

2.2 Domestic Water & Wastewater

Domestic water and sanitary sewer service in Cutler and Orosi is provided by their respective Public Utilities Districts (PUDs), which were formed in June 1922. Their primary function is providing sanitary sewer and domestic water service for the communities. Table 2-1 shows the number of existing water and sewer connections, the capacity of each system, and the number of additional connections the systems can accommodate for new development (Housing Element, May 2012). These connections do not directly correspond to number of housing units but include the number of service connections, both residential and

commercial. Figure 2-1 graphically displays the approximate location of water wells and water lines. According to the Municipal Service Review 2006 (MSR), the Cutler PUD's water supply is derived from two existing deep underground wells that have a total maximum production efficiency of approximately 2,100 gallons per minute (GPM), or 3.024 million gallons per day (MGD). The PUD also has an elevated water storage tank with a capacity of approximately 50,000 gallons. Two test wells have been drilled, have proven successful, and the PUD has awarded a contract for drilling of the first (Well #8) of two new wells. The PUD is also securing funding for a water system rehabilitation project, and a blending tank project.

Water supplied from one of the new wells (Well #9) would be mixed with water derived from two existing wells (Wells #3 and #4) which are currently inactive due to high nitrate levels as a part of the blending tank project. By mixing the water supply from wells that produce acceptable water quality with those which have contaminant levels which exceed maximum levels, the PUD's water supply capabilities will be increased, while bringing the water quality to within acceptable standards before entering the distribution system.

Lovell High School, which is operated by the Cutler-Orosi Joint Unified School District, has requested water capacity from the Cutler PUD. The PUD plans to provide the school with water service pending the approval and implementation of the blending tank project. The school is located at the northwest quadrant of Avenue 392 and State Route 63, which is currently outside of the Cutler PUD boundary and sphere of influence (SOI). It is anticipated that the PUD would provide water service to the school on a contractual basis.

Assuming 1,100 equivalent dwelling units (EDUs), in order to meet Tulare County Improvement Standards the Cutler PUD water system would need to be capable of delivering a combined flow rate (from all source and storage facilities) of 2,700 GPM (1,500 GPM fire flow, and 1,200 GPM domestic demand) for a period of two hours while maintaining a minimum pressure of 25 pounds per square inch (PSI) to each lot served; The PUD's water system is capable of delivering a combined source flow of 2,515 GPM indicating that the system falls short of meeting the Tulare County Improvement Standards. EDUs include housing units and other types of connections such as commercial uses. After accounting for the required domestic demand, the PUD's water system would be capable of supplying a fire flow of approximately 1,315 GPM, which meets the residential fire flow requirement. The water system would need to be tested at actual system pressure to determine the actual amount of available capacity for domestic and fire flow. The PUD could increase its fire flow capacity by adding wells, or adding storage capacity to the system.

Based upon a calculation performed in accordance with General Order 103, published by the California Public Utilities Commission, it is concluded that the District's water system is currently operating at or near its capacity and cannot support additional connections at this time. The amount of developable land available, including the availability of infrastructure, are two factors that have limited community growth from occurring, including affordable housing objectives, and commercial enterprise. The PUD's plans to construct several upcoming water system improvement projects will significantly increase its ability to provide service to proposed development projects.

The PUD's water supply is derived from four existing deep underground wells that have a total maximum production efficiency of 2,930 GPM, or 4.22 MGD. The District also has a water storage tank with a capacity of approximately 750,000 gallons. A test well has been drilled, has proven successful, and the PUD has awarded a contract for the drilling of a new well (Well #10). The District also indicated a need to replace older asbestos cement distribution piping with larger diameter ductile iron piping, and that improvements will be on a phased basis and dependent upon available funding.

Assuming 1,800 EDUs, in order to meet Tulare County Improvement Standards the Orosi PUD water system would need to be capable of delivering a combined flow rate (from all source and storage facilities) of 3,400 GPM (1,500 GPM fire flow, and 1,900 GPM domestic demand) for a period of two hours while maintaining a minimum pressure of 25 PSI to each lot served; The PUD's water system is capable of delivering a combined source flow of approximately 8,660 GPM not including the well that pumps into the storage tank (approximately 6,250 GPM could be delivered for two hours from the 750,000 gallon storage tank, assuming the tank is full). The PUD's water system would need to be tested at actual system pressure to determine the actual amount of available capacity for domestic and fire flow.

Based upon a calculation performed in accordance with General Order 103, published by the California Public Utilities Commission, it is estimated that the PUD's water supply sources could support an additional 2,000 equivalent dwelling units. Special circumstances (i.e. distribution system pressure constraints) could significantly affect the available capacity, and a complete assessment should be completed by the District Engineer prior to the approval of additional connections.

The MSR states that both Cutler and Orosi PUD staff are working with Alta Irrigation District officials to study the feasibility of constructing a regional water treatment facility that would use water from the Kings River by exchange out of the Friant-Kern Canal. The regional facility would potentially provide domestic water to the City of Dinuba, Cutler, Orosi, and other unincorporated communities in the region. A feasibility study would be a three to five year process, and project implementation could be ten to fifteen years out.

Figure 2-2 graphically displays the approximate location of the sewer system and wastewater treatment plant. The Cutler PUD is currently allocated 1,255 equivalent dwelling units of capacity at the Cutler-Orosi Wastewater Treatment Facility (WWTF). The Orosi PUD is currently allocated 2,162 equivalent dwelling units of capacity at the WWTF. The Cuter and Orosi PUDs are currently under a building moratorium, and have waiting lists for additional sewer connections.

According to Cutler and Orosi PUD staff, the sanitary sewer collection system is very old and pipe leaks and breaks cause significant problems including groundwater inflow/infiltration and cross contamination with groundwater. The Orosi PUD is implementing a phased sewer collection system rehabilitation/replacement project, and has awarded a contract for the construction of the phase 1 improvements.

Treatment and disposal of the collected effluent is provided at the Cutler-Orosi WWTF, jointly owned and operated by the Cutler PUD and Orosi PUD. The Cutler-Orosi WWTF serves the communities of Cutler, Orosi, East Orosi, Yettem, Seville, and Sultana. It operates under the provisions of Waste Discharge Requirements (WDR) Order No. 97-106, issued by the California Regional Water Quality Control Board (RWQCB). The average dry weather flow at the WWTF is approximately 1.40 MGD, with a historical high flow of 1.89 MGD. Flow at the WWTF is greater during winter months than in summer months due to inflow/infiltration of storm water into the collection system during winter months, and ex-filtration during dry summer months. The PUDs will be able to more accurately predict the remaining capacity at the WWTF once repairs are made to leaking pipes throughout the collection system.

The Cutler PUD and Orosi PUD are working with Tulare County to secure funding that will be used to correct deficiencies that would increase the capacity of the WWTF. Proposed improvements will modernize the facility and add capacity to bring the serviceable operational limits to 2.4 MGD.

TABLE 2-1

Existing Water & Wastewater Connections in Cutler-Orosi

Description of Existing Infrastructure						
Community	Drinking Water*			Waste Water *		
	No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
Cutler	1,032	1,032	0	1,255	1,255	0
Orosi	1,788	3,788	2,000	2,162	2,162	0

* Data current as of May 2012

2.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Table 2-2 identifies the location of drainage inlets and sumps in Cutler and Orosi. Figure 2-1 also displays this information graphically.

TABLE 2-2
Existing Storm Drainage Facilities in Cutler-Orosi

Location of Existing Storm Drainage Facilities			
No.	**East-West Roadway**	**North-South Roadway**	**Type**
1	1st Drive	Road 124	Inlet
2	1st Drive	Topeka Drive	Inlet
3	1st Drive	Santa Fe Drive	Inlet
4	1st Drive	Cutler Drive	Inlet
5	1st Drive	Orosi Drive	Inlet
6	1st Drive	Road 128	Inlet
7	2nd Drive	Eddy Avenue	Inlet
8	2nd Drive	Road 128	Inlet
9	Amethyst Avenue	Lincoln Road	Inlet
10	Amethyst Avenue	George Road	Inlet
11	Amethyst Avenue	Eddy Avenue	Inlet
12	Avenue 404	Road 128	Inlet
13	Avenue 404	Mueller Road	Inlet
14	Avenue 404	Road 130	Inlet
15	Avenue 406	Eddy Avenue	Inlet
16	Avenue 406	Alta Drive	Inlet
17	Avenue 407	Road 124	Inlet
18	Avenue 413	David Road	Sump
19	Avenue 413	Road 127	Inlet
20	Avenue 413	East of Road 128	Inlet
21	Avenue 414	David Road	Sump
22	Avenue 414	Road 127	Sump
23	Avenue 414	East of Road 128	Inlet
24	Avenue 414	Road 128	Inlet
25	Avenue 414	Sand Creek	Inlet
26	Avenue 414	Road 130	Inlet
27	Avenue 415	East of Road 128	Inlet
28	Avenue 416	Road 124	Inlet
29	Avenue 416	Road 125	Inlet
30	Avenue 416	David Road	Inlet
31	Avenue 416	Road 126	Inlet
32	Avenue 416	Eddy Road	Inlet
33	Avenue 416	Claude Road	Inlet
34	Avenue 416	Road 130	Inlet
35	Avenue 417	Claude Road	Sump

TABLE 2-2 (Continued)
Existing Storm Drainage Facilities in Cutler-Orosi

Location of Existing Storm Drainage Facilities			
No.	**East-West Roadway**	**North-South Roadway**	**Type**
36	Avenue 419	Between Ralph Rd and Road 130	Sump
37	Cannon Avenue	East of Road 130	Inlet
38	Dawson Avenue	East of Road 128	Inlet
39	Ella Avenue	David Road	Sump
40	Ella Avenue	East of Road 128	Inlet
41	Ella Avenue	Road 130	Inlet
42	Emerald Avenue	Road 127	Inlet
43	Ira Avenue	West end	Sump
44	Luxor Avenue	Road 124	Inlet
45	Miller Avenue	Road 125	Sump
46	Miller Avenue	Eddy Road	Sump
47	Miller Avenue	Claude Road	Sump
48	Railroad Drive	Road 124	Inlet
49	Railroad Drive	Topeka Drive	Sump
50	Railroad Drive	Santa Fe Drive	Sump
51	Railroad Drive	Between Santa Fe Drive and Cutler Drive	Inlet
52	Railroad Drive	Cutler Drive	Sump
53	Railroad Drive	Orosi Drive	Sump
54	Risley Avenue	Road 124	Inlet
55	Risley Avenue	East of Road 128	Inlet
56	Rosalie Avenue	Road 130	Inlet
57	Rosalie Avenue	Nancy Road	Inlet
58	Sierra Avenue	Road 128	Inlet
59	South of Avenue 408	Lincoln Road	Inlet
60	South of Avenue 408	Topeka Road	Inlet
61	Walnut Avenue	Road 128	Sump

(Source: County of Tulare Public Works, 2014)

Figure 2-1
Inventory of Water Services in Cutler-Orosi*

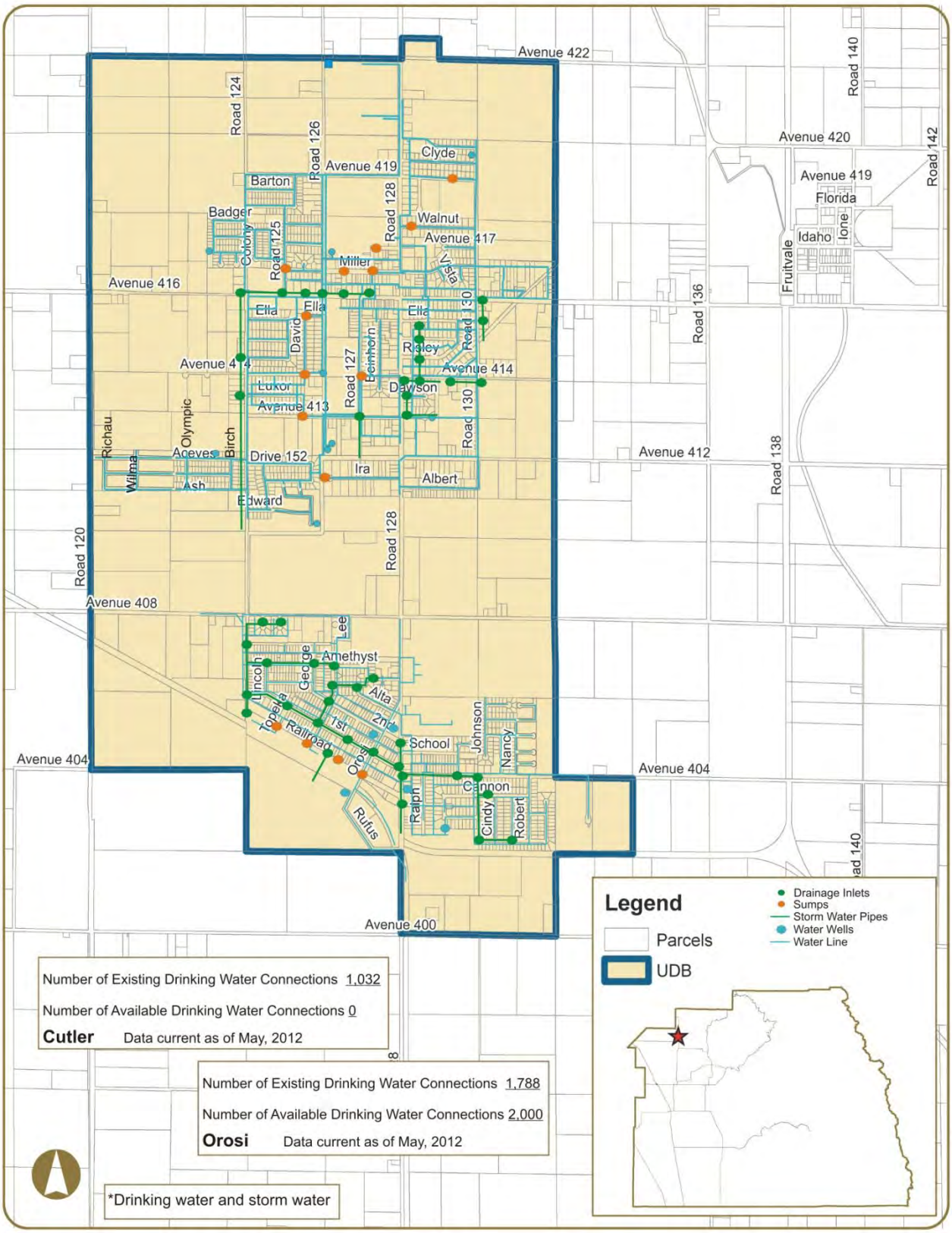
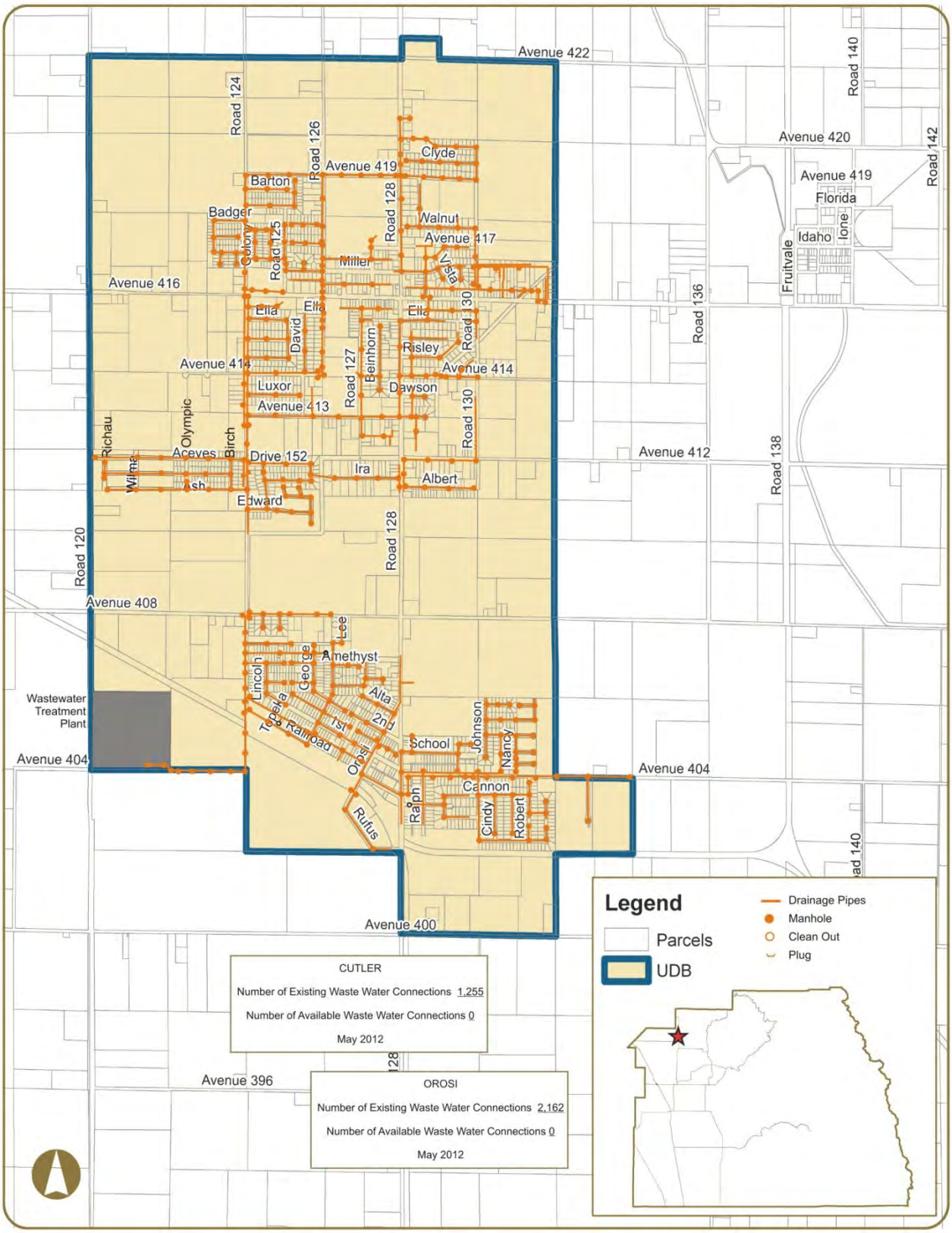


Figure 2-2
Inventory of Sewer Services in Cutler-Orosi



2.4 Roads

There are various roadways in Cutler and Orosi that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 2-3 lists the roadways in need of repair, the limits, and type of maintenance strategy expected. Figure 2-3 graphically displays this information on a map.

TABLE 2-3

Roads in Need of Major and Medium Repair in Cutler-Orosi

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Aceves Avenue	Road 124 to David Road	OLAY
2	Albert Avenue	Road 128 to Road 130	CHIP
3	Albert Avenue	Frances Road to David Road	CHIP
4	Alta Drive	Orosi Drive to Avenue 406	CHIP
5	Amethyst Avenue	Road 124 to George Road	CHIP
6	Amethyst Avenue	Eddy Road to Road 127	CHIP
7	Avenue 403	Robert Road to Dianna Road	OLAY
8	Avenue 404	Road 128 to Cindy Road	GRX
9	Avenue 404	Cindy Road to Nancy Road	OLAY
10	Avenue 404	Nancy Road to Robert Road	GRX

TABLE 2-3 (Continued)

Roads in Need of Major and Medium Repair in Cutler-Orosi

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
11	Avenue 406	Lincoln Road to George Road	CHIP
12	Avenue 406	Eddy Road to Road 127	CHIP
13	Avenue 408	Topeka Road to Lee Road	GRX
14	Avenue 413	Road 124 to Road 128	CHIP
15	Avenue 413	Road 128 to East end	OLAY
16	Avenue 414	Road 127 to Beinhorn Road	CHIP
17	Avenue 415	Road 124 to Elrod Road	OLAY
18	Avenue 415	Road 128 to Mueller Road	CHIP
19	Avenue 417	Road 130 to West end	CHIP
20	Avenue 419	Road 128 to Road 130	CHIP
21	Badger Avenue	Wilsonia Avenue to Road 124	CHIP
22	Barton Avenue	Road 124 to Van Tassel Road	CHIP
23	Beinhorn Road	Avenue 414 to South end	OLAY
24	Beinhorn Road	Avenue 414 to Ella Avenue	CHIP
25	Buena Vista Avenue	Colony Street to Road 125	CHIP
26	Cindy Road	Rosalie Avenue to Cannon Avenue	OLAY
27	Cindy Road	Avenue 404 to Merlo Avenue	CHIP
28	Clyde Avenue	Road 128 to Road 130	OLAY
29	David Road	Albert Avenue to Aceves Avenue	CHIP
30	Dawson Avenue	Road 128 to East end	CHIP
31	Dennison Avenue	Road 124 to Stewart Street	CHIP
32	Dianna Road	Rosalie Avenue to North end	OLAY
33	Eddy Road	Santa Fe Drive to Avenue 407	CHIP
34	Edward Avenue	Road 124 to David Road	OLAY
35	El Monte Way	Road 128 to Road 130	CHIP
36	El Monte Way	Road 130 to Road 136	OLAY
37	El Monte Way	Elrod Road to Road 126	GRX
38	Ella Avenue	Road 124 to Elrod Road	OLAY
39	Ella Avenue	David Road to George Road	CHIP
40	Ella Avenue	Road 127 to Road 128	GRX
41	Ella Avenue	Road 128 to Road 130	CHIP
42	Elrod Road	Risley Avenue to Ella Avenue	CHIP
43	First Drive	Road 128 to Santa Fe Drive	CHIP
44	George Road	Second Street to Avenue 407	CHIP
45	Johnston Road	South end (Merlo Avenue) to North end (Quinto Court)	CHIP
46	Lincoln Road	First Drive to Amethyst Avenue	CHIP
47	Merlo Avenue	Johnston Road to Nancy Road	CHIP
48	Miller Avenue	Road 126 to Road 128	CHIP
49	Miller Avenue	Ralph Road to Road 130	CHIP
50	Mueller Road	School Avenue to North end	CHIP

TABLE 2-3 (Continued)

Roads in Need of Major and Medium Repair in Cutler-Orosi

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
51	Mueller Road	Avenue 415 to Ella Avenue	CHIP
52	Nancy Road	Rosalie Avenue to Cannon Avenue	OLAY
53	Nancy Road	Avenue 404 to Virgil Avenue	CHIP
54	Orosi Drive	Railroad Drive to Road 128	CHIP
55	Pacifica Court	Miller Avenue to South end	CHIP
56	Quinto Court	Johnston Road to East end	CHIP
57	Railroad Drive	Road 124 to Road 128	CHIP
58	Ralph Road	Avenue 404 to South end	CHIP
59	Ralph Road	Ella Avenue to El Monte Way	CHIP
60	Ralph Road	Avenue 419 to South end	OLAY
61	Risley Road	Road 124 to Elrod Road	CHIP
62	Road 124	Edward Avenue to Aceves Avenue	CHIP
63	Road 124	Luxor Avenue to El Monte Way	CHIP
64	Road 126	Avenue 414 to Ella Avenue	GRX
65	Road 127	Avenue 406 to North end	CHIP
66	Road 127	Avenue 413 to Avenue 414	CHIP
67	Road 130	Albert Avenue to Avenue 414	CHIP
68	Road 130	Avenue 414 to El Monte Way	GRX
69	Road 130	Walnut Avenue to North end	CHIP
70	Robert Road	Rosalie Avenue to Avenue 404	OLAY
71	Rosalie Avenue	Road 130 to Dianna Road	CHIP
72	Rufus Drive	Road 128 to Orosi Drive	CHIP
73	Santa Fe Drive	Railroad Drive to Second Drive	CHIP
74	School Avenue	Road 128 to Mueller Road	GRX
75	Sequoia Avenue	Wilsonia Avenue to Road 124	CHIP
76	Short Avenue	Road 124 to Lincoln Road	GRX
77	Sierra Avenue	Road 128 to Road 129	CHIP
78	Stewart Street	Buena Vista Avenue to Dennison Avenue	CHIP
79	Tactacan Avenue	Road 130 to West end	CHIP
80	Topeka Drive	Railroad Drive to First Drive	CHIP
81	Twin Peaks Court	Wilsonia Avenue to East end	CHIP
82	Van Tassel Road	Whitaker Avenue to Avenue 419	CHIP
83	Virgil Avenue	Johnston Road to Nancy Road	CHIP
84	Walnut Avenue	Elrod Road to Road 126	GRX
85	Whitaker Avenue	Road 124 to Van Tassel Road	CHIP
86	Wilma Street	Ash Avenue to North end	CHIP
87	Wilsonia Avenue	Sequoia Avenue to Badger Avenue	CHIP

(Source: County of Tulare Public Works, 2012)

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

2.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are various ADA compliant curb ramps located within Cutler and Orosi and are listed in Table 2-4 and displayed in Figure 2-3.

TABLE 2-4

Existing ADA Curb Ramps in Cutler-Orosi

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
1	1st Drive	Santa Fe Drive	NW Corner
2	1st Drive	Santa Fe Drive	SW Corner
3	1st Drive	Cutler Drive	SW Corner
4	1st Drive	Orosi Drive	NE Corner
5	1st Drive	Orosi Drive	NW Corner
6	Aceves Avenue	Road 120	NE Corner
7	Aceves Avenue	Road 120	SE Corner
8	Aceves Avenue	Richau Street	SE Corner
9	Aceves Avenue	Richau Street	SW Corner
10	Aceves Avenue	Wilma Road	NE Corner
11	Aceves Avenue	Wilma Road	NW Corner
12	Aceves Avenue	Wilma Road	SE Corner
13	Aceves Avenue	Wilma Road	SW Corner
14	Aceves Avenue	Olympic Street	NE Corner
15	Aceves Avenue	Olympic Street	NW Corner
16	Aceves Avenue	Olympic Street	SE Corner
17	Aceves Avenue	Olympic Street	SW Corner
18	Aceves Avenue	Birch Road	SE Corner
19	Aceves Avenue	Birch Road	SW Corner
20	Aceves Avenue	Road 124	NW Corner
21	Aceves Avenue	Road 124	SW Corner
22	Aceves Avenue	Road 124	NE Corner
23	Aceves Avenue	Road 124	SE Corner
24	Aceves Avenue	Frances Road	SE Corner
25	Aceves Avenue	Frances Road	SW Corner

TABLE 2-4 (Continued)
Existing ADA Curb Ramps in Cutler-Orosi

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
26	Aceves Avenue	David Road	SW Corner
27	Albert Avenue	Richau Street	NE Corner
28	Albert Avenue	Richau Street	SE Corner
29	Albert Avenue	Wilma Road	SW Corner
30	Albert Avenue	Wilma Road	NE Corner
31	Albert Avenue	Wilma Road	SE Corner
32	Albert Avenue	Olympic Street	NE Corner
33	Albert Avenue	Olympic Street	NW Corner
34	Albert Avenue	Olympic Street	SE Corner
35	Albert Avenue	Olympic Street	SW Corner
36	Albert Avenue	Birch Road	NW Corner
37	Albert Avenue	Birch Road	SW Corner
38	Albert Avenue	Frances Road	SE Corner
39	Alta Drive	Orosi Drive	NW Corner
40	Alta Drive	Orosi Drive	SW Corner
41	Amethyst Avenue	Eddy Avenue	SE Corner
42	Amethyst Avenue	George Road	SW Corner
43	Antonia Avenue	Nancy Road	NE Corner
44	Antonia Avenue	Nancy Road	SE Corner
45	Ash Avenue	Richau Street	NE Corner
46	Ash Avenue	Wilma Road	NE Corner
47	Ash Avenue	Wilma Road	NW Corner
48	Ash Avenue	Olympic Street	NE Corner
49	Ash Avenue	Olympic Street	NW Corner
50	Ash Avenue	Birch Road	NE Corner
51	Ash Avenue	Birch Road	NW Corner
52	Ash Avenue	Road 124	NW Corner
53	Ash Avenue	Rancho Court	NE Corner
54	Ash Avenue	Central Drive	NE Corner
55	Ash Avenue	Central Drive	NW Corner
56	Ash Avenue	David Road	SW Corner
57	Avenue 404	Mueller Road	NW Corner
58	Avenue 404	Cindy Road	NE Corner
59	Avenue 404	Cindy Road	NW Corner
60	Avenue 404	Nancy Road	NE Corner

TABLE 2-4 (Continued)
Existing ADA Curb Ramps in Cutler-Orosi

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
61	Avenue 404	Nancy Road	NW Corner
62	Avenue 404	Robert Road	SE Corner
63	Avenue 404	Robert Road	SW Corner
64	Avenue 406	Eddy Avenue	SE Corner
65	Avenue 408	Villa de Guadalupe	NE Corner
66	Avenue 408	Villa de Guadalupe	NW Corner
67	Avenue 413	Road 124	SE Corner
68	Avenue 413	David Road	NE Corner
69	Avenue 413	Road 127	NE Corner
70	Avenue 413	Road 127	NW Corner
71	Avenue 413	Sequoia View Apts.	NE Corner
72	Avenue 413	Sequoia View Apts.	NW Corner
73	Avenue 414	David Road	SE Corner
74	Avenue 414	David Road	SW Corner
75	Avenue 414	Beinhorn Road	SW Corner
76	Avenue 414	Beinhorn Road	NE Corner
77	Avenue 414	Beinhorn Road	SE Corner
78	Avenue 414	Road 130	SW Corner
79	Avenue 415	Road 124	NW Corner
80	Avenue 415	Elrod Road	NW Corner
81	Avenue 416	Road 124	NE Corner
82	Avenue 416	Road 124	NW Corner
83	Avenue 416	Road 124	SE Corner
84	Avenue 416	Road 124	SW Corner
85	Avenue 416	Road 125	NW Corner
86	Avenue 416	David Road	SE Corner
87	Avenue 416	David Road	SW Corner
88	Avenue 416	Road 126	NE Corner
89	Avenue 416	Road 126	NW Corner
90	Avenue 416	Eddy Road	NE Corner
91	Avenue 416	Eddy Road	NW Corner
92	Avenue 416	Road 127	SE Corner
93	Avenue 416	Road 127	SW Corner
94	Avenue 419	Road 124	SE Corner
95	Avenue 419	Van Tassel Road	SW Corner

TABLE 2-4 (Continued)
Existing ADA Curb Ramps in Cutler-Orosi

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
96	Avenue 419	Van Tassel Road	SE Corner
97	Avenue 419	Road 126	NE Corner
98	Avenue 419	Road 126	SE Corner
99	Avenue 419	Ralph Road	SW Corner
100	Avenue 419	Road 130	SW Corner
101	Avenue 422	Road 126	SE Corner
102	Badger Avenue	Wilsonia Avenue	SE Corner
103	Badger Avenue	Road 124	NW Corner
104	Badger Avenue	Road 124	SW Corner
105	Barton Avenue	Road 124	NE Corner
106	Barton Avenue	Road 124	SE Corner
107	Barton Avenue	Van Tassel Road	NW Corner
108	Barton Avenue	Van Tassel Road	SW Corner
109	Buenna Vista Avenue	Colony Street	NE Corner
110	Buenna Vista Avenue	Stewart Street	NE Corner
111	Buenna Vista Avenue	Stewart Street	NW Corner
112	Buenna Vista Avenue	Road 125	NW Corner
113	Buenna Vista Avenue	Road 125	SW Corner
114	Cannon Avenue	Road 130	NE Corner
115	Cannon Avenue	Road 130	SE Corner
116	Cannon Avenue	Cindy Road	SE Corner
117	Cannon Avenue	Cindy Road	SW Corner
118	Cannon Avenue	Nancy Road	SE Corner
119	Cannon Avenue	Nancy Road	SW Corner
120	Cannon Avenue	Robert Road	NW Corner
121	Cannon Avenue	Robert Road	SW Corner
122	Dennison Drive	Road 124	NE Corner
123	Dennison Drive	Road 124	SE Corner
124	Dennison Drive	Colony Street	SE Corner
125	Dennison Drive	Colony Street	SW Corner
126	Dennison Drive	Stewart Street	SW Corner
127	Edward Avenue	David Road	NW Corner
128	Edward Avenue	David Road	SW Corner
129	Ella Avenue	David Road	SE Corner
130	Ella Avenue	Beinhorn Road	SE Corner

TABLE 2-4 (Continued)
Existing ADA Curb Ramps in Cutler-Orosi

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
131	Emerald Avenue	Pearl Road	SE Corner
132	Emerald Avenue	Pearl Road	SW Corner
133	Kahlo Court	Nancy Road	NE Corner
134	Kahlo Court	Nancy Road	SE Corner
135	Luxor Avenue	David Road	NW Corner
136	Merlo Avenue	Nancy Road	NE Corner
137	Merlo Avenue	Nancy Road	SE Corner
138	Merlo Avenue	Johnston Road	NE Corner
139	Merlo Avenue	Johnston Road	SE Corner
140	Merlo Avenue	Cindy Road	SE Corner
141	Merlo Avenue	Cindy Road	SW Corner
142	Merlo Avenue	Nancy Road	NW Corner
143	Merlo Avenue	Nancy Road	SW Corner
144	Miller Avenue	Road 130	NW Corner
145	Miller Avenue	Road 130	SW Corner
146	Miller Avenue	Pacifica Court	SW Corner
147	Miller Avenue	Pacifica Court	SE Corner
148	Miller Avenue	Vista Court	SE Corner
149	Miller Avenue	Vista Court	SW Corner
150	Miller Avenue	Ralph Road	SE Corner
151	Quinto Court	Johnston Road	NE Corner
152	Quinto Court	Johnston Road	SE Corner
153	Railroad Drive	Cutler Drive	NE Corner
154	Railroad Drive	Cutler Drive	NW Corner
155	Rivera Court	Robert Road	NW Corner
156	Rivera Court	Robert Road	SW Corner
157	Rosalie Avenue	Road 130	NE Corner
158	Rosalie Avenue	Cindy Road	NE Corner
159	Rosalie Avenue	Cindy Road	NW Corner
160	Rosalie Avenue	Nancy Road	NE Corner
161	Rosalie Avenue	Nancy Road	NW Corner
162	Rosalie Avenue	Robert Road	NE Corner
163	Rosalie Avenue	Robert Road	NW Corner
164	Rosalie Avenue	Dianna Road	NW Corner
165	Sequoia Avenue	Granite Court	SW Corner

TABLE 2-4 (Continued)
Existing ADA Curb Ramps in Cutler-Orosi

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
166	Sequoia Avenue	Paradise Court	SW Corner
167	Sequoia Avenue	Wilsonia Avenue	NE Corner
168	Sequoia Avenue	Road 124	NW Corner
169	Sierra Avenue	Robert Road	NE Corner
170	Sierra Avenue	Robert Road	NW Corner
171	Sierra Avenue	Robert Road	SE Corner
172	Sierra Avenue	Robert Road	SW Corner
173	Tactacan Avenue	Road 130	NW Corner
174	Tactacan Avenue	Road 130	SW Corner
175	Twin Peaks Avenue	Wilsonia Avenue	NE Corner
176	Twin Peaks Avenue	Wilsonia Avenue	SE Corner
177	Virgil Avenue	Johnston Road	NE Corner
178	Virgil Avenue	Johnston Road	SE Corner
179	Virgil Avenue	Nancy Road	SE Corner
180	Virgil Avenue	Nancy Road	SW Corner
181	Virgil Avenue	Robert Road	NW Corner
182	Whittaker Avenue	Road 124	NE Corner
183	Whittaker Avenue	Road 124	SE Corner
184	Whittaker Avenue	Road 125	SE Corner
185	Whittaker Avenue	Road 125	SW Corner
186	Whittaker Avenue	Van Tassel Road	NW Corner

(Source: County of Tulare Public Works, August 2013)

2.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Communities. Table 2-5 identifies the location of existing sidewalks in Cutler and Orosi. Figure 2-3 also displays this information graphically. The sidewalks represented in Table 2-5 and Figure 2-3 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 2-5

Existing Sidewalks in Cutler-Orosi

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
1	1st Drive	Lincoln Road to Cutler Drive	North side
2	1st Drive	150' east of Cutler Drive to 150' east of Orosi Drive	North side
3	1st Drive	Lincoln Road to Topeka Drive	South side
4	1st Drive	175' east of Topeka Drive to Santa Fe Drive	South side
5	1st Drive	75' east of Santa Fe Drive to Cutler Drive	South side
6	1st Drive	150' east of Cutler Drive to Road 128	South side
7	2nd Drive	175' east of Santa Fe Drive to Road 128	North side
8	2nd Drive	225' east of Santa Fe Drive to 150' east of Cutler Drive	South side
9	2nd Drive	Road 128 to 250' west	South side
10	Aceves Avenue	Road 120 to David Road	North side
11	Aceves Avenue	Road 120 to David Road	South side
12	Albert Avenue	Richau Street to Birch Road	North side
13	Albert Avenue	Richau Street to Birch Road	South side
14	Albert Avenue	Rancho Court to David Road	North side
15	Albert Avenue	Central Drive to David Road	South side
16	Alta Drive	250' west of Orosi Drive to 250' west	North side
17	Amethyst Avenue	150' west of Lincoln Road to 300' east of Lincoln Road	North side
18	Amethyst Avenue	George Road to 375' west	South side
19	Amethyst Avenue	Eddy Avenue to 475' east	North side
20	Antonia Avenue	Nancy Road to east end	North side
21	Antonia Avenue	Nancy Road to east end	South side
22	Ash Avenue	Richau Street to Road 124	North side
23	Ash Avenue	Rancho Court to David Road	North side
24	Ash Avenue	Rancho Court to David Road	South side
25	Avenue 403	Ralph Road to 175' west	North side
26	Avenue 404	Road 128 to Robert Road	North side
27	Avenue 404	175' east of Ralph Road to Mueller Road	South side
28	Avenue 404	Road 130 to Robert Road	South side
29	Avenue 406	George Road to 275' west	North side
30	Avenue 408	Topeka Road to 450' east of Villa de Guadalupe	North side
31	Avenue 413	Road 127 to Road 128	North side
32	Avenue 413	Road 128 to east end	South side
33	Avenue 414	Road 124 to David Road	South side
34	Avenue 414	Road 127 to Beinhorn Road	North side
35	Avenue 414	Road 127 to Beinhorn Road	South side

TABLE 2-5 (Continued)
Existing Sidewalks in Cutler-Orosi

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
36	Avenue 415	Road 124 to Elrod Road	North side
37	Avenue 415	Road 124 to Elrod Road	South side
38	Avenue 415	Mueller Road to 300' west	South side
39	Avenue 416	650' west of Road 124 to Road 124	North side
40	Avenue 416	Road 125 to Ella Avenue	North side
41	Avenue 416	Road 126 to Road 130	North side
42	Avenue 416	225' west of Road 124 to Road 128	South side
43	Avenue 417	Road 130 to west end	North side
44	Avenue 417	Road 130 to west end	South side
45	Avenue 419	Road 124 to Road 130	South side
46	Avenue 419	Ralph Road to Road 130	North side
47	Avenue 422	Road 126 to Road 128	South side
48	Badger Avenue	Wilsonia Avenue to Road 124	North side
49	Badger Avenue	Wilsonia Avenue to Road 124	South side
50	Barton Avenue	Road 124 to Van Tassel Road	North side
51	Barton Avenue	Road 124 to Van Tassel Road	South side
52	Beinhorn Road	South end to 575' north of Avenue 414	West side
53	Beinhorn Road	South end to 125' north of Avenue 414	East side
54	Beinhorn Road	Ella Avenue to 600' south	East side
55	Birch Road	Ash Avenue to Aceves Avenue	East side
56	Birch Road	Ash Avenue to Aceves Avenue	West side
57	Buenna Vista Avenue	Road 124 to Road 125	North side
58	Buenna Vista Avenue	Road 124 to Road 125	South side
59	Cannon Avenue	Sierra Avenue to Robert Road	North side
60	Cannon Avenue	Sierra Avenue to Robert Road	South side
61	Central Drive	Albert Avenue to Ash Avenue	East side
62	Central Drive	Albert Avenue to Ash Avenue	West side
63	Cindy Road	Cannon Avenue to Rosalie Avenue	East side
64	Cindy Road	Cannon Avenue to Rosalie Avenue	West side
65	Cindy Road	Avenue 404 to Merlo Avenue	West side
66	Clyde Avenue	Road 128 to Road 130	North side
67	Clyde Avenue	Road 128 to Road 130	South side
68	Colony Street	Dennison Drive to Buenna Vista Avenue	East side
69	Colony Street	Dennison Drive to Buenna Vista Avenue	West side
70	Cutler Drive	Railroad Drive to 2nd Drive	West side
71	Cutler Drive	2nd Drive to 200' south	East side
72	David Road	Aceves Avenue to Albert Avenue	East side
73	David Road	Ash Avenue to south end	East side
74	David Road	Ash Avenue to south end	West side
75	David Road	Avenue 414 to Luxor Avenue	West side

TABLE 2-5 (Continued)
Existing Sidewalks in Cutler-Orosi

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
76	David Road	Avenue 416 to 200' south	East side
77	David Road	Avenue 416 to 200' south	West side
78	Dennison Drive	Road 124 to Stewart Street	North side
79	Dennison Drive	Road 124 to Stewart Street	South side
80	Dianna Road	Rosalie Avenue to north end	East side
81	Dianna Road	Rosalie Avenue to north end	West side
82	Eddy Avenue	Amethyst Avenue to 200' south	East side
83	Eddy Avenue	Amethyst Avenue to 175' north	West side
84	Eddy Road	Miller Avenue to Avenue 416	East side
85	Eddy Road	Miller Avenue to Avenue 416	West side
86	Edward Avenue	Road 124 to David Road	South side
87	Edward Avenue	Frances Road to David Road	North side
88	Ella Avenue	Road 124 to Elrod Road	North side
89	Ella Avenue	Road 124 to Elrod Road	South side
90	Ella Avenue	Beinhorn Road to Road 128	South side
91	Elrod Road	Ella Avenue to Risley Avenue	East side
92	Elrod Road	Ella Avenue to Risley Avenue	West side
93	Emerald Avenue	Road 127 to Road 128	South side
94	Frances Road	Aceves Avenue to Edward Avenue	East side
95	Frances Road	Aceves Avenue to Edward Avenue	West side
96	George Road	Amethyst Avenue to Avenue 406	West side
97	Granite Court	Sequoia Avenue to south end	East side
98	Granite Court	Sequoia Avenue to south end	West side
99	Johnston Road	North of Quinto Court to south end	East side
100	Kahlo Court	Nancy Road to east end	North side
101	Kahlo Court	Nancy Road to east end	South side
102	Lincoln Road	Short Avenue to 400' north	West side
103	Lincoln Road	Short Avenue to 300' north	East side
104	Luxor Avenue	Road 124 to David Road	North side
105	Merlo Avenue	Johnston Road to east end	North side
106	Merlo Avenue	Johnston Road to east end	South side
107	Miller Avenue	Road 126 to Claude Road	North side
108	Miller Avenue	Road 126 to Road 128	South side
109	Miller Avenue	Ralph Road to Road 130	North side
110	Miller Avenue	Ralph Road to Road 130	South side
111	Mueller Road	Avenue 404 to 175' north	West side
112	Nancy Road	Cannon Avenue to Rosalie Avenue	East side
113	Nancy Road	Cannon Avenue to Rosalie Avenue	West side
114	Nancy Road	Avenue 404 to Virgil Avenue	West side
115	Nancy Road	Avenue 404 to Virgil Avenue	East side

TABLE 2-5 (Continued)
Existing Sidewalks in Cutler-Orosi

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
116	Olympic Street	Ash Avenue to north of Aceves Avenue	East side
117	Olympic Street	Ash Avenue to north of Aceves Avenue	West side
118	Orosi Drive	2nd Drive to Road 128	East side
119	Orosi Drive	2nd Drive to Road 128	West side
120	Orosi Drive	1st Drive to 200' north	West side
121	Orosi Drive	1st Drive to 200' north	East side
122	Orosi Drive	Railroad Drive to 200' north	East side
123	Pacifica Court	Miller Avenue to south end	East side
124	Pacifica Court	Miller Avenue to south end	West side
125	Paradise Court	Sequoia Avenue to south end	East side
126	Paradise Court	Sequoia Avenue to south end	West side
127	Quinto Court	Johnston Road to east end	North side
128	Quinto Court	Johnston Road to east end	South side
129	Railroad Drive	Road 124 to Topeka Drive	North side
130	Railroad Drive	225' east of Santa Fe Drive to Cutler Drive	North side
131	Railroad Drive	Orosi Drive to Road 128	North side
132	Ralph Road	Avenue 419 to 300' south	East side
133	Ralph Road	Avenue 419 to 300' south	West side
134	Ralph Road	Miller Avenue to Avenue 416	East side
135	Rancho Court	Albert Avenue to Ash Avenue	East side
136	Rancho Court	Albert Avenue to Ash Avenue	West side
137	Richau Street	Aceves Avenue to Ash Avenue	East side
138	Richau Street	Aceves Avenue to Ash Avenue	West side
139	Risley Avenue	Road 124 to Elrod Road	North side
140	Risley Avenue	Road 124 to Elrod Road	South side
141	Risley Avenue	Bend to Mueller Road	North side
142	Risley Avenue	Bend to Mueller Road	South side
143	Rivera Court	Robert Road to west end	North side
144	Rivera Court	Robert Road to west end	South side
145	Road 124	Railroad Drive to Short Avenue	East side
146	Road 124	Avenue 413 to Aceves Avenue	East side
147	Road 124	Avenue 413 to Ash Avenue	West side
148	Road 124	400' south of Edward Avenue to 150' north of Ash Avenue	East side
149	Road 124	Avenue 414 to Luxor Avenue	East side
150	Road 124	Ella Avenue to Avenue 415	West side
151	Road 124	Ella Avenue to Risley Avenue	East side
152	Road 124	Avenue 419 to Buenna Vista Avenue	East side
153	Road 124	Badger Avenue to Buenna Vista Avenue	West side
154	Road 125	Whittaker Avenue to Avenue 419	East side
155	Road 125	Whittaker Avenue to Avenue 419	West side

TABLE 2-5 (Continued)
Existing Sidewalks in Cutler-Orosi

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
156	Road 126	Avenue 422 to Avenue 419	East side
157	Road 126	Avenue 417 to Miller Avenue	West side
158	Road 127	Avenue 413 to 450' north	East side
159	Road 127	Avenue 416 to 500' south	West side
160	Road 127	Avenue 416 to Ella Avenue	East side
161	Road 128	Avenue 422 to 750' south	West side
162	Road 128	Avenue 419 to 550' south of Avenue 403	West side
163	Road 128	Clyde Avenue to 550' south of Avenue 403	East side
164	Road 130	Rosalie Avenue to Avenue 404	East side
165	Road 130	North end to 175' north of Walnut Avenue	West side
166	Road 130	North end to Avenue 419	East side
167	Road 130	Walnut Avenue to Avenue 416	East side
168	Robert Road	Avenue 404 to Rosalie Avenue	East side
169	Robert Road	Avenue 404 to Rosalie Avenue	West side
170	Robert Road	Virgil Avenue to north end	East side
171	Robert Road	Virgil Avenue to north end	West side
172	Rosalie Avenue	Road 130 to Dianna Road	North side
173	Rosalie Avenue	Road 130 to Dianna Road	South side
174	Santa Fe Drive	Railroad Drive to 125' north of 1st Drive	West side
175	Santa Fe Drive	1st Drive to 2nd Drive	East side
176	School Avenue	Road 128 to Mueller Road	North side
177	School Avenue	400' east of Road 128 to Mueller Road	South side
178	Sequoia Avenue	Wilsonia Avenue to Road 124	North side
179	Sequoia Avenue	Wilsonia Avenue to Road 124	South side
180	Short Avenue	Road 124 to Lincoln Road	North side
181	Short Avenue	Road 124 to Lincoln Road	South side
182	Sierra Avenue	Robert Road to Dianna Road	North side
183	Sierra Avenue	Robert Road to Dianna Road	South side
184	Stewart Street	Dennison Drive to Buenna Vista Avenue	East side
185	Stewart Street	Dennison Drive to Buenna Vista Avenue	West side
186	Tactacan Avenue	Road 130 to west end	North side
187	Tactacan Avenue	Road 130 to west end	South side
188	Topeka Drive	Railroad Drive to 1st Drive	West side
189	Twin Peaks Avenue	Wilsonia Avenue to east end	North side
190	Twin Peaks Avenue	Wilsonia Avenue to east end	South side
191	Van Tassel Road	Avenue 419 to Whittaker Avenue	East side
192	Van Tassel Road	Avenue 419 to Whittaker Avenue	West side
193	Virgil Avenue	Johnston Road to Robert Road	North side
194	Virgil Avenue	Johnston Road to Robert Road	South side
195	Vista Court	Miller Avenue to south end	East side

TABLE 2-5 (Continued)
Existing Sidewalks in Cutler-Orosi

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
196	Vista Court	Miller Avenue to south end	West side
197	Whittaker Avenue	Road 124 to Van Tassel Road	North side
198	Whittaker Avenue	Road 124 to Van Tassel Road	South side
199	Wilma Road	Ash Avenue to north of Aceves Avenue	East side
200	Wilma Road	Ash Avenue to north of Aceves Avenue	West side
201	Wilsonia Avenue	Badger Avenue to Sequoia Avenue	East side
202	Wilsonia Avenue	Badger Avenue to Sequoia Avenue	West side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

2.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 2-6 identifies the location of existing street lights that are maintained by Tulare County, in Cutler and Orosi, as well as their specifications. Figure 2-3 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type "W" represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 2-6
Existing Street Lights in Cutler-Orosi

Specifications of Existing Street Lights								
No.	**East-West Roadway**	**North-South Roadway**	**Location**	**Pole**	**Lumens**	**Pole Type**	**Arm Direction**	**Utility**
1	1st Drive	Lincoln Road	NE Corner	N/A	5800	W	S	PG&E
2	1st Drive	Topeka Drive	NE Corner	1526	5800	W	S	PG&E
3	1st Drive	Santa Fe Drive	NW Corner	1528	5800	W	S	PG&E
4	1st Drive	Cutler Drive	SW Corner	1582	5800	W	S	PG&E
5	1st Drive	Orosi Drive	SE Corner	1523	5800	W	W	PG&E
6	1st Drive	Between Topeka Drive	North Side	1526	5800	W	S	PG&E
7	1st Drive	Between Santa Fe Drive	South Side	1560	5800	W	N	PG&E
8	1st Drive	Between Cutler Drive	South Side	1523	5800	W	W	PG&E
9	2nd Drive	George Road	West Side	N/A	5800	W	NE	PG&E
10	2nd Drive	Orosi Drive	NE Corner	1524	5800	W	S	PG&E
11	2nd Drive	Road 128	East Side	1606	5800	M	E	PG&E
12	2nd Drive	Santa Fe Drive	SW Corner	1586	5800	W	N	PG&E
13	2nd Drive	Between Santa Fe Drive and Cutler Drive	South Side	N/A	5800	W	N	PG&E
14	2nd Drive	Cutler Drive	SE Corner	1562	5800	W	N	PG&E
15	Aceves Avenue	Road 124	NE Corner	2025	N/A	M	E	PG&E

TABLE 2-6 (Continued)
Existing Street Lights in Cutler-Orosi

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
16	Aceves Avenue	Frances Road	North Side	2026	N/A	M	S	PG&E
17	Aceves Avenue	Between Frances Road and David Road	North Side	2027	N/A	N/A	S	PG&E
18	Aceves Avenue	Between Frances Road and David Road	North Side	N/A	N/A	N/A	S	PG&E
19	Aceves Avenue	David Road	East Side	2029	N/A	W	W	PG&E
20	Aceves Avenue	Birch Road	North Side	2642	5800	N/A	S	PG&E
21	Aceves Avenue	Road 120	NE Corner	N/A	5800	S	W	PG&E
22	Albert Avenue	Frances Road	West Side	N/A	N/A	N/A	E	PG&E
23	Albert Avenue	Between Rancho Court	North Side	2251	N/A	N/A	S	PG&E
24	Albert Avenue	David Road	East Side	N/A	N/A	N/A	W	PG&E
25	Albert Avenue	Birch Road	East Side	2643	5800	N/A	W	PG&E
26	Albert Avenue	Road 128	SE Corner	2449	5800	N/A	W	PG&E
27	Albert Avenue	Road 130	South Side	2280	5800	N/A	N	PG&E
28	Alta Drive	South of Avenue 406	West Side	1600	5800	W	S	PG&E
29	Alta Drive	Between Avenue 406 and Orosi Drive	South Side	N/A	5800	N/A	N	PG&E
30	Alta Drive	Orosi Drive	SW Corner	1602	5800	W	E	PG&E
31	Amethyst Avenue	Road 124	SE Corner	1544	5800	W	E	PG&E
32	Amethyst Avenue	Lincoln Road	NE Corner	N/A	5800	W	S	PG&E
33	Amethyst Avenue	Road 125	North Side	1579	5800	W	S	PG&E
34	Amethyst Avenue	George Road	East Side	1580	5800	W	W	PG&E
35	Amethyst Avenue	Eddy Avenue	West Side	N/A	5800	W	E	PG&E
36	Amethyst Avenue	East of Eddy Avenue	South Side	1580	5800	W	N	PG&E
37	Amethyst Avenue	Road 127	East Side	1595	5800	W	W	PG&E
38	Ash Avenue	Birch Road	NW Corner	2644	5800	N/A	S	PG&E
39	Ash Avenue	Road 124	NW Corner	N/A	N/A	N/A	E	PG&E
40	At south end	Ralph Road	East Side	1534	5800	W	S	PG&E
41	Avenue 404	Road 128	NE Corner	1520	5800	W	W	PG&E
42	Avenue 404	Ralph Road	SE Corner	1525	5800	W	N	PG&E
43	Avenue 404	Mueller Road	South Side	1505	5800	W	N	PG&E
44	Avenue 404	Nancy Road	NW Corner	2758	5800	M	S	PG&E
45	Avenue 404	Between Ralph Road and Mueller Road	South Side	1554	5800	W	N	PG&E
46	Avenue 404	Cindy Road	South Side	2390	5800	S	N	PG&E
47	Avenue 404	Robert Road	SE Corner	2022	5800	S	N	PG&E
48	Avenue 406	Lincoln Road	West Side	1582	5800	W	E	PG&E
49	Avenue 406	Eddy Avenue	West Side	N/A	N/A	N/A	E	PG&E
50	Avenue 406	Between Eddy Avenue and Alta Drive	North Side	N/A	N/A	N/A	S	PG&E
51	Avenue 406	Between Alta Drive and Road 127	North Side	N/A	N/A	N/A	S	PG&E
52	Avenue 406	Between Lincoln Road and George Road	North Side	N/A	N/A	N/A	S	PG&E
53	Avenue 406	George Road	East Side	N/A	N/A	N/A	W	PG&E
54	Avenue 407	George Road	SE Corner	1538	5800	W	N	PG&E
55	Avenue 407	Eddy Avenue	SE Corner	1539	5800	W	W	PG&E

TABLE 2-6 (Continued)
Existing Street Lights in Cutler-Orosi

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
56	Avenue 407	Road 124	West Side	1575	5800	W	E	PG&E
57	Avenue 407	Lincoln Road	South Side	1576	5800	W	N	PG&E
58	Avenue 407	Topeka Drive	South Side	1578	5800	W	N	PG&E
59	Avenue 407	Between Topeka Drive	South Side	N/A	N/A	N/A	N	PG&E
60	Avenue 408	Road 120	NW Corner	2762	9500	W	S	PG&E
61	Avenue 408	Road 124	NW Corner	1483	5800	N/A	S	PG&E
62	Avenue 408	Lincoln Road	NW Corner	1586	5800	W	S	PG&E
63	Avenue 408	Villa De Guadalupe Apts.	NW Corner	1569	5800	N/A	S	PG&E
64	Avenue 408	West of Lee Road	North Side	1593	5800	N/A	S	PG&E
65	Avenue 408	SR 63	NW Corner	N/A	5800	N/A	S	PG&E
66	Avenue 408	SR 63	NE Corner	N/A	5800	N/A	W	PG&E
67	Avenue 408	SR 63	SE Corner	N/A	5800	N/A	N	PG&E
68	Avenue 408	SR 63	SW Corner	N/A	5800	N/A	E	PG&E
69	Avenue 408	West of SR 63	North Side	N/A	N/A	N/A	S	PG&E
70	Avenue 412	SR 63	SE Corner	N/A	5800	N/A	N	PG&E
71	Avenue 412	Between Road 128 and Road 130	South Side	N/A	5800	N/A	N	PG&E
72	Avenue 412	Road 130	SE Corner	2279	N/A	W	N	PG&E
73	Avenue 413	Road 124	SE Corner	1668	N/A	N/A	W	PG&E
74	Avenue 413	Between Road 124 and David Road	North Side	1678	N/A	N/A	S	PG&E
75	Avenue 413	Between Road 124 and	North Side	1680	N/A	N/A	S	PG&E
76	Avenue 413	David Road	NW Corner	1682	N/A	N/A	SE	PG&E
77	Avenue 413	Between David Road and Road 127	South Side	1683	N/A	N/A	N	PG&E
78	Avenue 413	Road 127	NE Corner	N/A	N/A	N/A	S	PG&E
79	Avenue 413	Road 127	South Side	N/A	N/A	N/A	N	PG&E
80	Avenue 413	SR 63	NE Corner	N/A	N/A	N/A	W	PG&E
81	Avenue 413	SR 63	NW Corner	N/A	N/A	N/A	S	PG&E
82	Avenue 413	SR 63	SE Corner	N/A	N/A	N/A	N	PG&E
83	Avenue 413	SR 63	SW Corner	N/A	N/A	N/A	E	PG&E
84	Avenue 413	East end	North Side	2639	5800	N/A	S	PG&E
85	Avenue 414	David Road	SE Corner	1651	5800	W	W	PG&E
86	Avenue 414	Ledbetter Drive	NW Corner	1641	5800	W	SE	PG&E
87	Avenue 414	Road 127	SE Corner	1636	5800	N/A	W	PG&E
88	Avenue 414	Road 126	East Side	1676	N/A	N/A	W	PG&E
89	Avenue 414	Road 124	West Side	1667	N/A	N/A	E	PG&E
90	Avenue 414	East of Road 124	North Side	1669	N/A	N/A	S	PG&E
91	Avenue 414	Road 130	NE Corner	1662	5800	N/A	W	PG&E
92	Avenue 414	SR 63	NE Corner	N/A	5800	N/A	W	PG&E
93	Avenue 414	East of Road 128	North Side	1660	N/A	N/A	S	PG&E
94	Avenue 415	SR 63	NE Corner	1715	5800	W	W	PG&E
95	Avenue 415	Mueller Road	SE Corner	1643	5800	W	W	PG&E

TABLE 2-6 (Continued)
Existing Street Lights in Cutler-Orosi

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
96	Avenue 415	Road 128	NE Corner	1666	5800	W	N	PG&E
97	Avenue 415	Between Road 124 and Elrod Road	North Side	N/A	N/A	N/A	S	PG&E
98	Avenue 415	Between Road 124 and Elrod Road	North Side	N/A	N/A	N/A	S	PG&E
99	Avenue 415	Elrod Road	NW Corner	2033	N/A	S	S	PG&E
100	Avenue 416	Road 124	NW Corner	3338	9500	W	S	PG&E
101	Avenue 416	Road 124	SE Corner	3341	9500	W	N	PG&E
102	Avenue 416	Road 125	NW Corner	1648	5800	O	S	PG&E
103	Avenue 416	David Road	NW Corner	1647	5800	O	S	PG&E
104	Avenue 416	Road 126	NW Corner	1611	5800	O	S	PG&E
105	Avenue 416	Eddy Road	NW Corner	2187	5800	O	S	PG&E
106	Avenue 416	Road 127	NW Corner	1632	5800	M	S	PG&E
107	Avenue 416	Claude Road	NE Corner	1613	5800	O	S	PG&E
108	Avenue 416	Ralph Road	NE Corner	2188	5800	W	S	PG&E
109	Avenue 416	Road 130	NE Corner	1649	5800	W	S	PG&E
110	Avenue 416	Road 120	NW Corner	3259	16000	W	S	PG&E
111	Avenue 416	Lincoln Road	NE Corner	2188	5800	N/A	S	PG&E
112	Avenue 416	SR 63	NE Corner	2358	N/A	N/A	W	PG&E
113	Avenue 416	SR 63	NW Corner	2357	N/A	N/A	S	PG&E
114	Avenue 416	SR 63	SE Corner	2356	N/A	N/A	N	PG&E
115	Avenue 416	SR 63	SW Corner	2355	16000	N/A	E	PG&E
116	Avenue 417	Road 125	NE Corner	1639	5800	W	W	PG&E
117	Avenue 417	Road 126	SW Corner	1634	5800	W	E	PG&E
118	Avenue 417	SR 63	SW Corner	2189	5800	M	E	PG&E
119	Avenue 417	Claude Road	SW Corner	1631	5800	W	E	PG&E
120	Avenue 417	Road 130	SW Corner	2199	5800	S	E	PG&E
121	Avenue 417	West of Road 130	South Side	2198	5800	S	N	PG&E
122	Avenue 418	SR 63	West Side	1637	5800	N/A	E	PG&E
123	Avenue 419	Ralph Road	NW Corner	1655	5800	W	S	PG&E
124	Avenue 419	Road 126	SW Corner	1689	N/A	W	E	PG&E
125	Avenue 419	Claude Road	South Side	1690	N/A	W	N	PG&E
126	Avenue 419	SR 63	SW Corner	1716	N/A	W	W	PG&E
127	Avenue 419	Between Road 129 and Road 130	North Side	1696	5800	W	S	PG&E
128	Avenue 419	Between Road 129 and	North Side	1690	5800	W	S	PG&E
129	Avenue 419	Road 130	East Side	1698	5800	W	W	PG&E
130	Badger Avenue	Wilsonia Avenue	West Side	2920	N/A	N/A	E	PG&E
131	Badger Avenue	Between Wilsonia	North Side	2921	N/A	N/A	S	PG&E
132	Badger Avenue	Road 124	SW Corner	2922	N/A	N/A	E	PG&E
133	Between Avenue 414 and Ella Avenue	David Road	East Side	1671	N/A	W	W	PG&E
134	Between Avenue 414	David Road	East Side	1672	N/A	N/A	W	PG&E
135	Between Avenue 414	Road 126	West Side	1674	N/A	N/A	E	PG&E

TABLE 2-6 (Continued)
Existing Street Lights in Cutler-Orosi

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
136	Between Avenue 414 and Ella Avenue	Road 126	West Side	1675	N/A	N/A	E	PG&E
137	Cannon Avenue	Between Sierra Avenue and Road 130	North Side	1549	5800	W	W	PG&E
138	Cannon Avenue	Road 130	NE Corner	1550	5800	W	W	PG&E
139	Cannon Avenue	Robert Road	East Side	2023	5800	S	W	PG&E
140	Cannon Avenue	Nancy Road	North Side	2021	5800	S	S	PG&E
141	Cannon Avenue	Cindy Road	North Side	2020	5800	S	S	PG&E
142	Cannon Avenue	Road 130	NE Corner	N/A	N/A	N/A	W	PG&E
143	Clyde Avenue	SR 63	NE Corner	1695	16000	W	W	PG&E
144	Clyde Avenue	East of SR 63	North Side	1707	5800	W	S	PG&E
145	Clyde Avenue	Between SR 63 and Road 130	North Side	N/A	5800	N/A	S	PG&E
146	Clyde Avenue	Road 130	East Side	1710	5800	W	W	PG&E
147	Dawson Avenue	SR 63	NE Corner	1652	5800	M	W	PG&E
148	Dawson Avenue	East end	East Side	1652	5800	N/A	W	PG&E
149	Edward Avenue	Road 124	SE Corner	2249	N/A	N/A	N	PG&E
150	Edward Avenue	Frances Road	South Side	2249	N/A	M	S	PG&E
151	Ella Avenue	Beinhorn Road	SW Corner	1654	5800	W	N	PG&E
152	Ella Avenue	David Road	NE Corner	1650	5800	W	W	PG&E
153	Ella Avenue	Road 127	NW Corner	1629	5800	W	E	PG&E
154	Ella Avenue	Ralph Road	SE Corner	1645	5800	W	N	PG&E
155	Ella Avenue	Mueller Road	NW Corner	1646	5800	W	S	PG&E
156	Ella Avenue	SR 63	SW Corner	1615	5800	W	E	PG&E
157	Ella Avenue	Elrod Road	NE Corner	2037	N/A	S	SW	PG&E
158	Ella Avenue	Between Road 124 and Elrod Road	North Side	N/A	N/A	N/A	S	PG&E
159	Ella Avenue	Between Road 124 and Elrod Road	North Side	2035	N/A	S	S	PG&E
160	Ella Avenue	Road 126	North Side	1673	N/A	N/A	S	PG&E
161	Ella Avenue	Road 130	East Side	1665	9500	W	W	PG&E
162	Emerald Avenue	Road 127	West Side	1598	5800	W	E	PG&E
163	Emerald Avenue	Pearl Road	North Side	1590	5800	W	S	PG&E
164	Emerald Avenue	SR 63	East Side	1604	9500	S	E	PG&E
165	Hazel Avenue	Lee Road	NW Corner	1540	5800	W	E	PG&E
166	Ira Avenue	SR 63	East Side	N/A	5800	N/A	W	PG&E
167	Ira Avenue	Road 127	North Side	3036	N/A	W	S	PG&E
168	Ledbetter Drive	Road 130	East Side	1663	5800	W	W	PG&E
169	Luxor Avenue	Road 124	SW Corner	1653	5800	N/A	E	PG&E
170	Luxor Avenue	David Road	SW Corner	1681	N/A	N/A	E	PG&E
171	Luxor Avenue	Between Road 124 and	South Side	1677	N/A	N/A	N	PG&E
172	Luxor Avenue	Between Road 124 and David Road	South Side	N/A	N/A	N/A	N	PG&E
173	Merlo Avenue	Johnston Road	SW Corner	2759	5800	W	E	PG&E
174	Merlo Avenue	Cindy Road	SE Corner	2756	5800	M	N	PG&E
175	Merlo Avenue	Nancy Road	SW Corner	2757	5800	M	E	PG&E

TABLE 2-6 (Continued)
Existing Street Lights in Cutler-Orosi

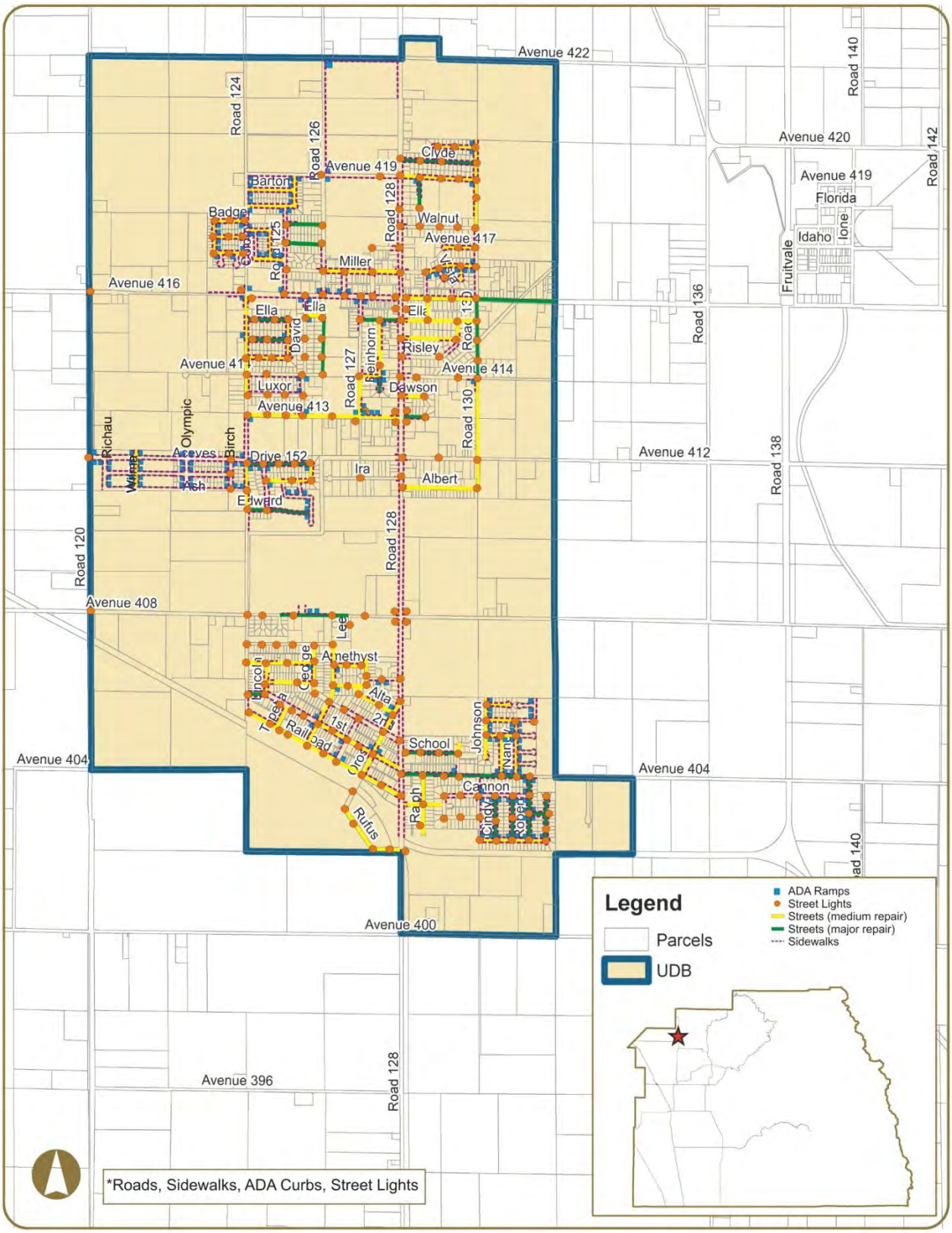
Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
176	Miller Avenue	Road 125	SE Corner	1638	5800	W	W	PG&E
177	Miller Avenue	Road 126	NW Corner	1628	5800	W	E	PG&E
178	Miller Avenue	Eddy Road	NW Corner	1618	5800	W	S	PG&E
179	Miller Avenue	Claude Road	NW Corner	1627	5800	W	E	PG&E
180	Miller Avenue	SR 63	NW Corner	1633	5800	O	E	PG&E
181	Miller Avenue	Ralph Road	SE Corner	1704	5800	W	W	PG&E
182	Miller Avenue	Road 130	East Side	3033	5800	W	W	PG&E
183	Miller Avenue	Pacifica Court	SE Corner	3327	5800	S	W	PG&E
184	Miller Avenue	Vista Court	SE Corner	3326	5800	S	N	PG&E
185	North of Avenue 414	Beinhorn Road	West Side	1687	N/A	N/A	E	PG&E
186	North of Rosalie Avenue	Dianna Road	East Side	2269	5800	S	W	PG&E
187	North of Rosalie Avenue	Nancy Road	East Side	2077	5800	S	W	PG&E
188	North of Rosalie Avenue	Cindy Road	East Side	2076	5800	S	W	PG&E
189	North of Sierra Avenue	Dianna Road	North Side	2079	5800	S	S	PG&E
190	Orosi Drive	Road 128	SW Corner	1607	5800	W	E	PG&E
191	Quinto Court	Johnston Road	West Side	2651	5800	M	E	PG&E
192	Railroad Drive	Orosi Drive	SE Corner	1522	5800	W	N	PG&E
193	Railroad Drive	Santa Fe Drive	NW Corner	1527	5800	W	S	PG&E
194	Railroad Drive	Road 128	East Side	N/A	5800	W	W	PG&E
195	Railroad Drive	Road 124	East Side	1543	5800	N/A	SW	PG&E
196	Railroad Drive	Lincoln Road	North Side	N/A	5800	W	S	PG&E
197	Railroad Drive	Topeka Drive	NE Corner	1591	5800	W	S	PG&E
198	Railroad Drive	Between Topeka Drive and Santa Fe Drive	North Side	1592	5800	N/A	S	PG&E
199	Railroad Drive	Between Santa Fe Drive and Cutler Drive	North Side	N/A	5800	W	S	PG&E
200	Railroad Drive	Cutler Drive	South Side	N/A	5800	W	N	PG&E
201	Railroad Drive	Between Orosi Drive and Road 128	South Side	1522	5800	W	N	PG&E
202	Risley Avenue	Between Road 128 and Avenue 415	South Side	1642	5800	W	N	PG&E
203	Risley Avenue	Road 124	NE Corner	2044	N/A	N/A	W	PG&E
204	Risley Avenue	Between Road 124 and Elrod Road	North Side	2045	N/A	S	S	PG&E
205	Risley Avenue	Elrod Road	NW Corner	2047	N/A	W	W	PG&E
206	Risley Avenue	Between Road 124 and Elrod Road	North Side	N/A	N/A	N/A	S	PG&E
207	Risley Avenue	SR 63	NE Corner	N/A	N/A	N/A	W	PG&E
208	Rosalie Avenue	Road 130	NE Corner	453	5800	S	W	PG&E
209	Rosalie Avenue	Nancy Road	South Side	2180	5800	S	N	PG&E
210	Rosalie Avenue	Robert Road	South Side	2267	5800	S	N	PG&E
211	Rosalie Avenue	Dianna Road	South Side	2268	5800	S	NW	PG&E
212	Rosalie Avenue	Cindy Road	South Side	N/A	N/A	N/A	N	PG&E
213	Rufus Drive	Orosi Drive	North Side	1566	5800	W	S	PG&E
214	Rufus Drive	Orosi Drive	East Side	1533	5800	W	W	PG&E
215	Rufus Drive	Road 127	North Side	1566	5800	W	S	PG&E

TABLE 2-6 (Continued)
Existing Street Lights in Cutler-Orosi

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
216	Rufus Drive	East of SR 63	North Side	1567	5800	W	S	PG&E
217	Rufus Drive	SR 63	SW Corner	1609	9500	W	E	PG&E
218	School Avenue	Mueller Road	East Side	711F	5800	W	W	PG&E
219	School Avenue	SR 63	NE Corner	1606	9500	S	W	PG&E
220	School Avenue	East of SR 63	North Side	1557	5800	W	S	PG&E
221	School Avenue	West of Mueller Road	North Side	1606	5800	S	S	PG&E
222	Sequoia Avenue	Wilsonia Avenue	NE Corner	2916	N/A	N/A	S	PG&E
223	Sequoia Avenue	Between Wilsonia Avenue and Road 124	North Side	2913	N/A	N/A	S	PG&E
224	Sequoia Avenue	Road 124	NW Corner	N/A	N/A	N/A	E	PG&E
225	Short Avenue	Road 124	NE Corner	1587	N/A	W	W	PG&E
226	Sierra Avenue	Ralph Road	NW Corner	N/A	5800	W	S	PG&E
227	Sierra Avenue	Cannon Avenue	NW Corner	1542	5800	W	S	PG&E
228	Sierra Avenue	Road 129	South Side	1553	5800	W	N	PG&E
229	Sierra Avenue	West of Road 130	South Side	1552	5800	W	N	PG&E
230	Sierra Avenue	Road 130	East Side	1551	5800	W	W	PG&E
231	Sierra Avenue	Dianna Road	NW Corner	2078	5800	S	S	PG&E
232	Sierra Avenue	Robert Road	West Side	2024	5800	S	E	PG&E
233	South end	Ralph Road	South Side	N/A	N/A	N/A	N	PG&E
234	South of Avenue 419	Road 130	East Side	1705	5800	W	W	PG&E
235	South of Miller Avenue	Vista Court	South Side	3347	5800	S	N	PG&E
236	South of Railroad Drive	Orosi Drive	East Side	1603	9500	S	W	PG&E
237	Tactacan Avenue	Road 130	NW Corner	2328	5800	S	S	PG&E
238	Tactacan Avenue	West of Road 130	North Side	2696	5800	M	E	PG&E
239	Tactacan Avenue	West of Road 130	West Side	N/A	5800	S	E	PG&E
240	Twin Peaks Court	Wilsonia Avenue	West Side	2916	N/A	N/A	E	PG&E
241	Twin Peaks Court	Between Wilsonia Avenue and Road 124	North Side	2918	N/A	N/A	S	PG&E
242	Twin Peaks Court	East end	East Side	2918	N/A	N/A	W	PG&E
243	Virgil Avenue	Johnston Road	West Side	2652	5800	S	E	PG&E
244	Virgil Avenue	Robert Road	West Side	2653	5800	S	E	PG&E
245	Virgil Avenue	Nancy Road	SW Corner	2653	5800	S	E	PG&E
246	Walnut Avenue	Road 125	SE Corner	1640	5800	W	W	PG&E
247	Walnut Avenue	Road 126	SW Corner	1635	5800	W	E	PG&E
248	Walnut Avenue	SR 63	NE Corner	1617	5800	M	W	PG&E
249	Walnut Avenue	Road 130	East Side	1702	5800	W	W	PG&E
250	Walnut Avenue	Between Road 128 and Road 130	South Side	1700	9500	W	N	PG&E
251	Walnut Avenue	Between Road 128 and Road 130	South Side	1701	5800	W	N	PG&E
252	Walnut Avenue	Between Road 128 and Road 130	South Side	1617	9500	S	W	PG&E

(Source: Tulare County Public Works, March 2013)

Figure 2-3
Inventory of Roadway Facilities in Cutler-Orosi*



3. COMMUNITY OF DUCOR

3.1 General Information

Ducor is a census-designated place located in the southern portion of Tulare County. It is generally bounded by Divizich Avenue in the south, Avenue 60 in the north, State Route (SR) 65 in the west, and Road 240 in the east and encompasses 0.6 square miles of land.

Based on the 2010 Census, the population in Ducor was 612. Similar to other communities in Tulare County, the population of Ducor is racially diverse with 41% White, 0% African American, 3% Native American, 3% Asian/Pacific Islander, 49% from other races, and 4% from 2 or more races. 82% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 154 housing units located within Ducor, of which 74% are owner-occupied and 26% are renter-occupied.

1.2 Domestic Water & Wastewater

Domestic water service in Ducor is provided by the Ducor Community Services District (CSD). Ducor does not have sanitary sewer service and relies on individual or community septic systems. Table 3-1 shows the number of existing water connections, the capacity of the system, and the number of additional connections the system can accommodate for new development (Housing Element, May 2012). Maps of the existing water system are currently unavailable.

According to the Municipal Service Review 2011 (MSR), the CSD's community water system consists of 2 drilled wells, Well No. 4 located in the southern portion of the District and Well No. 5 located on the northern end of the District. Well No. 4 was drilled in 1987 and had a production rate of 115 gallons per minute (GPM) before it was taken offline (well has not been formally abandoned), while Well No. 5 was drilled in 2004 and has a production rate of 450 GPM. The water system once included an additional well, Well No. 3, which has been disconnected from the system due to low productivity. Well No.1 was abandoned due to high nitrates and a broken well casing, while Well No. 2 collapsed during construction in 1984.

Each well is equipped with a single 100 high pressure (hp) turbine pump that pumps water through a single RPP check valve (used to prevent water backflow) into a 240,000 gallon storage tank. Water is then funneled through a 25 hp booster pump and out to the system's distribution pluming. The distribution system consists of 8" PVC mains, 4" galvanized laterals and 1" PVC risers. Due to high levels of Hydrogen Sulfate in both Well No.4 and No.5, a system chlorinator was installed. 10 gallons of sodium-hypochlorite was added to the system each day when both wells were in operation.

A January 26, 2009 compliance order issued by Environmental Health indicates that test samples extracted from Well No. 4 had exceeded the Nitrate maximum contaminant level (MCL) allowed. The order directed the CSD to provide notice of this violation to district customers on a quarterly basis for as long as the well remained in violation. The order also directed the CSD to provide sample Nitrate test results on a quarterly

basis (the law requires community water systems to provide Nitrate test results on an annual basis if not in violation) and that the District prepare a plan, complete with timeline, to address the high Nitrate levels. The plan was to be submitted to Environmental Health by June 30, 2009. A copy of this plan was not found in the District's Environmental Health file.

One January 31, 2009, the CSD responded to the aforementioned compliance order and indicated that in response to the order, the CSD Board held an emergency meeting where it was decided that Well No. 4 would be taken offline until a new well could be secured. In order to fund the process of securing a new well site and drilling the well, the CSD submitted an application for a Safe Drinking Water State Revolving Fund (SRF) grant, contracted engineers to prepare an engineer's report that offers recommendations (this report is part of the SRF preliminary planning process), procured the services of Self-Help Enterprises for grant application and technical assistance and intended to explore additional funding options through the state Proposition 84 United States Department of Agriculture (USDA) Rural Development program. The CSD also expressed its intention to adhere to all customer noticing and well testing requirements. An application for Proposition 50 funding was submitted in September of 2009.

As a result of the compliance order and the subsequent action taken by the CSD Board of Directors, the District currently relies entirely on Well No. 5 for all system water supplies. Well No.5 must be pumped many hours each day 7 days per week. The over reliance on Well No. 5 has weakened its pump, increasing the need for repairs and maintenance.

The CSD has indicted that Well No. 5 has higher levels of Hydrogen Sulfate than did Well No. 4. As a result, overall system water supplies now have a higher concentration of treatment chemicals, predominantly sodium-hypochlorite. The latest district Consumer Confidence Report (CCR), mailed out to district customers June 1, 2010, indicates that the systems single operational well is producing water that meets all safety and health standards.

The system's well, storage and distribution infrastructure are constructed according to State of California standards and include anti-back flow and treatment mechanisms that guard against some causes of water quality degradation. System pipes and conveyances are relatively new (constructed in 1987) and should have a lifespan of at least 75 years and perhaps more depending on the type of lining used; thus, there is no immediate need to replace distribution infrastructure.

However, the overreliance on Well No. 5, resulting from the Nitrate contamination and subsequent shutdown of Well No. 4, hinders the CSD's ability to effect its legal responsibility, outlined in H & S Section 116555 (a) (3), to ensure that a reliable and adequate supply of pure, wholesome, healthful, and potable drinking water is supplied. According to information provided by the Community Water Center, who has conducted outreach and organizational efforts within the community of Ducor, the high level of treatment chemicals introduced into the water supply in order to address the high levels of Hydrogen Sulfate in Well No. 5 give system water a foul smell, strange texture and white tinge, making the water undrinkable and forcing customers to rely on bottled water. Additionally, the CSD system has had to shutdown 4 of its 5 wells, a trend that points to the high probability that Well No. 5 will become similarly compromised or cease to be productive, a scenario made more likely by overuse of the well. As with district population trends, this creates a vulnerability to a crises situation in which residents could be exposed to health hazards for a prolonged period of time and/or saddled with an economic burden that customers can ill-afford.

It is determined that although the CSD does provide a reliable supply of water that's distributed with adequate pressure to customer taps, the quality of the water itself is sub-par and, with the added expense of bottled water, forces district customers to allot a substantial portion of their income to the purchase of water supplies, approximately 10% of their total income compared to the 1.5% affordability threshold recommended by the Environmental Protection Agency (EPA), according to a Pacific Institute study of Central Valley unincorporated communities served by small water systems. The percentage spent by households varies from community to community and may be higher or lower than 10%. In order to address the issue of continuously needing secure new well sites while preemptively addressing the inevitable replacement of Well No. 5, the CSD must examine methods of using alternative water supplies such as treated surface water. Treated surface water provided by the Terra Bella Irrigation District (TBID) is the most feasible approach. This partnership can take place through a Joint Powers Authority agreement or district consolidation.

TABLE 3-1

Existing Water & Wastewater Connections in Ducor

Description of Existing Infrastructure					
Drinking Water*			Waste Water		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
150	150	0	Septic Only	--	--

* Data current as of May 2012

3.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Ducor does not currently have a storm drainage system.

3.4 Roads

There are various roadways in Ducor that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 3-2 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 3-1 graphically displays this information on a map.

TABLE 3-2
Roads in Need of Major and Medium Repair in Ducor

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Avenue 58	Braly Avenue to west end	OLAY
2	Braly Avenue	Parsons Avenue to Avenue 58	OLAY
3	Divizich Avenue	Road 232 to Braly Avenue	OLAY
4	Divizich Avenue	Braly Avenue to Carlisle Road	CHIP
5	Ducor Avenue	Road 234 to Carlisle Road	CHIP
6	Fountain Springs Avenue	SR 65 to Road 236	CHIP
7	Parsons Avenue	Road 234 to Carlisle Road	GRX
8	Road 236	Road 232 to Avenue 56	CHIP
9	Zimmerman Road	Avenue 48 to Divizich Avenue	CHIP

OLAY – overlay resurfacing operation
CHIP – chip seal
ACST – asphalt reconstruction
RCST – cold mix
reconstruction
GRX – grind and remix

(Source: County of Tulare Public Works, 2012)

3.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are several ADA compliant curb ramps located within Ducor and are listed in Table 3-3 and displayed in Figure 3-1.

TABLE 3-3
Existing ADA Curb Ramps in Ducor

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
1	Fountain Springs Avenue	Dennis Road	SE Corner
2	Fountain Springs Avenue	Dennis Road	SW Corner

(Source: County of Tulare Public Works, August 2013)

3.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in clear width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 3-4 identifies the location of existing sidewalks in Ducor. Figure 3-1 also displays this information graphically. The sidewalks represented in Table 3-4 and Figure 3-1 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 3-4
Existing Sidewalks in Ducor

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
1	Dennis Road	Fountain Springs Avenue to 175' south	East side
2	Dennis Road	Fountain Springs Avenue to 175' south	West side
3	Fountain Springs Avenue	75' west of Road 234 to 100' east of Road 234	South side
4	Fountain Springs Avenue	Road 234 to 75' east	North side
5	Fountain Springs Avenue	175' west of Dennis Road to 125' east of Dennis Road	South side
6	Fountain Springs Avenue	Dennis Road to 125' east	North side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

3.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 3-5 identifies the location of existing street lights that are maintained by Tulare County, in Ducor, as well as their specifications. Figure 3-1 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type "W" represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 3-5
Existing Street Lights in Ducor

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Avenue 55	Dennis Road	SW Corner	2138480E	5800	W	N	SCE
2	Avenue 55	Road 234	NE Corner	4574113E	5800	W	S	SCE
3	Divizich Avenue	Carlisle Road	SW Corner	667295E	5800	W	E	SCE
4	Ducor Avenue	Road 234	NW Corner	1368194E	5800	W	S	SCE
5	Ducor Avenue	Dennis Road	NW Corner	561573E	5800	W	S	SCE
6	Fountain Springs Avenue	Braly Avenue	NW Corner	1823786E	5800	W	S	SCE
7	Fountain Springs Avenue	Road 234	NE Corner	450908E	5800	W	S	SCE
8	Fountain Springs Avenue	Dennis Road	NW Corner	450906E	5800	W	S	SCE
9	Fountain Springs Avenue	Carlisle Road	NE Corner	450903E	5800	W	S	SCE
10	Fountain Springs Avenue	Road 236	NE Corner	450901E	5800	W	W	SCE
11	Fountain Springs Avenue	SR 65	SE Corner	9-982	16000	S	N	SCE
12	Fountain Springs Avenue	SR 65	NW Corner	6-983	16000	S	S	SCE
13	Parsons Avenue	Road 234	NE Corner	2081070E	5800	W	S	SCE
14	Parsons Avenue	Braly Avenue	SW Corner	1732755E	5800	W	E	SCE
15	Parsons Avenue	Dennis Road	NW Corner	561654E	5800	W	S	SCE

(Source: Tulare County Public Works, March 2013)

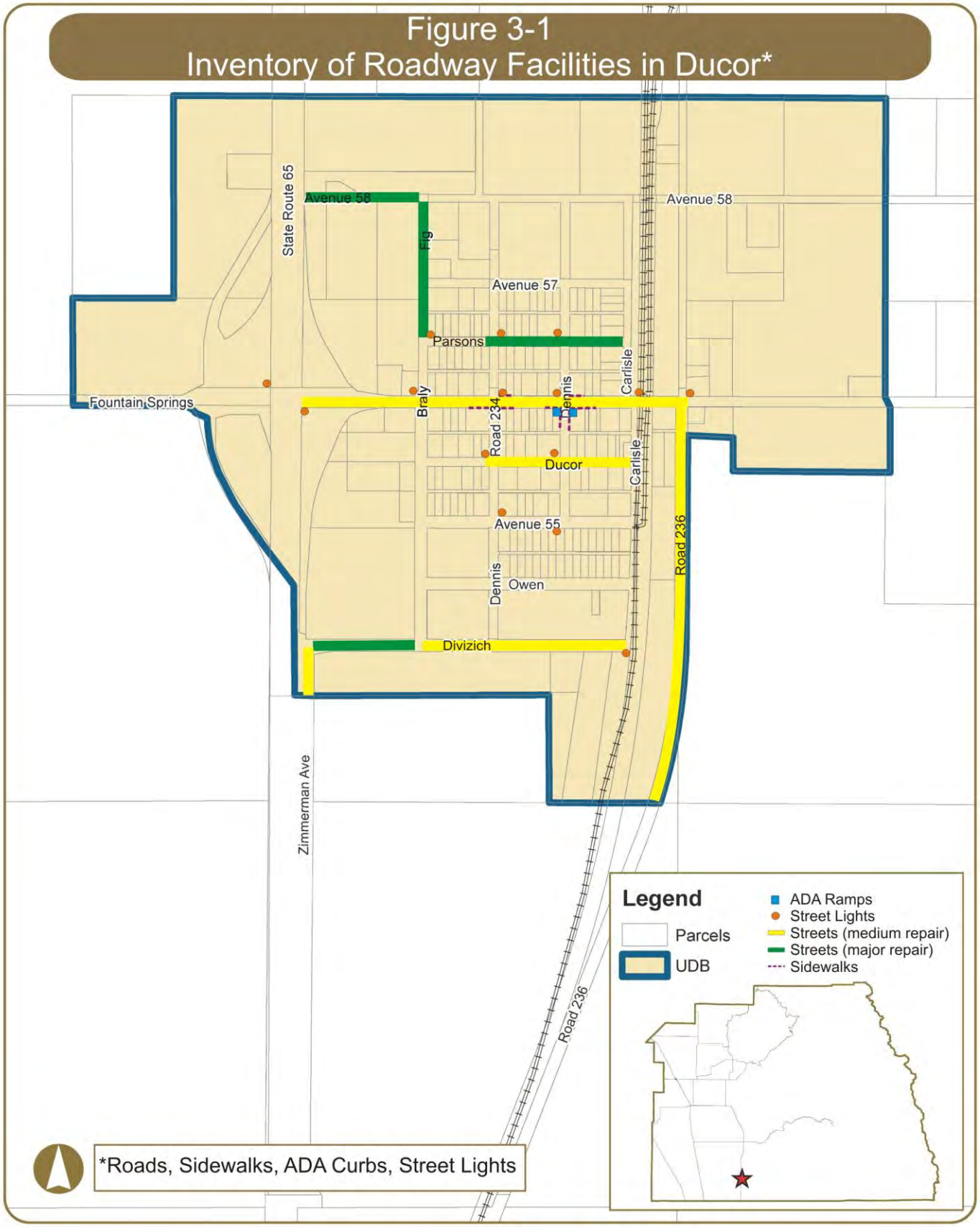


Figure 3-1
Inventory of Roadway Facilities in Ducor*
State Route 65
Avenue 58
F9
Avenue 58
Avenue 57
Parsons
Carlisle
Fountain Springs
Braly
Dennis
Road 234
Ducor
Carlisle
Avenue 55
Road 236
Dennis
Owen
Divizich
Zimmerman Ave
Road 236
Legend
Parcels
UDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, ADA Curbs, Street Lights

4. COMMUNITY OF EARLIMART

4.1 General Information

Earlimart is a census-designated place located in the southwest portion of Tulare County, southwest of Visalia. It is generally bounded by Cable Avenue in the south, Sierra Avenue in the north, Howard Road in the west, and Dietz Road in the east and encompasses 2.1 square miles of land. Earlimart is located approximately 40 miles north of the City of Bakersfield. It lies 7 miles northeast of the City Limits of Delano. The community is long and linear in shape, and is bisected in an east-west direction by State Route (SR) 99 and the Union Pacific Railroad tracks. Earlimart is an agriculturally oriented service community surrounded on all sides by lands in agricultural production and vacant land. Cities and communities surrounding Earlimart include Delano to the south, Pixley to the north, and the communities of Ducor and Terra Bella to the east and northeast respectively, and the community of Richgrove to the southeast. Earlimart is approximately 13 miles east of the Tulare County/Kings County Line, and approximately 8 miles north of the Tulare County/Kern County Line.

Based on the 2010 Census, the population in Earlimart was 8,537. Similar to other communities in Tulare County, the population of Earlimart is racially diverse with 37% White, 1% African American, 1% Native American, 6% Asian/Pacific Islander, 50% from other races, and 5% from 2 or more races. 91% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 2,023 housing units located within Earlimart, of which 52% are owner-occupied and 48% are renter-occupied.

4.2 Domestic Water & Wastewater

Domestic water and sewer service in Earlimart is provided by the Earlimart Public Utility District (PUD) which was formed in December 1954. Table 4-1 shows the number of existing water and sewer connections, the capacity of each system, and the number of additional connections the systems can accommodate for new development (Housing Element, May 2012 and Municipal Service Review, March 2006). Figure 4-1 graphically displays the approximate location of water wells and water lines.

According to the Municipal Service Review 2006 (MSR), the PUD began requiring water meters for all new development in 2000 but very little development has occurred since then indicating that the majority of the PUD's water connections are currently un-metered. Water meters will also be installed on existing properties when they change ownership.

Assuming 1,500 equivalent dwelling units (EDUs), in order to meet Tulare County Improvement Standards the Earlimart PUD water system would need to be capable of delivering a combined flow rate (from all source and storage facilities) of 3,100 gallons per minute (GPM) (1,500 GPM fire flow, and 1,600 GPM domestic demand) for a period of two hours while maintaining a minimum pressure of 25 pounds per square inch (PSI) to each lot served. The PUD's water system is capable of delivering a source flow of 3,300 GPM, and includes pneumatic pressure tanks for storage, indicating that the system currently meets the requirements of the Tulare County Improvement Standards.

Based upon a calculation performed in accordance with General Order 103, published by the California Public Utilities Commission, it is estimated that the District's current water system could support approximately 200 additional EDUs. It is likely that the PUD will need to continue to repair and/or replace older pipelines in the water system. Additionally, it is likely that the PUD will need to supplement its water supply to support additional development within its sphere of influence (SOI) (i.e. the addition of wells to the system).

Figure 4-2 graphically displays the approximate location of the sewer system and wastewater treatment plant. The PUD has applied for $750,000 grant to install a new sewer line. The District will need to match the grant with $250,000. An additional 15" trunk line will be added under Washington Street to Road 128 towards the plant, to the west of Earlimart. The PUD indicated that no additional development is to be approved prior to the installation of the new trunk line.

The PUD's Wastewater Treatment Facility (WWTF) is operated under the provisions of Order No. 98-140 issued by the California Regional Water Quality Control Board (RWQCB). The PUD currently complies with the provisions of the Order. As prescribed by Order No. 98-140, when a California registered civil engineer has certified that the WWTF can reliably treat 1.24 million gallons per day (MGD), the monthly average discharge shall not exceed 1.24 MGD; otherwise the monthly average discharge shall not exceed 0.80 MGD. PUD staff has indicated that the average dry weather flow is approximately 0.88 MGD. The PUD's collection system is in adequate operating condition as there is no significant inflow and infiltration during winter months. Upon an engineer's certification to reliably treat 1.24 MGD the WWTF would have additional capacity to treat approximately 360,000 GPD. Based upon an available capacity of 360,000 GPD, it is estimated that approximately 600 additional connections (EDUs) to the system could be supported.

Although there is remaining capacity, the PUD indicated that the WWTF was constructed in 1956 and needs upgrading including electrical upgrades. Intermediate upgrades to the plant occurred in 1973 and 1986.

TABLE 4-1

Existing Water & Wastewater Connections in Earlimart

Description of Existing Infrastructure					
Drinking Water*			Waste Water **		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
1,485	1,688	203	1,485	2,085	600

* Data current as of May 2012

** Data current as of March 2006

4.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself

typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Table 4-2 identifies the location of drainage inlets and sumps in Earlimart. Figure 4-1 also displays this information graphically.

TABLE 4-2

Existing Storm Drainage Facilities in Earlimart

Location of Existing Storm Drainage Facilities			
No.	**East-West Roadway**	**North-South Roadway**	**Type**
1	Andrea Avenue	Diane Street	Inlet
2	Armstrong Avenue	Market Road	Inlet
3	Armstrong Avenue	east of Market Road	Inlet
4	Armstrong Avenue	Church Street	Inlet
5	Armstrong Avenue	west of State Street	Sump
6	Center Avenue	Market Road	Inlet
7	Clay Avenue	west of Ash Street	Inlet
8	Clay Avenue	Front Street	Inlet
9	Elm Road	south of Washing Street	Inlet
10	Elm Road	north of Mary Ann Avenue	Inlet
11	Elm Road	north of Cannon Avenue	Inlet
12	Elm Road	Frankline Avenue	Inlet
13	Franklin Avenue	Market Road	Inlet
14	Franklin Avenue	Front Street	Inlet
15	Kelly Avenue	Front Street	Inlet
16	Kelly Avenue	Market Road	Inlet
17	Main Avenue	Market Road	Inlet
18	Marin Avenue	Molly Road	Inlet
19	Marin Avenue	Earlimart Avenue	Inlet
20	north of Sutter Avenue	State Street	Inlet

TABLE 4-2 (Continued)
Existing Storm Drainage Facilities in Earlimart

Location of Existing Storm Drainage Facilities			
No.	**East-West Roadway**	**North-South Roadway**	**Type**
21	Rhoden Court	west of Ash Street	Inlet
22	Sierra Avenue	Front Street	Inlet
23	south of Bent Ranch Avenue	Spring Road	Sump
24	south of Washington Avenue	Davis Street	Inlet
25	Spruce Avenue	State Street	Inlet
26	State Street	north of Armstrong Avenue	Sump
27	Sutter Avenue	Spring Road	Inlet
28	Sutter Avenue	State Street	Inlet
29	Sutter Avenue	west of State Street	Inlet
30	Tulare Avenue	Church Street	Inlet
31	Washington Avenue	Market Road	Inlet
32	Washington Avenue	west of Ash Street	Inlet

(Source: County of Tulare Public Works, 2014)

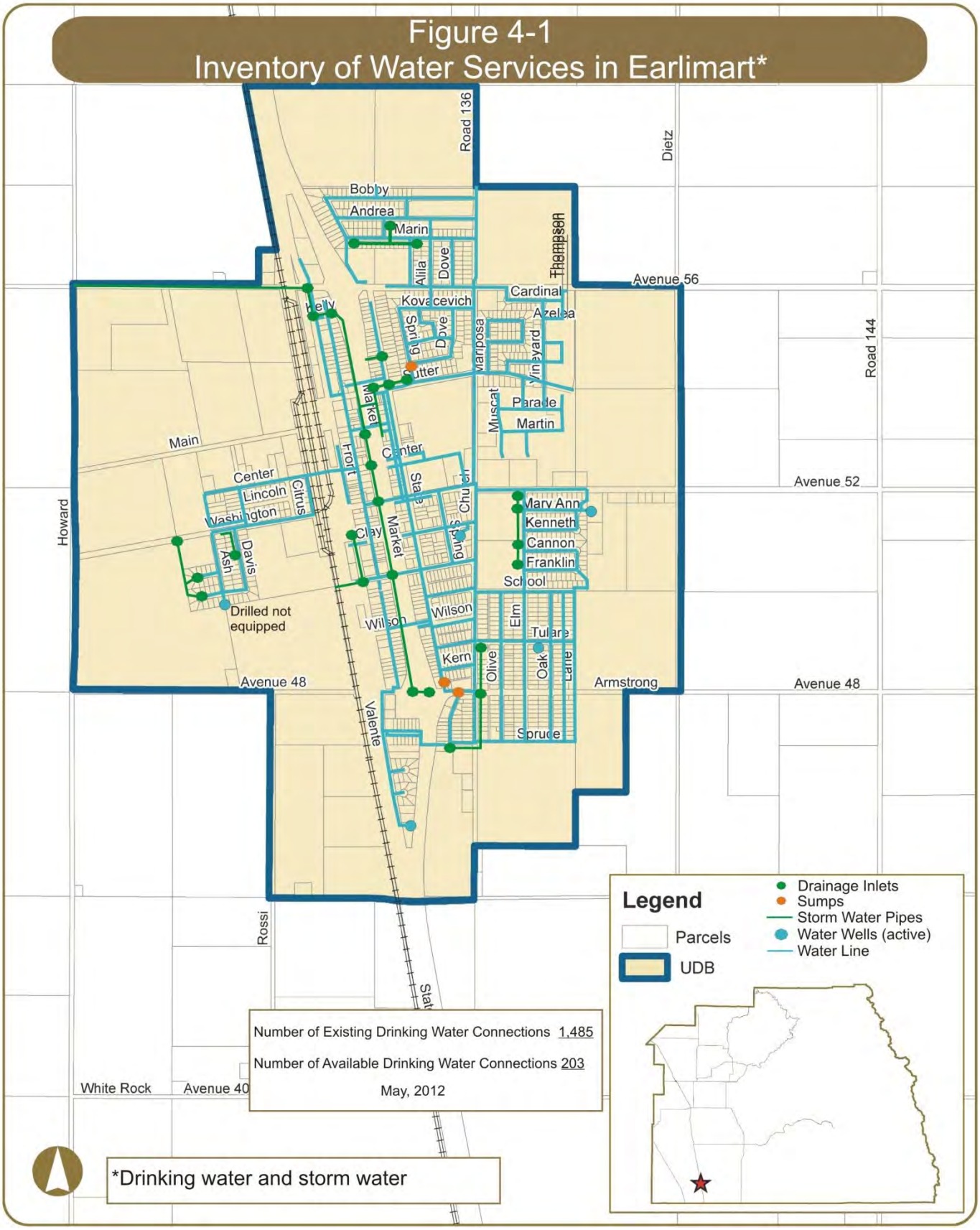


Figure 4-1
Inventory of Water Services in Earlimart*
Road 136
Dietz
Bobby
Andrea
Marin
Alila
Dove
Thompson
Avenue 56
Cardinal
Kovacevich
Azalea
Spruce
Dove
Mariposa
Vineyard
Road 144
Sutter
Market
Muscat
Parade
Martin
Main
Front
Center
Center
Lincoln
Citrus
Washington
State
Church
Avenue 52
Mary Ann
Kenneth
Cannon
Franklin
Howard
Clay
Market
Spring
Ash
Davis
School
Drilled not equipped
Wilson
Wilson
Elm
Tulare
Kern
Olive
Oak
Lane
Avenue 48
Armstrong
Avenue 48
Valente
Spruce
Rossi
State
Number of Existing Drinking Water Connections 1,485
Number of Available Drinking Water Connections 203
May, 2012
White Rock
Avenue 40
*Drinking water and storm water
Legend
Parcels
UDB
Drainage Inlets
Sumps
Storm Water Pipes
Water Wells (active)
Water Line

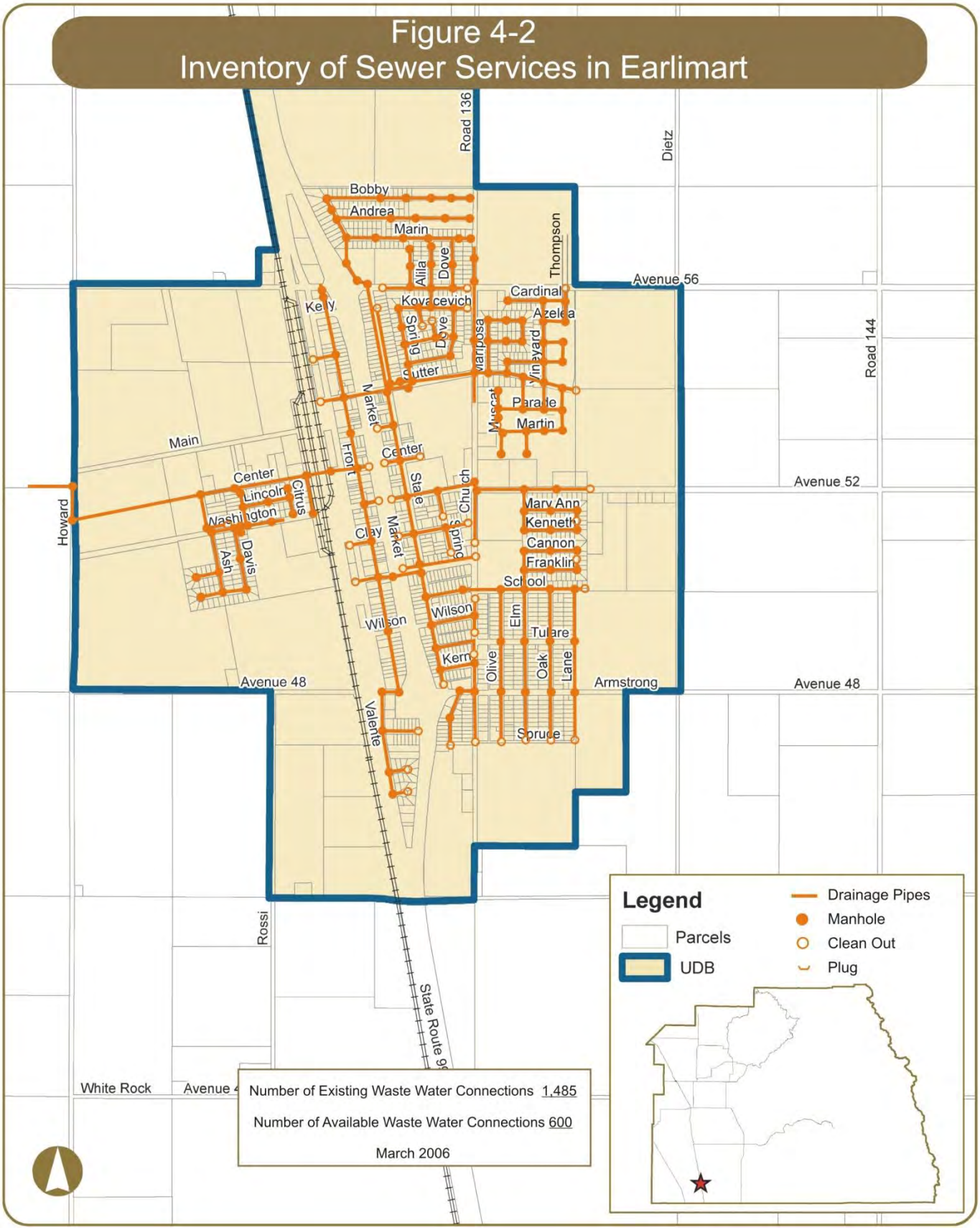


Figure 4-2
Inventory of Sewer Services in Earlimart
Road 136
Dietz
Bobby
Andrea
Marin
Thompson
Avenue 56
Cardinal
Azelea
Kovacevich
Kelly
Alila
Dove
Spring
Mariposa
Vineyard
Sutter
Road 144
Market
Parade
Martin
Main
Front
Center
Avenue 52
Center
Lincoln
Citrus
State
Church
Howard
Nashington
Mary Ann
Kenneth
Clay
Cannon
Ash
Davis
Franklin
School
Wilson
Elm
Tulare
Kern
Olive
Oak
Lane
Avenue 48
Armstrong
Avenue 48
Valente
Spruce
Rossi
State Route 99
White Rock
Avenue 4
Number of Existing Waste Water Connections 1,485
Number of Available Waste Water Connections 600
March 2006
Legend
Parcels
UDB
Drainage Pipes
Manhole
Clean Out
Plug

4.4 Roads

There are various roadways in Earlimart that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost.. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 4-3 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 4-3 graphically displays this information on a map.

TABLE 4-3

Roads in Need of Major and Medium Repair in Earlimart

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Alfalfa Road	Washington Avenue to Center Avenue	CHIP
2	Alila Street	Kovacevich Street to Andrea Avenue	CHIP
3	Armstrong Avenue	Rossi Road to Valente Road	CHIP
4	Armstrong Avenue	Elm Road to Dietz Road	CHIP
5	Ash Street	Clay Avenue to Washington Avenue	CHIP
6	Bent Ranch Avenue	Spring Road to Dove Road	CHIP
7	Cable Avenue	Rossi Road to Valente Road	CHIP
8	Camelia Drive	Mariposa Road to Primavera Court	CHIP
9	Cannon Avenue	Elm Road to Lane Avenue	CHIP
10	Cardinal Avenue	Muscat Street to Thompson Road	CHIP

TABLE 4-3 (Continued)

Roads in Need of Major and Medium Repair in Earlimart

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
11	Cedar Avenue	Front Street to east end	GRX
12	Center Avenue	Valente Road to west end	CHIP
13	Center Avenue	Front Street to Market Road	CHIP
14	Chaparral Street	Front Street to east end	ACST
15	Church Street	Armstrong Avenue to Tulare Avenue	GRX
16	Church Street	Cable Avenue to Spruce Avenue	RCST
17	Church Street	Tulare Avenue to Franklin Avenue	CHIP
18	Church Street	Franklin Avenue to Washington Avenue	GRX
19	Church Street	Sutter Avenue to Sierra Avenue	CHIP
20	Church Street	Sierra Avenue to Bobbi Avenue	OLAY
21	Citrus Road	Washington Avenue to Center Avenue	CHIP
22	Clay Avenue	Ash Street to west end	ACST
23	Clay Avenue	Ash Street to Davis Street	CHIP
24	Clay Avenue	Front Street to Market Road	CHIP
25	Davis Street	Clay Avenue to Washington Avenue	CHIP
26	Dietz Road	Armstrong Avenue to Washington Avenue	CHIP
27	Dietz Road	Washington Avenue to Sierra Avenue	GRX
28	Dove Road	Bent Ranch Avenue to Kovacevich Street	CHIP
29	Dove Road	Sierra Avenue to Marin Avenue	CHIP
30	Earlimart Avenue	Quail Avenue to Kovacevich Street	CHIP
31	Elm Road	Spruce Avenue to Armstrong Avenue	CHIP
32	Franklin Avenue	State Street to west end	RCST
33	Franklin Avenue	Elm Road to Lane Avenue	CHIP
34	Front Street	Cedar Avenue to south end	CHIP
35	Front Street	Cedar Avenue to Armstrong Avenue	GRX
36	Front Street	Armstrong Avenue to Sutter Avenue	CHIP
37	Front Street	Sutter Avenue to north end	GRX
38	Kelly Avenue	Front Street to Market Road	CHIP
39	Kenneth Avenue	Elm Road to Lane Avenue	OLAY
40	Kern Avenue	State Street to Church Street	GRX
41	Kovacevich Street	Spring Road to Church Road	CHIP
42	Lane Avenue	Franklin Avenue to Cannon Avenue	CHIP
43	Lane Avenue	Kenneth Avenue to Mary Ann Avenue	CHIP
44	Lincoln Avenue	Alfalfa Road to Citrus Road	CHIP
45	Marin Avenue	Molly Road to Church Road	CHIP
46	Market Road	Armstrong Avenue to Clay Avenue	CHIP
47	Market Road	Clay Avenue to Washington Avenue	OLAY
48	Market Road	Sutter Avenue to Kelly Avenue	CHIP
49	Mary Ann Avenue	Elm Road to Lane Avenue	OLAY
50	Muscat Court	south of Martin Avenue to north of Parade Avenue	CHIP

TABLE 4-3 (Continued)
Roads in Need of Major and Medium Repair in Earlimart

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
51	Muscat Street	Cardinal Avenue to Sierra Avenue	CHIP
52	Olive Road	Spruce Avenue to Armstrong Avenue	GRX
53	Olympia Street	Front Street to east end	OLAY
54	Quail Avenue	Spring Road to Dove Road	CHIP
55	Rhoden Court	Ash Street to west end	CHIP
56	Rossi Road	Cable Avenue to Armstrong Avenue	RCST
57	School Avenue	Church Road to Elm Road	GRX
58	School Avenue	Lane Road to east end	GRX
59	Sierra Avenue	Front Street to State Street	OLAY
60	Sierra Avenue	State Street to Church Road	CHIP
61	Sierra Avenue	Thompson Road to Dietz Road	CHIP
62	Spring Road	Sutter Avenue to Kovacevich Street	CHIP
63	Spruce Avenue	State Drive to Church Road	GRX
64	Spruce Avenue	Church Road to Oak Road	CHIP
65	State Street	Spruce Avenue to School Avenue	CHIP
66	State Street	School Avenue to Clay Avenue	GRX
67	State Street	Clay Avenue to Washington Avenue	CHIP
68	State Street	Sutter Avenue to Sierra Avenue	GRX
69	Sutter Avenue	Muscat Street to east end	CHIP
70	Tulare Avenue	State Street to Church Street	GRX
71	Valente Road	Cable Avenue to Sierra Avenue	CHIP
72	Washington Avenue	Church Road to Dietz Road	CHIP
73	Washington Avenue	Ash Street to Citrus Road	GRX
74	Washington Avenue	Citrus Road to Front Street	CHIP
75	Wilson Avenue	State Street to west end	RCST

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

(Source: County of Tulare Public Works, 2012)

4.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are various ADA compliant curb ramps located within Earlimart and are listed in Table 4-4 and displayed in Figure 4-3.

TABLE 4-4
Existing ADA Curb Ramps in Earlimart

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
1	Andrea Avenue	Molly Road	NE Corner
2	Andrea Avenue	Molly Road	SE Corner
3	Andrea Avenue	Diane Street	SE Corner
4	Andrea Avenue	Diane Street	SW Corner
5	Andrea Avenue	Bobbi Avenue	NE Corner
6	Andrea Avenue	Bobbi Avenue	NW Corner
7	Andrea Avenue	Church Road	NW Corner
8	Armstrong Avenue	Church Street	NE Corner
9	Armstrong Avenue	Church Street	NW Corner
10	Azalea Avenue	Vineyard Road	NE Corner
11	Azalea Avenue	Vineyard Road	SE Corner
12	Bent Ranch Avenue	Muscat Lane	SE Corner
13	Bent Ranch Avenue	Vineyard Road	NE Corner
14	Bent Ranch Avenue	Vineyard Road	NW Corner
15	Bent Ranch Avenue	Vineyard Road	SE Corner
16	Bent Ranch Avenue	Vineyard Road	SW Corner
17	Bent Ranch Avenue	Thompson Road	NW Corner
18	Bent Ranch Avenue	Spring Road	SE Corner
19	Bent Ranch Avenue	Spring Road	NE Corner
20	Bobbi Avenue	Molly Road	SE Corner
21	Bobbi Avenue	Between Molly Road and Bobbi Avenue	NE Corner
22	Bobbi Avenue	Between Molly Road and Bobbi Avenue	NW Corner
23	Bobbi Avenue	Bobbi Avenue	SE Corner
24	Bobbi Avenue	Bobbi Avenue	SW Corner
25	Bobbi Avenue	Church Road	NW Corner

TABLE 4-4 (Continued)
Existing ADA Curb Ramps in Earlimart

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
26	Bobbi Avenue	Church Road	SW Corner
27	Camelia Drive	Vineyard Road	NE Corner
28	Camelia Drive	Thompson Road	SW Corner
29	Camelia Drive	Vineyard Road	SE Corner
30	Cardinal Avenue	Muscat Lane	NE Corner
31	Cardinal Avenue	Vineyard Road	SE Corner
32	Cardinal Avenue	Vineyard Road	SW Corner
33	Cardinal Avenue	Thompson Road	NW Corner
34	Cardinal Avenue	Thompson Road	SW Corner
35	Cedar Avenue	Front Street	SE Corner
36	Center Avenue	State Street	NE Corner
37	Center Avenue	State Street	SE Corner
38	Center Avenue	Church Street	NE Corner
39	Center Avenue	Church Street	SE Corner
40	Center Avenue	Muscat Lane	NW Corner
41	Center Avenue	Muscat Lane	SW Corner
42	Clay Avenue	Ash Street	NE Corner
43	Kovacevich Street	Spring Road	SE Corner
44	Kovacevich Street	Earlimart Avenue	SE Corner
45	Kovacevich Street	Earlimart Avenue	SW Corner
46	Kovacevich Street	Alila Street	NE Corner
47	Kovacevich Street	Alila Street	NW Corner
48	Marin Avenue	Molly Road	NE Corner
49	Marin Avenue	Diane Street	NE Corner
50	Marin Avenue	Earlimart Avenue	SE Corner
51	Marin Avenue	Earlimart Avenue	SW Corner
52	Marin Avenue	Alila Street	NE Corner
53	Marin Avenue	Alila Street	NW Corner
54	Marin Avenue	Alila Street	SE Corner
55	Marin Avenue	Alila Street	SW Corner
56	Marin Avenue	Dove Road	SE Corner
57	Marin Avenue	Dove Road	SW Corner
58	Marin Avenue	Church Road	NW Corner
59	Marin Avenue	Church Road	SW Corner
60	Martin Avenue	Muscat Lane	NE Corner

TABLE 4-4 (Continued)
Existing ADA Curb Ramps in Earlimart

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
61	Martin Avenue	Muscat Lane	SE Corner
62	Martin Avenue	Primavera Court	SE Corner
63	Martin Avenue	Primavera Court	SW Corner
64	Martin Avenue	Thompson Road	NW Corner
65	North of Quail Avenue	Earlimart Avenue	SW Corner (at bend)
66	Parade Avenue	Muscat Lane	NE Corner
67	Parade Avenue	Muscat Lane	NW Corner
68	Parade Avenue	Muscat Lane	SE Corner
69	Parade Avenue	Primavera Court	NW Corner
70	Parade Avenue	Vineyard Road	NE Corner
71	Parade Avenue	Vineyard Road	NW Corner
72	Parade Avenue	Thompson Road	NW Corner
73	Parade Avenue	Thompson Road	SW Corner
74	Quail Avenue	Spring Road	NE Corner
75	Quail Avenue	Spring Road	SE Corner
76	Quail Avenue	Earlimart Avenue	NE Corner
77	Quail Avenue	Earlimart Avenue	NW Corner
78	Quail Avenue	Dove Road	NW Corner
79	Quail Avenue	Dove Road	SW Corner
80	Rhoden Court	Ash Street	NW Corner
81	Rhoden Court	Ash Street	SW Corner
82	Sierra Avenue	Muscat Lane	SE Corner
83	Sierra Avenue	Muscat Lane	SW Corner
84	Sierra Avenue	Thompson Road	SE Corner
85	Sierra Avenue	Thompson Road	SW Corner
86	Sierra Avenue	Front Street	SE Corner
87	Sierra Avenue	Earlimart Avenue	NE Corner
88	Sierra Avenue	Alila Street	NE Corner
89	Sierra Avenue	Alila Street	NW Corner
90	Sierra Avenue	Alila Street	SE Corner
91	Sierra Avenue	Alila Street	SW Corner
92	Sierra Avenue	Dove Road	NE Corner
93	Sierra Avenue	Dove Road	NW Corner
94	Sierra Avenue	Church Road	NW Corner
95	Sierra Avenue	Church Road	SW Corner

TABLE 4-4 (Continued)
Existing ADA Curb Ramps in Earlimart

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
96	South of Kovacevich Street	Earlimart Avenue	NE Corner (at bend)
97	Sutter Avenue	State Street	SE Corner
98	Sutter Avenue	Spring Road	NE Corner
99	Sutter Avenue	Spring Road	NW Corner
100	Sutter Avenue	Church Street	NE Corner
101	Sutter Avenue	Church Street	SE Corner
102	Sutter Avenue	Mariposa Road	NE Corner
103	Sutter Avenue	Mariposa Road	NW Corner
104	Sutter Avenue	Muscat Lane	NE Corner
105	Sutter Avenue	Muscat Lane	NW Corner
106	Sutter Avenue	Primavera Court	SE Corner
107	Sutter Avenue	Primavera Court	SW Corner
108	Sutter Avenue	Vineyard Road	NE Corner
109	Sutter Avenue	Vineyard Road	NW Corner
110	Sutter Avenue	Vineyard Road	SE Corner
111	Sutter Avenue	Vineyard Road	SW Corner
112	Washington Avenue	Ash Street	SE Corner
113	Washington Avenue	Ash Street	SW Corner
114	Washington Avenue	Davis Street	SE Corner
115	Washington Avenue	Davis Street	SW Corner
116	Washington Avenue	Citrus Road	NE Corner
117	Washington Avenue	Citrus Road	NW Corner
118	Washington Avenue	Valente Road	SW Corner
119	Washington Avenue	State Street	SW Corner
120	Washington Avenue	State Street	NE Corner
121	Washington Avenue	Church Street	NE Corner
122	Washington Avenue	Church Street	NW Corner

(Source: County of Tulare Public Works, August 2013)

4.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk

width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 4-5 identifies the location of existing sidewalks in Earlimart. Figure 4-3 also displays this information graphically. The sidewalks represented in Table 4-5 and Figure 4-3 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 4-5
Existing Sidewalks in Earlimart

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
1	Alila Street	Kovacevich Street to Andrea Avenue	East side
2	Alila Street	Kovacevich Street to Andrea Avenue	West side
3	Andrea Avenue	Molly Road to Church Street	North side
4	Andrea Avenue	Molly Road to Church Street	South side
5	Armstrong Avenue	State Street to Church Street	North side
6	Ash Street	Washington Avenue to Clay Avenue	East side
7	Ash Street	Washington Avenue to Clay Avenue	West side
8	Azalea Avenue	Vineyard Road to Thompson Road	North side
9	Azalea Avenue	Vineyard Road to Thompson Road	South side
10	Azelia Court	Mariposa Road to La Primavera Avenue	North side
11	Azelia Court	Mariposa Road to La Primavera Avenue	South side
12	Bent Ranch Avenue	Spring Road to Dove Road	North side
13	Bent Ranch Avenue	Spring Road to Dove Road	South side
14	Bent Ranch Avenue	Vineyard Road to Thompson Road	North side
15	Bent Ranch Avenue	Vineyard Road to Thompson Road	South side
16	Bent Ranch Avenue	Muscat Road to Thompson Road	North side
17	Bent Ranch Avenue	Muscat Road to Thompson Road	South side
18	Bobbi Avenue	Molly Road to Church Street	North side
19	Bobbi Avenue	Molly Road to Church Street	South side
20	Bobbi Avenue	Bobbi Avenue to Andrea Avenue	East side
21	Bobbi Avenue	Bobbi Avenue to Andrea Avenue	West side
22	Camelia Drive	Mariposa Road to La Primavera Avenue	North side
23	Camelia Drive	Mariposa Road to La Primavera Avenue	South side
24	Cannon Avenue	Elm Road to Lane Avenue	North side
25	Cannon Avenue	Elm Road to Lane Avenue	South side

TABLE 4-5 (Continued)
Existing Sidewalks in Earlimart

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
26	Cardinal Avenue	Muscat Road to Thompson Road	North side
27	Cardinal Avenue	Muscat Road to Thompson Road	South side
28	Center Avenue	Church Road to Muscat Road	North side
29	Center Avenue	Church Road to Muscat Road	South side
30	Church Road	School Avenue to Kovacevich Street	East side
31	Church Street	Washington Avenue to Center Avenue	West side
32	Church Street	Sutter Avenue to Bobbi Avenue	West side
33	Clay Avenue	Davis Street to west end	North side
34	Clay Avenue	Davis Street to west end	South side
35	Clay Avenue	State Street to Church Street	South side
36	Clay Avenue	Spring Road to Church Street	North side
37	Davis Street	Washington Avenue to Clay Avenue	East side
38	Davis Street	Washington Avenue to Clay Avenue	West side
39	Diane Street	Andrea Avenue to Marin Avenue	East side
40	Diane Street	Andrea Avenue to Marin Avenue	West side
41	Dove Road	Kovacevich Street to Bent Ranch Avenue	East side
42	Dove Road	Kovacevich Street to Bent Ranch Avenue	West side
43	Dove Road	Marin Avenue to Sierra Avenue	East side
44	Dove Road	Marin Avenue to Sierra Avenue	West side
45	Earlimart Avenue	Kovacevich Street to Quail Avenue	East side
46	Earlimart Avenue	Kovacevich Street to Quail Avenue	West side
47	Earlimart Avenue	Marin Avenue to Sierra Avenue	East side
48	Earlimart Avenue	Marin Avenue to Sierra Avenue	West side
49	Elm Road	Cannon Avenue to Washington Avenue	West side
50	Elm Road	Kenneth Avenue to Washington Avenue	East side
51	Franklin Avenue	Elm Road to Lane Avenue	North side
52	Franklin Avenue	Elm Road to Lane Avenue	South side
53	Front Street	Center Avenue to Clay Avenue	East side
54	Kenneth Avenue	Elm Road to Lane Avenue	North side
55	Kenneth Avenue	Elm Road to Lane Avenue	South side
56	Kovacevich Street	Spring Road to Church Street	North side
57	Kovacevich Street	Spring Road to Church Street	South side
58	La Primavera Avenue	Azelia Court to Camelia Drive	East side
59	La Primavera Avenue	Azelia Court to Camelia Drive	West side
60	Marin Avenue	Molly Road to Church Street	North side
61	Marin Avenue	Molly Road to Church Street	South side
62	Mariposa Road	Azelia Court to Sutter Avenue	East side
63	Mariposa Road	Azelia Court to Sutter Avenue	West side
64	Martin Avenue	Muscat Road to Thompson Road	North side
65	Martin Avenue	Muscat Road to Thompson Road	South side
66	Mary Ann Avenue	Elm Road to Lane Avenue	North side
67	Mary Ann Avenue	Elm Road to Lane Avenue	South side
68	Molly Road	Marin Avenue to Bobbi Avenue	East side
69	Molly Road	Marin Avenue to Bobbi Avenue	West side
70	Muscat Road	Sierra Avenue to Cardinal Avenue	East side

TABLE 4-5 (Continued)
Existing Sidewalks in Earlimart

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
71	Muscat Road	Sierra Avenue to Cardinal Avenue	West side
72	Muscat Road	Sutter Avenue to Bent Ranch Avenue	East side
73	Muscat Road	Sutter Avenue to Bent Ranch Avenue	West side
74	Muscat Road	North of Parade Avenue to South of Martin Avenue	East side
75	Muscat Road	North of Parade Avenue to South of Martin Avenue	West side
76	Parade Avenue	Muscat Road to Thompson Road	North side
77	Parade Avenue	Muscat Road to Thompson Road	South side
78	Primavera Court	Sutter Avenue to Parade Avenue	East side
79	Primavera Court	Sutter Avenue to Parade Avenue	West side
80	Primavera Court	Martin Avenue to south end	East side
81	Primavera Court	Martin Avenue to south end	West side
82	Quail Avenue	Spring Road to Dove Road	North side
83	Quail Avenue	Spring Road to Dove Road	South side
84	Rhoden Court	Ash Street to west end	North side
85	Rhoden Court	Ash Street to west end	South side
86	School Avenue	Elm Road to Lane Avenue	North side
87	Sierra Avenue	Front Street to SR 99	South side
88	Sierra Avenue	State Street to Church Street	South side
89	Sierra Avenue	Earlimart Avenue to Church Street	North side
90	Sierra Avenue	Muscat Road to Thompson Road	South side
91	Spring Road	Washington Avenue to Clay Avenue	East side
92	Spring Road	Kovacevich Street to Sutter Avenue	East side
93	Spring Road	Kovacevich Street to Sutter Avenue	West side
94	State Street	Center Avenue to Washington Avenue	East side
95	State Street	Center Avenue to Washington Avenue	West side
96	Sutter Avenue	Spring Road to east end	North side
97	Sutter Avenue	Church Street to east end	South side
98	Thompson Road	Sierra Avenue to Azalea Avenue	East side
99	Thompson Road	Sierra Avenue to Azalea Avenue	West side
100	Thompson Road	Bent Ranch Avenue to Bent Ranch Avenue	East side
101	Thompson Road	Bent Ranch Avenue to Bent Ranch Avenue	West side
102	Thompson Road	Martin Avenue to north end	East side
103	Thompson Road	Martin Avenue to north end	West side
104	Vineyard Road	Cardinal Avenue to Parade Avenue	East side
105	Vineyard Road	Cardinal Avenue to Parade Avenue	West side
106	Washington Avenue	Ash Street to Alfalfa Road	South side
107	Washington Avenue	200' west of Citrus Road to Valente Road	South side
108	Washington Avenue	Alfalfa Road to Citrus Road	North side
109	Washington Avenue	Church Road to Elm Road	South side
110	Washington Avenue	Market Road to Elm Road	North side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

4.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 4-6 identifies the location of existing street lights that are maintained by Tulare County, in Earlimart, as well as their specifications. Figure 4-3 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type "W" represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 4-6

Existing Street Lights in Earlimart

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	135' South of Olympia Street	Front Street	East Side	4097790E	5800	W	W	SCE
2	Andrea Avenue	Alila Street	SE Corner	N/A	5800	C	N	SCE
3	Andrea Avenue	Diane Street	SE Corner	4347745E	5800	C	N	SCE
4	Andrea Avenue	Molly Road	NE Corner	4347742E	5800	C	W	SCE
5	Andrea Avenue	Church Street	SW Corner	N/A	5800	C	E	SCE
6	Armstrong Avenue	Olive Road	NW Corner	1342465E	5800	W	S	SCE
7	Armstrong Avenue	Front Street	NE Corner	345598E	5800	W	S	SCE
8	Armstrong Avenue	Market Road	NE Corner	4320584E	5800	W	S	SCE
9	Armstrong Avenue	State Street	NW Corner	995215E	5800	W	S	SCE
10	Armstrong Avenue	Church Street	NW Corner	318547E	5800	W	S/E	SCE
11	Armstrong Avenue	Elm Road	NW Corner	1342466E	5800	W	S	SCE
12	Armstrong Avenue	Oak Road	NW Corner	1342467E	5800	W	S	SCE
13	Armstrong Avenue	Lane Avenue	NE Corner	1342471E	5800	W	S	SCE
14	At bend	Earlimart Avenue	West Side	2353355E	5800	O	N/E	SCE
15	Azalea Avenue	Thompson Road	NE Corner	4399513E	5800	C	W	SCE
16	Azalea Avenue	Vineyard Road	SE Corner	4381438E	5800	C	N	SCE
17	Azelia Court	Mariposa Road	SE Corner	N/A	5800	C	N/A	SCE
18	Bent Ranch Avenue	Spring Road	NW Corner	2353351E	5800	O	E	SCE
19	Bent Ranch Avenue	Dove Road	South Side	2353359E	5800	O	N/W	SCE
20	Bent Ranch Avenue	Thompson Road	NW Corner	4399515E	5800	C	E	SCE
21	Bent Ranch Avenue	Vineyard Road	SE Corner	4381436E	5800	C	N	SCE
22	Bent Ranch Avenue	Muscat Road	NE Corner	4381434E	5800	C	S	SCE
23	Bobbi Avenue	Molly Road	SE Corner	4381809E	5800	C	N	SCE
24	Bobbi Avenue	Diane Street	NW Corner	4227088E	5800	C	S	SCE
25	Bobbi Avenue	Earlimart Avenue	SE Corner	4381808E	5800	C	N	SCE
26	Bobbi Avenue	Church Street	SW Corner	4381807	5800	C	E	SCE
27	Camelia Drive	Vineyard Road	SE Corner	4381437E	5800	C	N	SCE
28	Camelia Drive	Thompson Road	SW Corner	4399514E	5800	C	E	SCE
29	Camelia Drive	Mariposa Road	NE Corner	N/A	5800	C	N/A	SCE
30	Cannon Avenue	Elm Road	SE Corner	1401017E	5800	W	W	SCE
31	Cardinal Avenue	Muscat Road	SE Corner	N/A	5800	C	N	SCE
32	Cardinal Avenue	Vineyard Road	NE Corner	4381439E	5800	C	S	SCE
33	Cardinal Avenue	Thompson Road	East Side	4399512E	5800	C	W	SCE
34	Cedar Avenue	Front Street	NE Corner	1761149E	5800	W	W	SCE
35	Center Alignment	Church Street	NW Corner	953_89E	5800	W	S/E	SCE

TABLE 4-6 (Continued)
Existing Street Lights in Earlimart

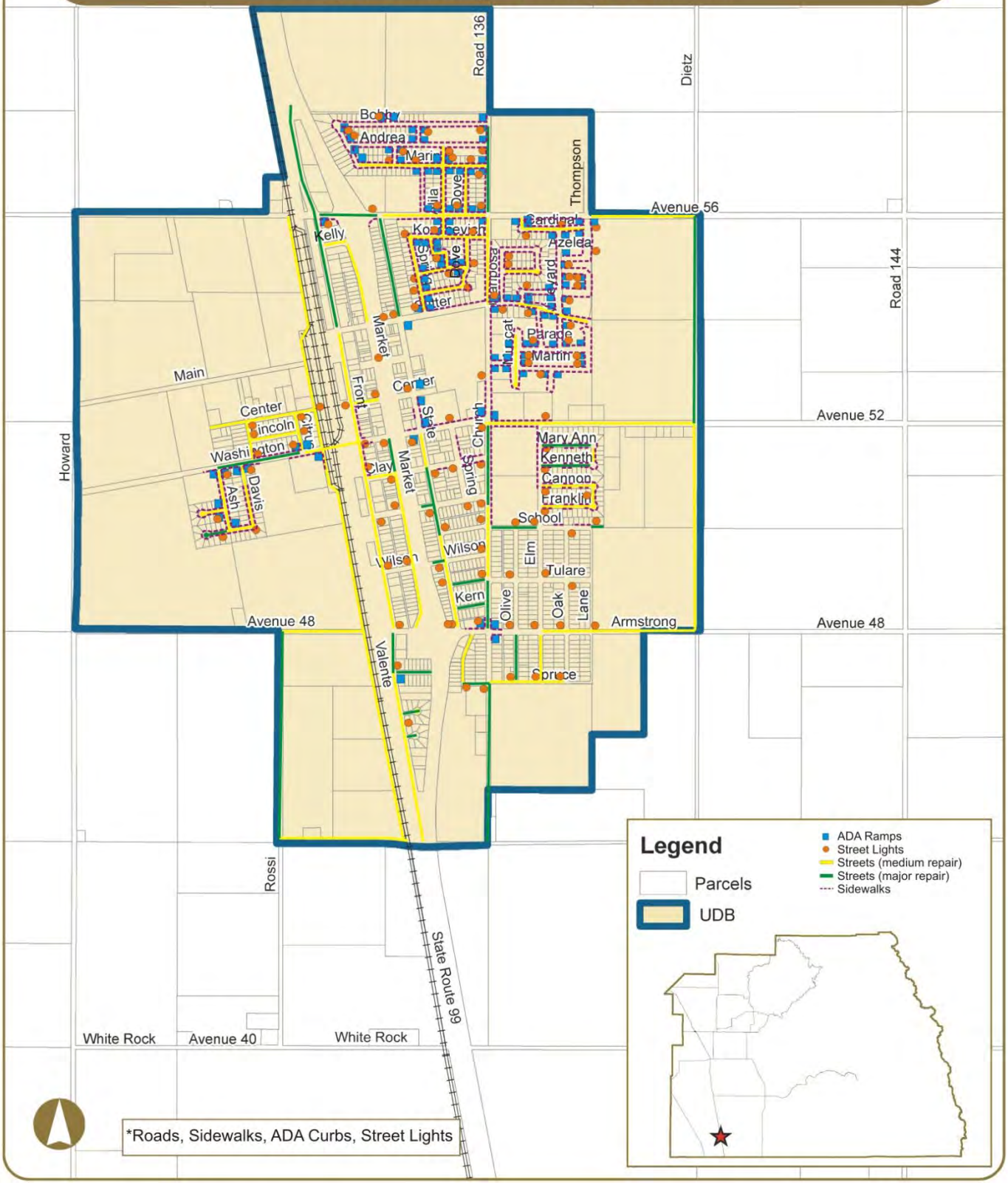
Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
36	Center Avenue	Alfalfa Road	SE Corner	2236399E	5800	O	N	SCE
37	Center Avenue	Citrus Road	SE Corner	2296396E	5800	O	N	SCE
38	Center Avenue	State Street	NW Corner	4431T	5800	W	E	SCE
39	Center Avenue	Market Road	NW Corner	934921E	5800	W	E	SCE
40	Center Avenue	Valente Road	East Side	765316E	5800	W	W	SCE
41	Center Avenue	Front Street	West Side	496327E	5800	W	W	SCE
42	Clay Avenue	Market Road	SW Corner	2282350E	5800	W	E	SCE
43	Clay Avenue	Ash Street	South Side	2282307E	5800	O	N	SCE
44	Clay Avenue	Davis Street	SE Corner	2282350E	5800	O	N/W	SCE
45	Clay Avenue	Front Street	NE Corner	1193068E	5800	W	W	SCE
46	Clay Avenue	State Street	SE Corner	1955144E	5800	W	W	SCE
47	Clay Avenue	Spring Road	SW Corner	7440039E	5800	W	N	SCE
48	Clay Avenue	Church Street	SW Corner	599842E	5800	W	N/E	SCE
49	Franklin Avenue	Church Street	SW Corner	528902E	5800	W	E	SCE
50	Franklin Avenue	Elm Road	SE Corner	1401015E	5800	W	W	SCE
51	Franklin Avenue	Front Street	SE Corner	4067587E	5800	W	W	SCE
52	Franklin Avenue	State Street	SW Corner	3194T	5800	W	E	SCE
53	Franklin Avenue	Spring Road	South Side	527350E	5800	W	N	SCE
54	Franklin Avenue	Market Road	NW Corner	1293924E	5800	W	E	SCE
55	Kenneth Avenue	Elm Road	SE Corner	1401019E	5800	W	W	SCE
56	Kovacevich Street	Spring Road	West Side	2353353E	5800	O	E	SCE
57	Kovacevich Street	60' east of Earlimart Avenue	North Side	2353354E	5800	O	S	SCE
58	Kovacevich Street	Dove Road	NE Corner	2353357E	5800	O	S	SCE
59	Lincoln Avenue	Alfalfa Road	NE Corner	2296398E	5800	O	W	SCE
60	Lincoln Avenue	Citrus Road	East Side	2296395E	5800	O	W	SCE
61	Main Avenue	Market Road	East Side	2282348E	5800	W	W	SCE
62	Marin Avenue	Alila Street	NE Corner	2286997E	5800	C	N	SCE
63	Marin Avenue	Dove Road	NE Corner	2286996E	5800	C	N	SCE
64	Marin Avenue	Church Street	SW Corner	2286995E	5800	C	E	SCE
65	Marin Avenue	Earlimart Avenue	NW Corner	4261646E	5800	C	S	SCE
66	Marin Avenue	Diane Street	NW Corner	N/A	5800	C	S	SCE
67	Martin Avenue	Thompson Road	NW Corner	4509678	5800	C	E	SCE
68	Martin Avenue	Primavera Court	SW Corner	4509677E	5800	C	N	SCE
69	Martin Avenue	Muscat Road	NE Corner	4509676E	5800	C	W	SCE
70	Mary Ann Avenue	Elm Road	SE Corner	1401021E	5800	W	W	SCE
71	North of Franklin Avenue	Lane Avenue	West Side	1955143E	5800	W	E	SCE
72	Parade Avenue	Muscat Road	SE Corner	N/A	5800	C	W	SCE
73	Parade Avenue	Primavera Court	NW Corner	4483116E	5800	C	S	SCE
74	Parade Avenue	Vineyard Road	NE Corner	4483117E	5800	C	S	SCE
75	Parade Avenue	Thompson Road	SW Corner	4483118E	5800	C	E	SCE
76	Quail Avenue	Spring Road	West Side	2353352E	5800	O	E	SCE
77	Quail Avenue	Earlimart Avenue	SE Corner	2353356E	5800	O	N	SCE
78	Quail Avenue	Dove Road	NE Corner	2353358E	5800	O	W	SCE
79	Rhoden Court	Ash Street	SW Corner	4122708E	5800	N/A	E	SCE
80	School Avenue	Olive Road	North Side	2191757E	5800	W	S	SCE

TABLE 4-6 (Continued)
Existing Street Lights in Earlimart

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
81	School Avenue	Oak Road	SE Corner	2111468E	5800	W	N	SCE
82	School Avenue	State Street	NE Corner	2111469E	5800	W	W	SCE
83	School Avenue	Church Street	NW Corner	671032E	5800	W	S/E	SCE
84	School Avenue	Elm Road	NW Corner	1342599E	5800	W	S	SCE
85	School Avenue	Lane Avenue	NE Corner	1342452E	5800	W	S/W	SCE
86	Sierra Avenue	Front Street	SE Corner	1751125E	9500	W	N/W	SCE
87	Sierra Avenue	State Street	NW Corner	1401140E	9500	W	S	SCE
88	Sierra Avenue	Church Street	NW Corner	2277692E	9500	W	S	SCE
89	Sierra Avenue	Alila Street	NW Corner	2286999E	5800	C	S	SCE
90	Sierra Avenue	Dove Road	NW Corner	286998E	5800	C	S	SCE
91	Spruce Avenue	Church Street	SW Corner	995397E	5800	W	N/E	SCE
92	Spruce Avenue	Elm Road	NW Corner	2191523E	5800	W	S	SCE
93	Spruce Avenue	Olive Road	NW Corner	1342457E	5800	W	S/W	SCE
94	Spruce Avenue	Oak Road	NW Corner	1342459E	5800	W	S/W	SCE
95	Spruce Avenue	State Street	SE Corner	731519E	5800	W	N	SCE
96	Sutter Avenue	Market Road	NE Corner	670657E	5800	W	S/W	SCE
97	Sutter Avenue	State Street	NW Corner	744738E	5800	W	S/E	SCE
98	Sutter Avenue	Spring Road	NW Corner	4091697E	5800	W	S	SCE
99	Sutter Avenue	Mariposa Road	South Side	4342666	5800	C	N	SCE
100	Sutter Avenue	Primavera Court	SW Corner	4581433E	5800	C	N	SCE
101	Sutter Avenue	Vineyard Road	SE Corner	4581455	5800	C	N	SCE
102	Sutter Avenue	Church Street	NE Corner	N/A	5800	C	W	SCE
103	Tulare Avenue	Elm Road	NE Corner	2111470E	5800	W	W	SCE
104	Tulare Avenue	State Street	NW Corner	9720T	5800	W	E	SCE
105	Tulare Avenue	Church Street	NW Corner	533018E	5800	W	S/E	SCE
106	Tulare Avenue	Olive Road	NW Corner	1342454E	5800	W	S	SCE
107	Tulare Avenue	Oak Road	SE Corner	1342455E	5800	W	N	SCE
108	Washington Avenue	Alfalfa Road	NE Corner	2296397E	5800	O	S	SCE
109	Washington Avenue	Citrus Road	NW Corner	2296594E	5800	O	S	SCE
110	Washington Avenue	Ash Street	SE Corner	2282308E	5800	C	N	SCE
111	Washington Avenue	Davis Street	SE Corner	2282305E	5800	O	N	SCE
112	Washington Avenue	Spring Road	North Side	2191627E	5800	W	S	SCE
113	Washington Avenue	Market Road	SW Corner	2017639E	5800	W	N	SCE
114	Washington Avenue	Front Street	SE Corner	450866E	5800	W	W	SCE
115	Washington Avenue	State Street	SW Corner	2272788E	5800	W	E	SCE
116	Washington Avenue	Church Street	SW Corner	275779E	5800	W	N/E	SCE
117	Washington Avenue	Elm Road	NE Corner	1401024E	9500	W	S	SCE
118	Wilson Avenue	Front Street	NE Corner	1893094E	5800	W	W	SCE
119	Wilson Avenue	Market Road	NW Corner	2164999E	5800	W	S	SCE
120	Wilson Avenue	State Street	SW Corner	1342596E	5800	W	N/E	SCE
121	Wilson Avenue	Church Street	NW Corner	671036E	5800	W	E	SCE

(Source: Tulare County Public Works, March 2013)

Figure 4-3
Inventory of Roadway Facilities in Earlimart*



5. COMMUNITY OF EAST OROSI

5.1 General Information

East Orosi is a census-designated place located in the northwest portion of Tulare County. It is generally bounded by Avenue 416 in the south, Avenue 420 in the north, Alta East Branch Canal in the west, and Road 142 in the east and encompasses 0.2 square miles of land. It is not directly served by any State Route.

Based on the 2010 Census, the population in East Orosi was 495. Similar to other communities in Tulare County, the population of Ducor is racially diverse with 42% White, 0% African American, 1% Native American, 1% Asian/Pacific Islander, 53% from other races, and 3% from 2 or more races. 94% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 116 housing units located within East Orosi, of which 41% are owner-occupied and 59% are renter-occupied.

5.2 Domestic Water & Wastewater

Domestic water and sewer service in East Orosi is provided by the East Orosi Community Service District (CSD). Table 5-1 shows the number of existing water and sewer connections, the capacity of each system, and the number of additional connections the systems can accommodate for new development (Housing Element, May 2012). Maps of the sewer and water systems are currently unavailable.

According to the Municipal Service Review 2011 (MSR), the CSD community water system relies entirely on groundwater supplies pumped from the Kings River Sub Basin. The system consists of 2 drilled wells, which use 7.5 horse power (hp) submersible pumps to funnel water through a single check valve and into 2 corresponding pressure storage tanks. The distribution system further contains galvanized 4 inch mains and 1 inch laterals. Well 01, located at the eastern end of the District, acts as the primary source of water during the months of October through March. Well 02, located at the District's western boundary, acts as the primary source of water April through September. CSD's water system contains no method of treatment such as coagulation and flocculation, sedimentation, filtration or disinfection.

The District's Sanitary Survey conducted in January of 2011 by Tulare Environmental Health found that the CSD's source and distribution facility are capable of providing a reliable water supply and recommended that a water supply permit be issued subject to an ongoing water quality monitoring schedule, clearing of vegetation near Wells 01 and 02 and near their respective storage tanks and replacement of Well 01 vent pipe screen with fine mesh screen.

The CSD's December 2010 sample test results for bacteriological contaminates (required each month) resulted in a single positive sample for total Coliforms, one absent sample, and 3 positive repeat samples. A notice of violation was rendered to the CSD of the positive results. The notice directed the CSD management to provide the legally required notice to district customers advising them of this total Coliform violation. Proof of customer notice must be submitted to Tulare Environmental Health. The CSD's

Environmental Health File does not contain proof of customers notice. Lead and copper samples (required annually) must be collected in the months of June, July, August and September only; thus, no results are available for 2011.

Chemical sample test results, which determine Nitrate levels, are required to be submitted on an annual basis; however, once in violation, community water system operators must submit test results to Tulare County Environmental Health on a quarterly basis. In addition, water system operators must notify customers of the violation and submit proof of notice to Tulare Environmental Health. Records indicate May 2009 sample test results showed Nitrate levels exceeding the maximum level contaminants (MCL) allowed by law. A December 10, 2009 notice of violation for failure to provide quarterly sample test results was provided by Tulare Environmental Health requesting that management submit chemical Nitrate testing results for both Wells 01 and 02. A July 20, 2010 letter provided by Tulare Environmental Health indicates that the District was in violation of the aforementioned proof of notice requirement in the first 2 quarters of 2010; this notice seems to stem from the May 2009 Nitrate MCL violation. A July 20, 2010 notice of violation once again indicates sample test results exceeded Nitrate MCL and a subsequent January 27, 2011 notice of violation for failure to provide quarterly sample test results was also provided. Proof of customer notice for this specific violation was not found.

The California Safe Drinking Water Act requires each public water system operators to prepare a Consumer Confidence Report (CCR) on an annual basis and mail/deliver a copy to each customer by July 1 of the year following the year for which the CCR is prepared. Proof of CCR distribution must be provided to Tulare Environmental Health. The CCR contains a key defining the terms used in the report, list of common contaminants found in drinking water, tables listing raw sample test results followed by a brief description of common contaminant sources. The abovementioned Nitrate violations were not identified in the 2006-2009 CCRs. A July 15, 2010 notice of violation provided by Tulare Environmental Health to the CSD indicates that the CSD failed to provide proof that a CCR was prepared and distributed for the 2009 calendar year. A similar notice was also submitted on July 15, 2009 for the 2008 CCR. Proof of 2008 and 2009 distribution was found in the CSD's file, which signifies that these CCRs were not provided to customers in a timely manner.

A Compliance Order provided by Tulare Environmental Health, dated April 15, 2010, cites the following CSD violations of law: system operating a well that produces water not in compliance with primary drinking water standards (H & S Code Section 116555 (a) (1)), failure to ensure a pure, wholesome, healthful and potable supply of water (H & S 116555 (a) (3) and Nitrate levels exceeding the MCL allowed by law (CCR 64431 (a)). The order requests the CSD provide a plan to address the violations, complete with timeline, and sets forth compliance requirements, including the aforementioned quarterly submittal of chemical sample test results and notices of violation to District customers on a quarterly basis.

A January 2008 Tulare Environmental Health notice advises the District to continue to adhere to all reporting requirements, sustain efforts to address nitrate violations, and continue to provide customer notice requirements so long as violations continue. This notice indicates that the District has been in violation of Nitrate MCLs allowed by law since at least 2008.

In accordance with the State's Safe Drinking Water Act, each water supplier must have a certified operator on staff. A Tulare Environmental Health notice of violation indicates that as of 12-9-2009, the CSD is in violation of this provision and does not have a certified operator on staff.

CCR's were prepared for the years 2006, 2007, 2008 and 2009 (no further CCRs were found in the CSD Environmental Health file). Sample data is provided, but no explanation is provided regarding what raw data means.

The CSD office consists of a mobile home that sits on land donated by a local property owner. Both day-to-day operations and district public meetings are conducted in the mobile home. It is estimated that the mobile home can only accommodate approximately 5 people at one time.

Based on the records examined, it is determined that the CSD water system is chronically in violation of maximum Nitrate levels allowed by law. It is further determined, based on the multiple notices of violation for failure to provide sample test results, CCRs, and customer notices of violation, that it is very likely system customers are not even aware of the serious contamination issues facing their water system. Without being properly informed, district customers cannot safeguard against the health hazards posed by water contamination thereby putting their health and safety at risk.

Staffs determinations are further substantiated by a series of news reports that have recently examined potable water quality in small Tulare County communities, East Orosi included. A Fresno Bee article published March 16, 2011 details a recent study conducted by the Oakland think tank, Pacific Institute. The study found that it would cost approximately $150 million to address Valley-wide water contamination issues. The study also determined that low-income residents living within communities served by small water systems use approximately 4.6% of their income for water supplies (this includes both system user fees and bottled water); the federal standard for affordability is 1.5%. The study further found that regulatory agencies do not adequately inform customers when system contamination does occur. A news report that aired on KPMH Fox 26, a local Fox affiliate, also examined the issue of poor water quality within the Valley's small unincorporated communities. In timely fashion, the news report focused on the community of East Orosi. A CSD customer interviewed explained that she has been dealing with high Nitrate levels in her water since 2002 and must purchase bottled water for drinking and cooking, an expense that drastically drains her financial resources. Another CSD customer interviewed explained that there is no alternative for water used to shower and that system water commonly causes rashes and severe discomfort.

It is determined that a mobile home only able to accommodate 5 people at one time is an inadequate facility in which to hold public meetings, particularly for a district containing 386 customers.

It is also determined that the scenario described above, in which the District's exclusive reliance on outside funding sources creates an undue economic burden on district customers and/or exposes them to severe health risks, seems to already be taking place. State and federal grants/loans only offer short-term solutions and simply mask the larger structural forces behind continual service/infrastructure needs and deficiencies. This makes clear that a new approach must be pursued. Consolidation of the CSD with the various CSD's and Public Utilities Districts (PUDs) in the Cutler-Orosi region is a logical and highly feasible option.

TABLE 5-1
Existing Water & Wastewater Connections in East Orosi

Description of Existing Infrastructure					
Drinking Water*			Waste Water *		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
108	108	0	108	108	0

* Data current as of May 2012

5.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

East Orosi does not currently have a storm drainage system.

5.4 Roads

There are various roadways in East Orosi that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately

covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 5-2 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 5-1 graphically displays this information on a map.

TABLE 5-2

Roads in Need of Major and Medium Repair in East Orosi

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Avenue 416	Fruitvale Road to Ione Road	OLAY
2	Avenue 417	Fruitvale Road to Road 139	CHIP
3	Avenue 419	Road 139 to Ione Road	GRX
4	Fruitvale Road	Idaho Avenue to Avenue 418	CHIP
5	Hollister Road	Idaho Avenue to Avenue 419	CHIP
6	Road 139	Avenue 417 west to Avenue 419	CHIP

OLAY – overlay resurfacing operation	ACST – asphalt reconstruction
CHIP – chip seal	RCST – cold mix reconstruction
GRX – grind and remix	

(Source: County of Tulare Public Works, 2012)

5.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of

the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are no ADA compliant curb ramps located within East Orosi.

5.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in clear width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

There are currently no sidewalks located within East Orosi.

5.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 5-3 identifies the location of existing street lights that are maintained by Tulare County, in East Orosi, as well as their specifications. Figure 5-1 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type “W” represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 5-3
Existing Street Lights in East Orosi

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Avenue 417	Road 139	SE Corner	1612	5800	W	W	PG&E
2	Avenue 417	Ione Road	SE Corner	1622(3176)	5800	W	E	PG&E
3	Avenue 418	Hollister Road	SE Corner	1614	5800	W	S/W	PG&E
4	Avenue 419	Hollister Road	SE Corner	1616	5800	W	W	PG&E
5	Florida Avenue	Ione Road	NW Corner	N/A	5800	W	E	PG&E
6	Florida Avenue	Road 139	NE Corner	1626	5800	w	S	PG&E
7	Idaho Avenue	Hollister Road	NE Corner	2380	5800	W	S	PG&E
8	Idaho Avenue	Fruitvale Road	NW Corner	1619	5800	W	E	PG&E
9	Idaho Avenue	Road 139	NE Corner	1621	5800	W	S	PG&E
10	Idaho Avenue	Ione Road	NW Corner	1622	5800	W	E	PG&E

(Source: Tulare County Public Works, March 2013)

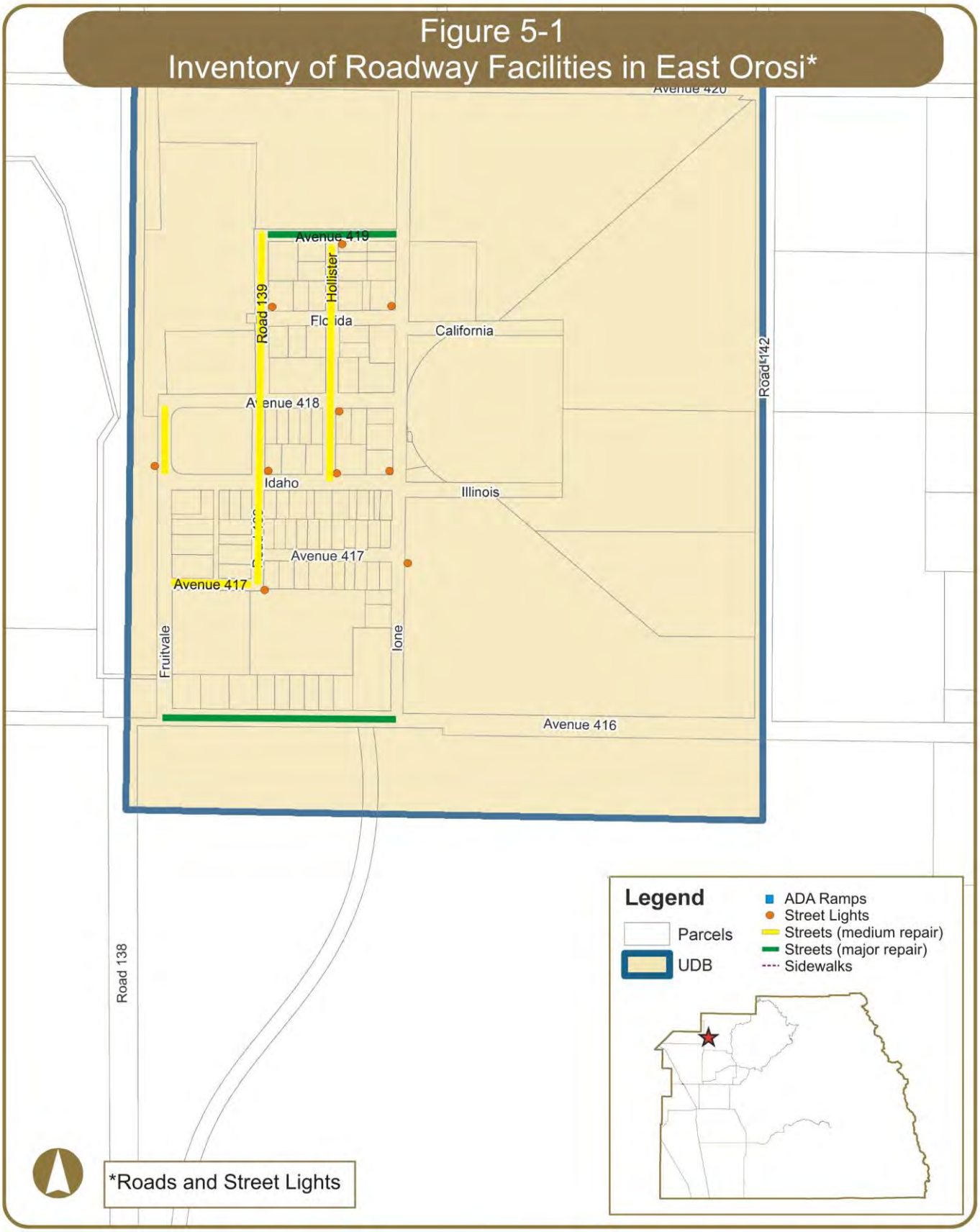


Figure 5-1
Inventory of Roadway Facilities in East Orosi*

6. COMMUNITY OF GOSHEN

6.1 General Information

Goshen is a census-designated place located in the northwest portion of Tulare County and northwest of the City of Visalia. It is generally bounded by Goshen Avenue and Mill Creek Ditch in the south, Avenue 320 in the north, Road 64 in the west, and Road 76 in the east and encompasses 1.8 square miles of land. Goshen is located approximately 1 ½ miles north of the Visalia Municipal Airport, portions of which are situated within the approach and departure area of the airport. It lies one tenth of a mile northwest of the City Limits of Visalia, 6 ½ miles from the downtown shopping area of Visalia, and immediately west of the Visalia Industrial Park. The community is square in shape, and is bisected in a northwest-southeasterly direction by State Route (SR) 99 and the Southern Pacific Railroad tracks, which divides the community into three approximately equal sized areas. Goshen is an agriculturally oriented service community surrounded on the north, west and south by lands in agricultural production and on the east by scattered residential, light industrial, agricultural and vacant land. Although primarily an agriculturally related service center, Goshen's industrial base is rapidly increasing, providing new employment opportunities for residents of the community.

Based on the 2010 Census, the population in Goshen was 3,006. Similar to other communities in Tulare County, the population of Goshen is racially diverse with 40% White, 3% African American, 3% Native American, less than 1% Asian/Pacific Islander, 50% from other races, and 5% from 2 or more races. 83% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 840 housing units located within Goshen, of which 52% are owner-occupied and 48% are renter-occupied.

6.2 Domestic Water & Wastewater

Domestic water service in Goshen is provided by the California Water Service Company (Cal Water). Cal Water operates and maintains the overall Visalia District, which includes the City of Visalia, Community of Goshen, and other private water systems that have been annexed to the Visalia District in recent years. Table 6-1 shows the number of existing water and sewer connections, the capacity of each system, and the number of additional connections the systems can accommodate for new development (Goshen Municipal Water Supply Study, December 2005 and Municipal Service Review, March 2006). Figure 6-1 graphically displays the approximate location of water wells, wastewater treatment plants, and water lines.

According to the Goshen Municipal Water Supply Study (December 2005), the existing water system is adequate to meet the current flows and pressures of present maximum day demand conditions at 1,270 gallons per minute (GPM). However, in some areas of the community, the system is not capable of meeting the current fire flow requirements of 1,000, 1,500, and 2,500 GPM for single-family residential, multi-family residential, and commercial, respectively. The Tulare County Fire Marshall requires that these fire flows be available with a residual pressure of at least 25 pounds per square inch (psi) in the system. In general, the existing Goshen area water system is only able to supply 600, 850, and 1,200 GPM. The areas where the fire flows are not being met are generally in the older parts of the community where the

distribution piping consists of 4- and 6-inch mains and the system is not "looped" to provide alternate flow paths. Some of the problem areas include the older residential developments located in the eastern portion of Goshen, bounded by the Southern Pacific Railroad on the west, Avenue 308 on the north, and Road 72 on the east. Larger pipelines and adequate system looping is recommended for these areas.

Currently, there are no storage reservoirs in the Goshen area. Due to the lack of storage capacity, the community of Goshen is currently vulnerable to water shortages during emergency conditions. If the community were to lose the existing 12-inch connection to the Visalia Water System, the Goshen area water supply (two wells with a total capacity of about 1,230 GPM) would not be sufficient to accommodate the existing peak hour demand of 1,487 GPM. It is recommended that an additional water storage reservoir and booster pump station be constructed in the Goshen area to meet current as well as future demand conditions. The recommended storage capacity is 1.6 million gallons, and the recommended booster pump station capacity is 3,000 GPM.

The Goshen area existing groundwater supply is sufficient to meet present maximum day water consumption. However, additional water supply will be needed to satisfy the community of Goshen future water demands. A minimum of three new wells with a capacity of at least 1,000 GPM each (3,000 GPM total) is recommended to meet the demands of planned development in Goshen. It is also recommended that two of the wells be equipped with standby emergency generators.

It is also recommended that the Goshen water system be connected to the Visalia Water System with additional 12-inch connections as proposed in the Visalia District Report. These future connections will be needed to meet the Goshen 2020 water demands.

Sanitary sewer service in Goshen is provided by Goshen Community Service District (CSD),which was formed in January 1958 and has the authority to provide the following services: recreation and park services, street lighting, and collect, treat or dispose of sewerage and wastewater. Figure 6-2 graphically displays the location of the sewer system.

The main sewer system for the Goshen community is comprised of a collection system which was constructed in the mid to late 1990s. The construction of the CSD's sewer system was funded through a United States Department of Agriculture, Rural Economic and Community Development Grant, and Small Community Grant. Pursuant to obtaining funding for the Goshen Sewer Project, the Goshen CSD entered into a Wastewater Service Agreement with the City of Visalia for treatment of the CSD's wastewater.

The CSD's wastewater collection system dumps into a lift station (owned and operated by the CSD) near the intersection of Avenue 305 and Effie Drive, which in turn, pumps the wastewater into a 24-inch line in Camp Drive (that is owned and maintained by the City of Visalia). The sewer lift station operates with two pumps, and has a design capacity of 500,000 GPD. The Wastewater Service Agreement between City of Visalia and the Goshen CSD allows for a current contracted average daily discharge to the City's treatment plant of 335,000 GPD. The Wastewater Service Agreement does provide for the purchase of additional capacity which would be charged on a percentage increase basis.

As of November 2005, the CSD was contributing an average daily flow of approximately 315,000 GPD of raw sewage to the City's Wastewater Treatment Facility (WWTF). Assuming the CSD can accommodate up to 500,000 GPD based upon the limitations of the lift station, it can be concluded that the sewer system is operating at approximately 65% of its capacity.

TABLE 6-1
Existing Water & Wastewater Connections in Goshen

Description of Existing Infrastructure					
Drinking Water*			Waste Water **		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
914	914	0 [1]	977	1,503	526

* Data current as of December 2005

** Data current as of March 2006

1 The Goshen Municipal Water Supply Study (December 2005) states the following:

- The water system is not currently able to meet fire flow requirements in some areas of Goshen
- The lack of storage reservoirs (capacity) means that Goshen is vulnerable to water shortages during emergency situations
- Existing groundwater supply is adequate for existing usage, but additional supply is needed to satisfy future water demands
- The Study recommends various improvements in order to meet future water demands

6.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Table 6-2 identifies the location of drainage inlets and sumps in Goshen. Figure 6-1 also displays this information graphically.

TABLE 6-2
Existing Storm Drainage Facilities in Goshen

Location of Existing Storm Drainage Facilities			
No.	**East-West Roadway**	**North-South Roadway**	**Type**
1	Avenue 304	Road 66	Sump
2	Avenue 304	east of Dollarhide Road	Sump
3	Avenue 304	west of Bradham Drive	Inlet
4	Avenue 305	west of Nutmeg Road	Sump
5	Avenue 305	Commercial Road	Inlet
6	Avenue 305	Camp Drive	Inlet
7	Avenue 305	Road 64	Sump
8	Avenue 306	Road 66	Inlet
9	Avenue 306	Road 68	Inlet
10	Avenue 306	Ivy Road	Inlet
11	Avenue 306	Camp Drive	Inlet
12	Avenue 308	Juniper Street	Inlet
13	Avenue 308	Effie Drive	Inlet
14	south of Avenue 308	Road 67 (at end)	Sump
15	south of Avenue 308	Dollarhide Road (at end)	Sump
16	south of Avenue 310	Road 72	Sump
17	Camp Drive	north of Road 69	Inlet
18	Camp Drive	south of Road 69	Inlet
19	Effie Drive	north of Road 68	Inlet
20	Kame Drive	Road 68	Inlet
21	Rasmussen Avenue	Road 72	Inlet
22	Woodbine Avenue	Road 72	Inlet

(Source: County of Tulare Public Works, 2014)

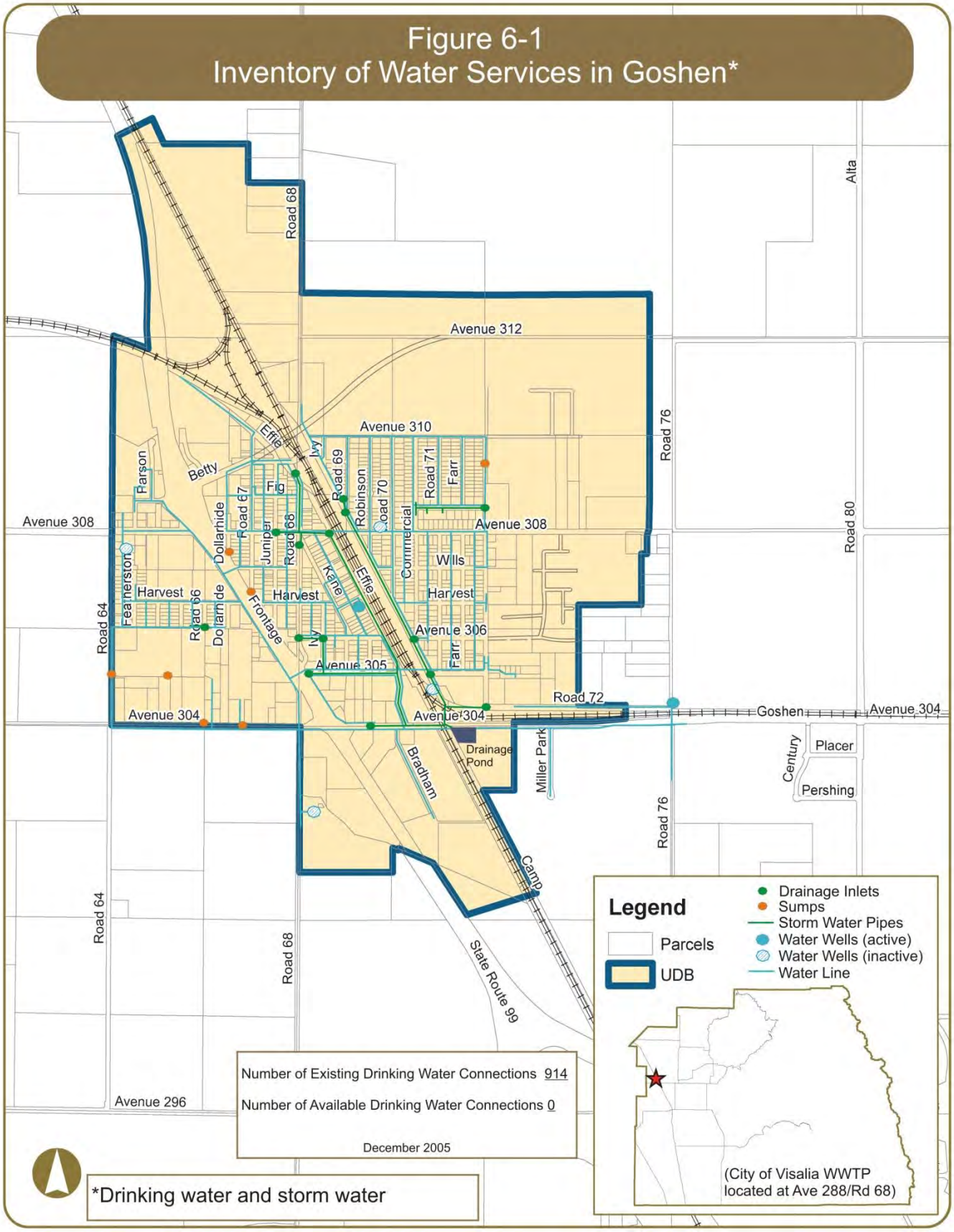


Figure 6-1
Inventory of Water Services in Goshen*
Avenue 312
Avenue 310
Avenue 308
Avenue 306
Avenue 305
Avenue 304
Avenue 296
Road 64
Road 66
Road 67
Road 68
Road 69
Road 70
Road 71
Road 72
Road 76
Road 80
Alta
Goshen
Harson
Betty
Effie
Ivy
Fig
Robinson
Farr
Commercial
Wills
Harvest
Featherston
Dollarhide
Juniper
Kane
Frontage
Bradham
Drainage Pond
Miller Park
Century
Placer
Pershing
Camp
State Route 99
Number of Existing Drinking Water Connections 914
Number of Available Drinking Water Connections 0
December 2005
*Drinking water and storm water
Legend
Parcels
UDB
Drainage Inlets
Sumps
Storm Water Pipes
Water Wells (active)
Water Wells (inactive)
Water Line
(City of Visalia WWTP
located at Ave 288/Rd 68)

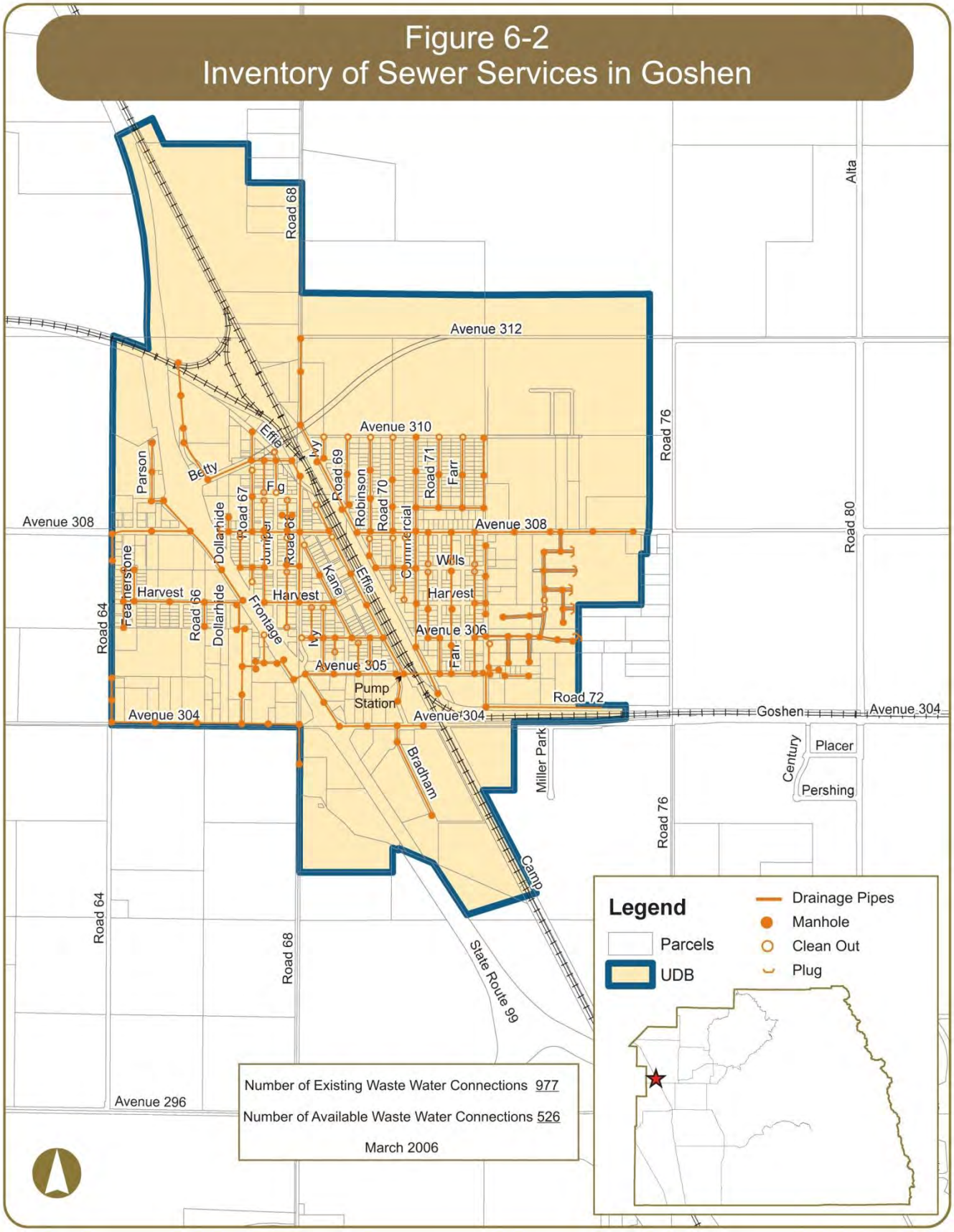


Figure 6-2
Inventory of Sewer Services in Goshen
Avenue 312
Avenue 310
Avenue 308
Avenue 306
Avenue 305
Avenue 304
Avenue 296
Road 64
Road 66
Road 67
Road 68
Road 69
Road 70
Road 71
Road 72
Road 76
Road 80
Alta
Goshen
Parson
Betty
Effie
Ivy
Fig
Juniper
Dollarhide
Featherstone
Harvest
Frontage
Kane
Robinson
Commercial
Farr
Wills
Pump Station
Bradham
Miller Park
Camp
Century
Placer
Pershing
State Route 99
Legend
Parcels
UDB
Drainage Pipes
Manhole
Clean Out
Plug
Number of Existing Waste Water Connections 977
Number of Available Waste Water Connections 526
March 2006

6.4 Roads

There are various roadways in Goshen that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 6-3 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 6-3 graphically displays this information on a map.

TABLE 6-3

Roads in Need of Major and Medium Repair in Goshen

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Avenue 304	Road 68 to SR 99	OLAY
2	Avenue 304	Commercial Road to Effie Drive	CHIP
3	Avenue 305	Camp Drive to Road 72	GRX
4	Avenue 308	SR 99 to Road 67	GRX
5	Avenue 308	Camp Drive to Road 72	CHIP
6	Avenue 310	Ivy Road to Road 70	CHIP
7	Bradham Drive	Avenue 304 to South Dead End	OLAY
8	Camp Drive	Elder Drive to Avenue 308	CHIP
9	Commercial Road	Avenue 304 to Road 68	ACST
10	Commercial Road	Avenue 308 to Avenue 310	CHIP
11	Effie Drive	Avenue 304 to Avenue 305	GRX
12	Effie Drive	Avenue 305 to Roy Drive	CHIP
13	Elder Drive	Road 67 to Effie Drive	CHIP
14	Farr Road	Avenue 305 to North End	CHIP
15	Farr Road	Avenue 310 to Woodbine Avenue	CHIP
16	Harvest Avenue	Road 66 to SR 99	OLAY
17	Harvest Avenue	Road 67 (End) to Road 68	CHIP
18	Harvest Avenue	Commercial Road to Road 72	CHIP
19	Ivy Road	Elder Avenue to Avenue 310	CHIP
20	Rasmussen Avenue	Road 72 to Goshen Eastern Limit	CHIP
21	Road 66	Harvest Avenue to South Dead End	CHIP
22	Road 67	Betty Drive to North End	ACST
23	Road 68	Commercial Road to Avenue 308	CHIP
24	Road 68	Avenue 308 to Betty Drive	OLAY
25	Road 68	Avenue 308 to Effie Drive	GRX
26	Road 70	Camp Drive to Avenue 308	CHIP
27	Road 71	Avenue 310 to Woodbine Avenue	CHIP
28	Road 72	Avenue 310 to Woodbine Avenue	CHIP
29	Robinson Road	Camp Drive to Avenue 308	CHIP
30	Robinson Road	Avenue 310 to South Dead End	CHIP
31	Roy Drive	Kame Drive to Effie Drive	CHIP
32	Woodbine Avenue	Commercial Road to Road 72	CHIP

OLAY – overlay resurfacing operation
CHIP – chip seal
reconstruction
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix

(Source: County of Tulare Public Works, 2012)

6.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are various ADA compliant curb ramps located within Goshen and are listed in Table 6-4 and displayed in Figure 6-3.

TABLE 6-4
Existing ADA Curb Ramps in Goshen

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
1	Ashworth Avenue	Cottontail Street	NE Corner
2	Ashworth Avenue	Cottontail Street	NW Corner
3	Ashworth Avenue	Cottontail Street	SE Corner
4	Ashworth Avenue	Cottontail Street	SW Corner
5	Avenue 304	Frontage Road	NW Corner
6	Avenue 304	Frontage Road	NE Corner
7	Avenue 305	Ivy Road	NE Corner
8	Avenue 305	Kame Drive	NW Corner
9	Avenue 306	Effie Drive	SW Corner
10	Avenue 306	Camp Drive	SE Corner
11	Avenue 306	Farr Road	NE Corner
12	Avenue 306	Road 72	NE Corner
13	Avenue 306	Road 72	SE Corner
14	Avenue 306	Hawk Court	SW Corner
15	Avenue 306	Hawk Court	SE Corner
16	Avenue 306	Coyote Court	SW Corner
17	Avenue 306	Coyote Court	SE Corner
18	Avenue 306	Cottontail Street	NW Corner
19	Avenue 306	Cottontail Street	NE Corner
20	Avenue 308	Frontage Road	NW Corner
21	Avenue 308	Dollarhide Road	NW Corner
22	Avenue 308	Dollarhide Road	SW Corner
23	Avenue 308	Dollarhide Road	NE Corner
24	Avenue 308	Dollarhide Road	SE Corner
25	Avenue 308	Eagle Avenue	SW Corner

TABLE 6-4 (Continued)
Existing ADA Curb Ramps in Goshen

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
26	Avenue 308	Eagle Avenue	SE Corner
27	Avenue 308	Camp Drive	SE Corner
28	Avenue 310	Ivy Road	NE Corner
29	Avenue 310	Ivy Road	NW Corner
30	Avenue 310	Road 69	SW Corner
31	Avenue 310	Road 69	SE Corner
32	Avenue 310	Robinson Road	SE Corner
33	Avenue 310	Robinson Road	SW Corner
34	Avenue 310	Robinson Road	NW Corner
35	Avenue 310	Road 71	SE Corner
36	Avenue 310	Road 71	SW Corner
37	Avenue 310	Road 72	NE Corner
38	Avenue 310	Road 72	SE Corner
39	Avenue 310	Road 72	SW Corner
40	Avenue 310	Commercial Road	SE Corner
41	Avenue 310	Commercial Road	SW Corner
42	Avenue 310	Farr Road	SE Corner
43	Avenue 310	Farr Road	SW Corner
44	Avenue 310	Eagle Street	NE Corner
45	Avenue 310	Eagle Street	NW Corner
46	Avenue 310	Wolfe Street	NE Corner
47	Avenue 310	Wolfe Street	NW Corner
48	Avenue 312	Road 72	SE Corner
49	Betty Drive	SR 99 NB Off Ramp	SW Corner
50	Betty Drive	SR 99 NB Off Ramp	SE Corner
51	Betty Drive	SR 99 SB On Ramp	SW Corner
52	Betty Drive	SR 99 SB On Ramp	SE Corner
53	Betty Drive	Featherstone Road	SE Corner
54	Betty Drive	Road 67	NE Corner
55	Betty Drive	Road 67	NW Corner
56	Betty Drive	Parson Drive	NE Corner
57	Betty Drive	Parson Drive	NW Corner
58	Betty Drive	Road 67	SE Corner
59	Betty Drive	Road 67	SW Corner
60	Betty Drive	Robinson Road	NE Corner

TABLE 6-4 (Continued)
Existing ADA Curb Ramps in Goshen

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
61	Betty Drive	Robinson Road	NW Corner
62	Betty Drive	Robinson Road	SE Corner
63	Betty Drive	Robinson Road	SW Corner
64	Camp Drive	Robinson Road	NE Corner
65	Camp Drive	Robinson Road	SE Corner
66	Camp Drive	Road 69	NE Corner
67	Elder Avenue	Frontage Road	SE Corner
68	Elder Avenue	Frontage Road	SW Corner
69	Elder Avenue	Ivy Road	NE Corner
70	Elder Avenue	Juniper Street	SE Corner
71	Elder Avenue	Juniper Street	SW Corner
72	Elder Avenue	Effie Drive	SW Corner
73	Elm Avenue	Eagle Street	SE Corner
74	Elm Avenue	Eagle Street	SW Corner
75	Elm Avenue	Wolfe Street	SW Corner
76	Ensminger Avenue	Eagle Avenue	NW Corner
77	Ensminger Avenue	Eagle Avenue	NE Corner
78	Ensminger Avenue	Cottontail Street	SE Corner
79	Gadbury Court	Kit Fox Court	NE Corner
80	Gadbury Court	Kit Fox Court	SE Corner
81	Goshen Village II Entrance N	Road 72	NE Corner
82	Goshen Village II Entrance N	Road 72	SE Corner
83	Goshen Village II Entrance S	Road 72	NE Corner
84	Goshen Village II Entrance S	Road 72	SE Corner
85	Harvest Avenue	Frontage Road	NW Corner
86	Harvest Avenue	Road 68	NW Corner
87	Lickey Court	Cottontail Street	NW Corner
88	Lickey Court	Cottontail Street	SW Corner
89	Nutmeg Road	Road 67	SW Corner
90	Nutmeg Road	Road 67	SE Corner
91	Wellman Avenue	Cottontail Street	NE Corner
92	Wellman Avenue	Cottontail Street	SE Corner
93	Wellman Avenue	Kit Fox Court	SW Corner
94	Wellman Avenue	Kit Fox Court	SE Corner
95	Alley	Road 68	NW Corner

TABLE 6-4 (Continued)
Existing ADA Curb Ramps in Goshen

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
96	Alley	Road 68	SW Corner
97	Wills Avenue	Camp Drive	NE Corner
98	Woodbine Avenue	Road 71	NE Corner
99	Woodbine Avenue	Road 71	NW Corner
100	Woodbine Avenue	Farr Road	NE Corner
101	Woodbine Avenue	Farr Road	NW Corner
102	Woodbine Avenue	Road 72	NW Corner
103	Woodbine Avenue	Road 72	SW Corner

(Source: County of Tulare Public Works, August 2013)

6.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 6-5 identifies the location of existing sidewalks in Goshen. Figure 6-3 also displays this information graphically. The sidewalks represented in Table 6-5 and Figure 6-3 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 6-5
Existing Sidewalks in Goshen

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
1	Ashworth Avenue	East end to west end	North side
2	Ashworth Avenue	East end to west end	South side
3	Avenue 305	Commercial Road to Kame Drive	South side
4	Avenue 305	Ivy Road to Kame Drive	North side
5	Avenue 306	Road 72 to east end	North side
6	Avenue 306	Road 72 to east end	South side
7	Avenue 308	West end to 175' east of Dollarhide Road	North side
8	Avenue 308	West end to 175' east of Dollarhide Road	South side
9	Avenue 308	200' west of Road 70 to Commercial Road	North side
10	Avenue 310	Camp Drive to 500' east of Road 72	South side
11	Avenue 310	Road 72 to east end	North side
12	Betty Drive	Featherstone Road to SR 99 SB Off Ramp	North side
13	Betty Drive	Nutmeg Road to Robinson Road	North side
14	Betty Drive	Nutmeg Road to Robinson Road	South side
15	Camp Drive	Avenue 310 to Road 69	East side
16	Camp Drive	Avenue 308 to Wills Avenue	East side
17	Camp Drive	Avenue 306 to Avenue 305	East side
18	Commercial Road	Avenue 305 to 450' south	East side
19	Commercial Road	Avenue 310 to Woodbine Avenue	East side
20	Commercial Road	Avenue 310 to Woodbine Avenue	West side
21	Commercial Road	Avenue 308 to 150' south	East side
22	Cottontail Street	Avenue 306 to Ensminger Avenue	East side
23	Cottontail Street	Avenue 306 to Ensminger Avenue	West side
24	Coyote Court	Avenue 306 to south end	East side
25	Coyote Court	Avenue 306 to south end	West side
26	Eagle Street	Avenue 310 to Elm Avenue	East side
27	Eagle Street	Avenue 310 to Elm Avenue	West side
28	Eagle Street	Avenue 308 to Ensminger Avenue	East side
29	Eagle Street	Avenue 308 to Ensminger Avenue	West side
30	Effie Drive	Avenue 304 to 250' north	East side
31	Elder Avenue	Ivy Road to Road 69	North side
32	Elder Drive	Betty Drive to Effie Drive	South side
33	Elm Avenue	West end to Wolfe Street	North side
34	Elm Avenue	West end to Wolfe Street	South side
35	Ensminger Avenue	Cottontail Street to east end	North side

TABLE 6-5 (Continued)
Existing Sidewalks in Goshen

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
36	Ensminger Avenue	Cottontail Street to east end	South side
37	Farr Road	Avenue 310 to Woodbine Avenue	East side
38	Farr Road	Avenue 310 to Woodbine Avenue	West side
39	Frontage Road	Harvest Avenue to 350' north	West side
40	Gadbury Avenue	Kit Fox Court to east end	North side
41	Gadbury Avenue	Kit Fox Court to east end	South side
42	Goshen Village Community II	Entire development	Entire development
43	Harvest Avenue	Road 66 to Frontage Road	North side
44	Hawk Court	Avenue 306 to south end	East side
45	Hawk Court	Avenue 306 to south end	West side
46	Ivy Road	Avenue 310 to Camp Drive	East side
47	Kit Fox Court	Wellman Avenue to south end	East side
48	Kit Fox Court	Wellman Avenue to south end	West side
49	Lickey Court	Cottontail Street to west end	North side
50	Lickey Court	Cottontail Street to west end	South side
51	Parson Drive	Betty Drive to north end	East side
52	Parson Drive	Betty Drive to north end	West side
53	Road 67	Betty Drive to north end	East side
54	Road 67	Betty Drive to north end	West side
55	Road 68	Harvest Avenue to 300' north	East side
56	Road 68	Wills Avenue to 150' south	West side
57	Road 69	Avenue 310 to Elder Avenue	West side
58	Road 69	Avenue 310 to Camp Drive	East side
59	Road 70	Avenue 310 to Avenue 308	East side
60	Road 70	Avenue 310 to Avenue 308	West side
61	Road 71	Avenue 310 to Woodbine Avenue	East side
62	Road 71	Avenue 310 to Woodbine Avenue	West side
63	Road 72	Avenue 312 to 350' north of Woodbine Avenue	East side
64	Road 72	Avenue 310 to Avenue 308	West side
65	Robinson Road	Road 68 to Avenue 310	South side
66	Robinson Road	250' south of Avenue 310 to south end	East side
67	Robinson Road	250' south of Avenue 310 to south end	West side
68	Wellman Avenue	Cottontail Street to east end	North side
69	Wellman Avenue	Cottontail Street to east end	South side
70	Wolfe Street	Avenue 310 to Elm Avenue	East side
71	Wolfe Street	Avenue 310 to Elm Avenue	West side
72	Woodbine Avenue	Commercial Road to Road 72	North side
73	Woodbine Avenue	75' east of Road 71 to Road 72	South side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

6.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 6-6 identifies the location of existing street lights that are maintained by Tulare County, in Goshen, as well as their specifications. Figure 6-3 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type "W" represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 6-6

Existing Street Lights in Goshen

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Avenue 304	Camp Drive	NE Corner	827553E	9500	W	S	SCE
2	Avenue 304	Road 68	SW Corner	141080E	9500	W	E	SCE
3	Avenue 304	SR 99 SB Ramps	West of ramps (S side)	N/A	N/A	N/A	N	N/A
4	Avenue 304	SR 99 NB Off Ramp	West side	827558E	9500	W	E	SCE
5	Avenue 305	Camp Drive	NE Corner	870946E	9500	W	W	SCE
6	Avenue 306	Camp Drive	SE Corner	N/A	N/A	N/A	W	N/A
7	Avenue 306	Road 71	NW Corner	2281683E	5800	W	S	SCE
8	Avenue 306	Farr Road	NW Corner	2281682E	5800	W	S	SCE
9	Avenue 306	Road 68	North of Avenue 306 (W side)	1100329E	5800	W	E	SCE
10	Avenue 306	Kame Drive	NW Corner	148595E	5800	W	S	SCE
11	Avenue 308	Road 64	NW Corner	977121E	5800	W	S	SCE
12	Avenue 308	Parson Drive	East of Parson (N side)	977463E	9500	W	S	SCE
13	Avenue 308	Road 67	NW Corner	732037E	5800	W	S	SCE
14	Avenue 308	Juniper St	NW Corner	286076E	5800	W	E	SCE
15	Avenue 308	Road 68	NW Corner	388598E	5800	W	E	SCE
16	Avenue 308	Frontage Road	SW Corner	388598E	5800	W	E	SCE
17	Avenue 308	Camp Drive	NE Corner	1338049E	9500	W	S	SCE
18	Avenue 308	Road 70	NW Corner	1359851E	5800	W	S	SCE
19	Avenue 308	Road 76	SW Corner	722523E	5800	W	E	SCE
20	Avenue 310	Camp Drive	NE Corner	N/A	N/A	N/A	S	N/A
21	Avenue 310	Ivy Road	NE Corner	N/A	N/A	N/A	S	N/A
22	Avenue 310	Road 69	NW Corner	N/A	N/A	N/A	S	N/A
23	Avenue 310	Road 69	NE Corner	N/A	N/A	N/A	S	N/A
24	Avenue 312	Road 68	SW Corner	2041846E	9500	W	E	SCE
25	Betty Drive	Frontage Road	SW Corner	4167077E	5800	M	N	SCE
26	Betty Drive	Parson Drive	NW Corner	4167079E	5800	M	S	SCE
27	Betty Drive	Parson Drive	50' north of Betty (E side)	4167080E	5800	M	W	SCE
28	Betty Drive	Parson Drive	100' north of Betty (E side)	4167081E	5800	M	W	SCE
29	Betty Drive	Parson Drive	150' north of Betty (E side)	4167082E	5800	M	W	SCE
30	Betty Drive	Featherstone Dr	SE Corner	4368514	5800	C	N	SCE
31	Betty Drive	Road 67	NE Corner	N/A	N/A	N/A	W	N/A
32	Betty Drive	Road 67	NW Corner	N/A	N/A	N/A	S	N/A
33	Betty Drive	Road 67	SE Corner	N/A	N/A	N/A	N	N/A
34	Betty Drive	Road 67	SW Corner	N/A	N/A	N/A	E	N/A
35	Betty Drive	Robinson Rd	NE Corner	N/A	N/A	N/A	W	N/A

TABLE 6-6 (Continued)
Existing Street Lights in Goshen

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
36	Betty Drive	Robinson Rd	NW Corner	N/A	N/A	N/A	S	N/A
37	Betty Drive	Robinson Rd	SE Corner	N/A	N/A	N/A	N	N/A
38	Betty Drive	Robinson Rd	SW Corner	N/A	N/A	N/A	E	N/A
39	Betty Drive	RR	On overpass (N side)	N/A	N/A	N/A	S	N/A
40	Betty Drive	RR	On overpass (S side)	N/A	N/A	N/A	N	N/A
41	Camp Drive	Road 69	NE Corner	1504129E	9500	W	W	SCE
42	Camp Drive	Road 70	NW Corner	1338042E	9500	W	W	SCE
43	Effie Drive	Road 68	East side	85827	9500	W	W	SCE
44	Elder Drive	Road 67	SE Corner	1374818E	9500	W	N	SCE
45	Elder Drive	Camp Drive	North of Elder (E side)	1391519E	9500	W	W	SCE
46	Elder Drive	Road 69	NW Corner	N/A	5800	W	E	SCE
47	Elder Drive	Effie Drive	NW Corner	121523E	9500	W	S	SCE
48	Fig Avenue	Road 67	NE Corner	1343195E	5800	W	W	SCE
49	Fig Avenue	Juniper St	NE Corner	1338045E	5800	W	W	SCE
50	Frontage Road	Road 68	On curve (W side)	1100317E	9500	W	N/E	SCE
51	Harvest Avenue	Road 72	40' south of Road 72 (E side)	0064879E	5800	W	W	SCE
52	Harvest Avenue	Juniper St	NE Corner	N/A	5800	W	W	SCE
53	Harvest Avenue	Commercial Rd	NE Corner	N/A	5800	W	W	SCE
54	Harvest Avenue	Road 66	South dead end (E side)	1620425E	5800	W	W	SCE
55	Rasmussen Avenue	Road 72	NE Corner	3732T	5800	W	S/W	SCE
56	Roy Drive	Effie Drive	NW Corner	1338046	9500	W	E	SCE
57	Wills Ave	Road 71	SW Corner	2031955E	5800	W	E	SCE
58	Wills Ave	Commercial Rd	SE Corner	4098876E	5800	W	N	SCE
59	Wills Ave	Camp Drive	NE Corner	N/A	9500	W	SW	SCE

(Source: Tulare County Public Works, March 2013)

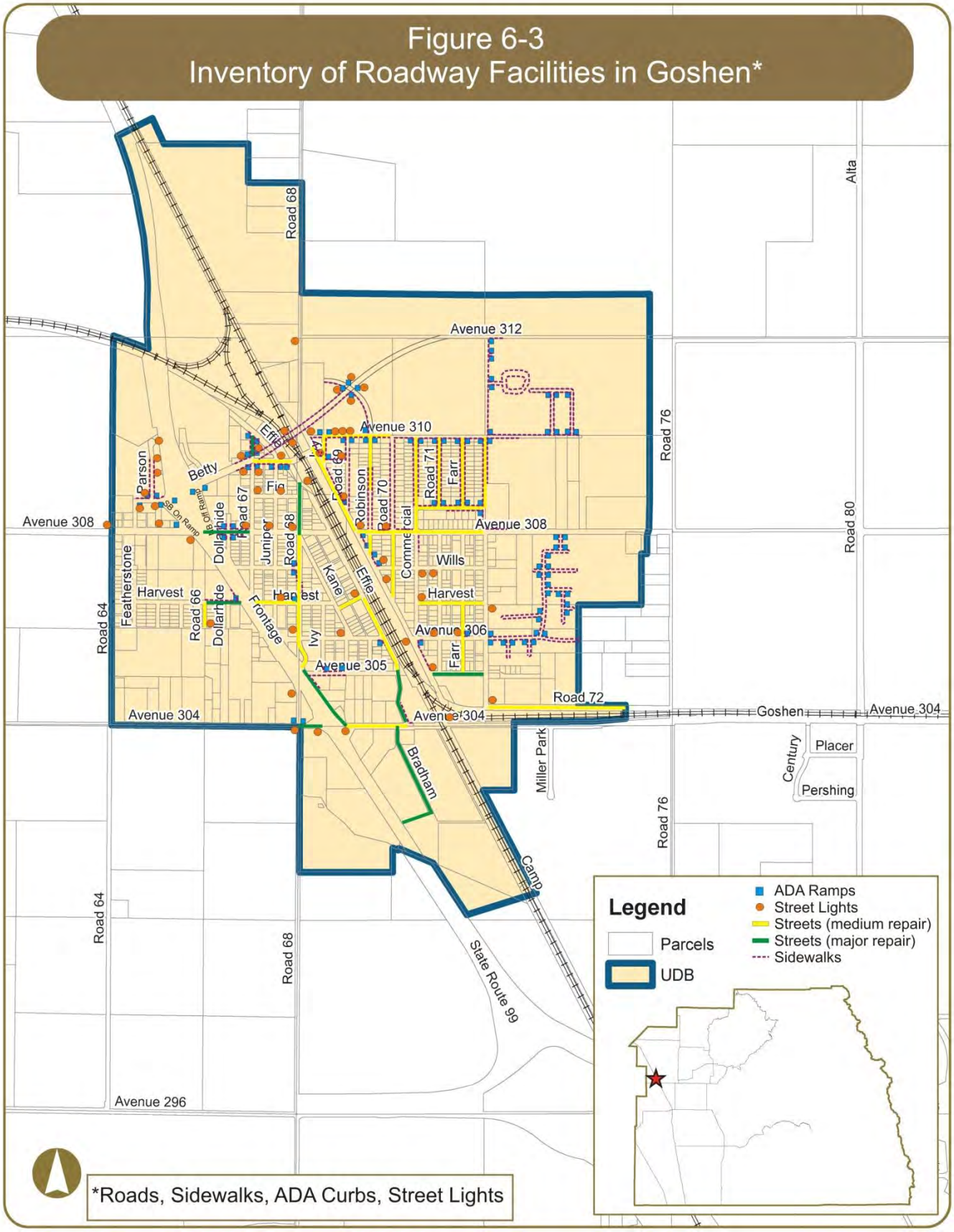


Figure 6-3
Inventory of Roadway Facilities in Goshen*
Avenue 312
Avenue 310
Avenue 308
Avenue 306
Avenue 305
Avenue 304
Avenue 296
Road 64
Road 66
Road 67
Road 68
Road 69
Road 70
Road 71
Road 72
Road 76
Road 80
Alta
Goshen
Placer
Pershing
Century
Miller Park
Bradham
Camp
Kane
Effie
Ivy
Betty
Parson
Featherstone
Harvest
Dollarhide
Juniper
Fig
Robinson
Commercial
Farr
Wills
Frontage
State Route 99
SB On Ramp
SB Off Ramp
Legend
Parcels
UDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, ADA Curbs, Street Lights

7. COMMUNITY OF IVANHOE

7.1 General Information

Ivanhoe is a census-designated place located in the northwest portion of Tulare County, northeast of Visalia. It is generally bounded by Avenue 320 in the south, Avenue 336 in the north, Road 152 in the west, and Road 164 in the east and encompasses 2 square miles of land. Ivanhoe is located along State Route (SR) 216 approximately 7 ½ miles northeast of downtown Visalia. The community is rectangular in shape and is bisected in a northwest-southeasterly direction by the San Joaquin Valley railroad tracks. North-south railroad crossings exist along Road 156, Road 159, and Road 160 (Depot Drive). East-west railroad crossing exist along Avenue 332, Avenue 330, and SR 216. Ivanhoe is an agriculturally oriented service community surrounded on all sides by lands in agricultural production, scattered rural residential uses and vacant land. Cities and communities surrounding Ivanhoe include Visalia to the southwest, Woodlake to the northeast, and the communities of Yettem and Seville to the north.

Based on the 2010 Census, the population in Ivanhoe was 4,495. Similar to other communities in Tulare County, the population of Ivanhoe is racially diverse with 45% White, less than 1% African American, 2% Native American, 1% Asian/Pacific Islander, 49% from other races, and 3% from 2 or more races. 84% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 1,217 housing units located within Ivanhoe, of which 61% are owner-occupied and 39% are renter-occupied.

7.2 Domestic Water & Wastewater

Domestic water and sanitary sewer service in Ivanhoe is provided by the Ivanhoe Public Utilities District (PUD), which was formed in October 1951. Table 7-1 shows the number of existing water and sewer connections, the capacity of each system, and the number of additional connections the systems can accommodate for new development (Housing Element, May 2012 and Municipal Service Review, March 2006). Figure 7-1 graphically displays the approximate location of water wells and water lines. Figure 7-2 graphically displays the approximate location of the sewer system and wastewater treatment plant.

According to the Municipal Service Review 2006 (MSR), Ivanhoe's water supply is derived from six existing deep underground wells that provide an ample, excellent water supply requiring no chlorination or treatment. The six wells have a total maximum production efficiency of approximately 3,600 gallons per minute (GPM). In 1990, the PUD lost one of its seven wells due to Dibromochloropropane (DBCP) contamination, which resulted in an $800,000 settlement being awarded to the PUD.

Well production data indicates that three of the six wells had comparably lower productions indicating that they are used as needed to meet fire flow and/or peak flow demands. The PUD's wells produced 287.611 million gallons in 2003, with a maximum monthly production of 38.181 million gallons occurring in June, corresponding to a maximum day demand of 1.28 million gallons per day (MGD).

Assuming 1,200 equivalent dwelling units (EDUs), in order to meet Tulare County Improvement Standards

the Ivanhoe PUD water system would need to be capable of delivering a combined flow rate (from all source and storage facilities) of 2,800 GPM (1,500 GPM fire flow, and 1,600 GPM domestic demand) for a period of two hours while maintaining a minimum pressure of 25 pounds per square inch (PSI) to each lot served. The PUD's water system is capable of delivering a source flow of 3,600 GPM, and includes pneumatic pressure tanks for storage, indicating the system currently meets the requirements of the Tulare County Improvement Standards. Based upon a calculation performed in accordance with General Order 103, published by the California Public Utilities Commission, it is estimated that the PUD's current water system could support approximately 1,200 additional EDUs.

In 2004, the PUD received a $2 million State Revolving Fund (SRF) loan, a portion of which was used to replace old water lines with new water lines and relocate the lines from alleys to streets. Approximately $1.4 million in water line replacements has been completed. The remaining $600,000 was to be used to bring one new well online. Since the PUD's water system has sufficient capacity, the Board voted not to drill a new well at this time. It is anticipated that the $600,000 that was to be used for a new well will be returned to the State.

The PUD operates a Wastewater Treatment Facility (WWTF) that provides secondary treatment of wastewater and is located southwest of the community. The WWTF is operated under the provisions of Order No. 98-090 issued by the California Regional Water Quality Control Board (RWQCB), which prescribes that the monthly average daily discharge shall not exceed 0.56 MGD. Treated effluent from the WWTF is recycled on 61.2 acres of pasture land south of the plant, which is leased by the PUD for grazing of non-milking cattle.

The average dry weather flow at the WWTF is approximately 0.36 MGD resulting in an excess capacity of approximately 200,000 GPD. Based upon the available capacity at the WWTF (200,000 GPD), it is estimated that approximately 650 additional connections (EDUs) to the system could be supported.

Based upon a review of monthly monitoring reports submitted to the RWQCB, the PUD's wastewater inflows are typically higher during summer months than during winter months indicating that there is no significant inflow and infiltration into the collection system during the winter months. This is an indication that the collection system is in adequate operating condition. The PUD will need to increase the capacity of its WWTF to support projected growth through year 2025. It is recommended that the PUD research State and Federal grants and/or loans that may be available to help finance improvements to the PUD's WWTF. Clean Water Grants, State Revolving Fund Loans, and Small Community Grants are examples.

TABLE 7-1

Existing Water & Wastewater Connections in Ivanhoe

Description of Existing Infrastructure					
Drinking Water*			Waste Water **		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
1,200	2,400	1,200	1,200	1,850	650

* Data current as of May 2012

** Data current as of March 2006

7.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Table 7-2 identifies the location of drainage inlets and sumps in Ivanhoe. Figure 7-1 also displays this information graphically.

TABLE 7-2
Existing Storm Drainage Facilities in Ivanhoe

Location of Existing Storm Drainage Facilities			
No.	**East-West Roadway**	**North-South Roadway**	**Type**
1	Aspen Avenue	Road 156	Inlet
2	Aspen Avenue	Road 158	Inlet
3	Avenue 327	Road 159	Inlet
4	Avenue 330	East of Hawthorne Road	Inlet
5	Avenue 332	East of Road 156	Inlet
6	Avenue 332	East of Road 159	Inlet
7	Avenue 332	West of Road 159	Inlet
8	Azalea Avenue	East of Hawthorne Road	Inlet
9	Azalea Avenue	West of Manzanita Road	Inlet
10	Azalea Avenue	West of Road 159	Inlet
11	Beechwood Avenue	Road 156	Inlet
12	Beechwood Avenue	East of Road 158	Inlet
13	Between Avenue 328 and Avenue 330	Road 156	Inlet
14	Citrus Avenue	East of Manzanita Road	Inlet
15	Depot Drive	West of Manzanita Road	Inlet

TABLE 7-2

Existing Storm Drainage Facilities in Ivanhoe

Location of Existing Storm Drainage Facilities			
No.	**East-West Roadway**	**North-South Roadway**	**Type**
16	Depot Drive	East of Road 159	Inlet
17	Depot Drive	East of Hawthorne Road	Inlet
18	Depot Drive	Road 160	Inlet
19	Edmiston Avenue	East of Manzanita Road	Inlet
20	Fuchsia Avenue	Road 157	Inlet
21	Heather Avenue	East of Road 159	Inlet
22	Heather Avenue	West of Road 159	Inlet
23	Jasmine Avenue	Road 156	Inlet
24	Jasmine Avenue	West of Road 158	Inlet
25	Lantana Avenue	East of Hawthorne Road	Inlet
26	North of Aspen Avenue	Road 156	Inlet
27	North of Avenue 328	Road 158	Inlet
28	North of Avenue 328	Manzanita Road	Inlet
29	North of Avenue 328	Road 159	Inlet
30	North of Avenue 330	Road 156	Inlet
31	North of Avenue 332	Road 156	Inlet
32	North of Heather Avenue	Road 158	Inlet
33	Rosaline Road	Road 160	Inlet
34	South of Heather Avenue	Road 158	Inlet

(Source: County of Tulare Public Works, 2014)

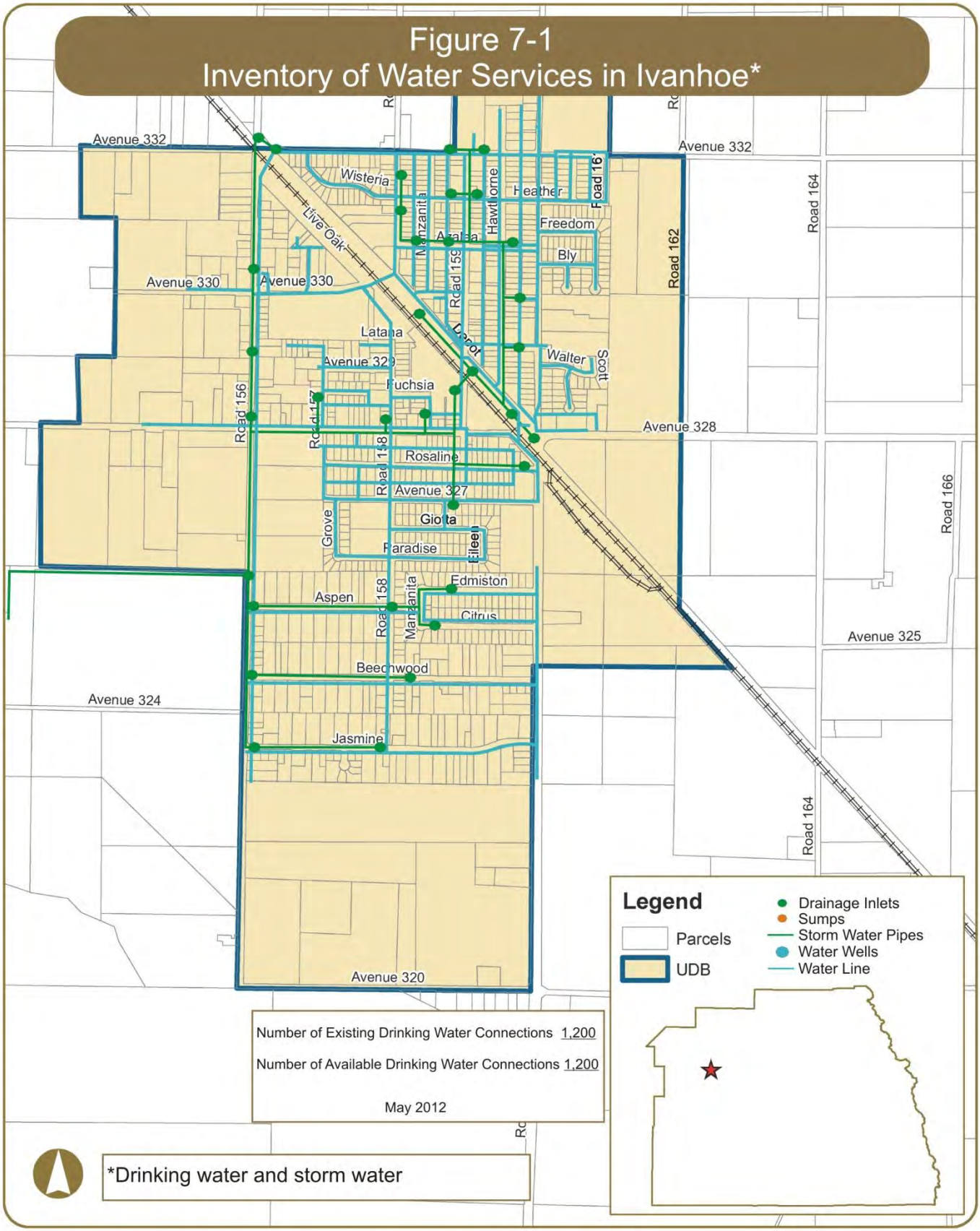


Figure 7-1
Inventory of Water Services in Ivanhoe*
Avenue 332
Avenue 332
Wisteria
Manzanita
Hawthorne
Heather
Road 161
Freedom
Azalea
Bly
Live Oak
Road 159
Road 162
Road 164
Avenue 330
Avenue 330
Latana
Depot
Walter
Scott
Avenue 329
Fuchsia
Road 156
Road 157
Avenue 328
Rosaline
Road 158
Avenue 327
Road 166
Grove
Giotta
Eileen
Paradise
Edmiston
Aspen
Road 158
Manzanita
Citrus
Avenue 325
Beechwood
Avenue 324
Jasmine
Road 164
Avenue 320
Legend
Parcels
UDB
Drainage Inlets
Sumps
Storm Water Pipes
Water Wells
Water Line
Number of Existing Drinking Water Connections 1,200
Number of Available Drinking Water Connections 1,200
May 2012
*Drinking water and storm water

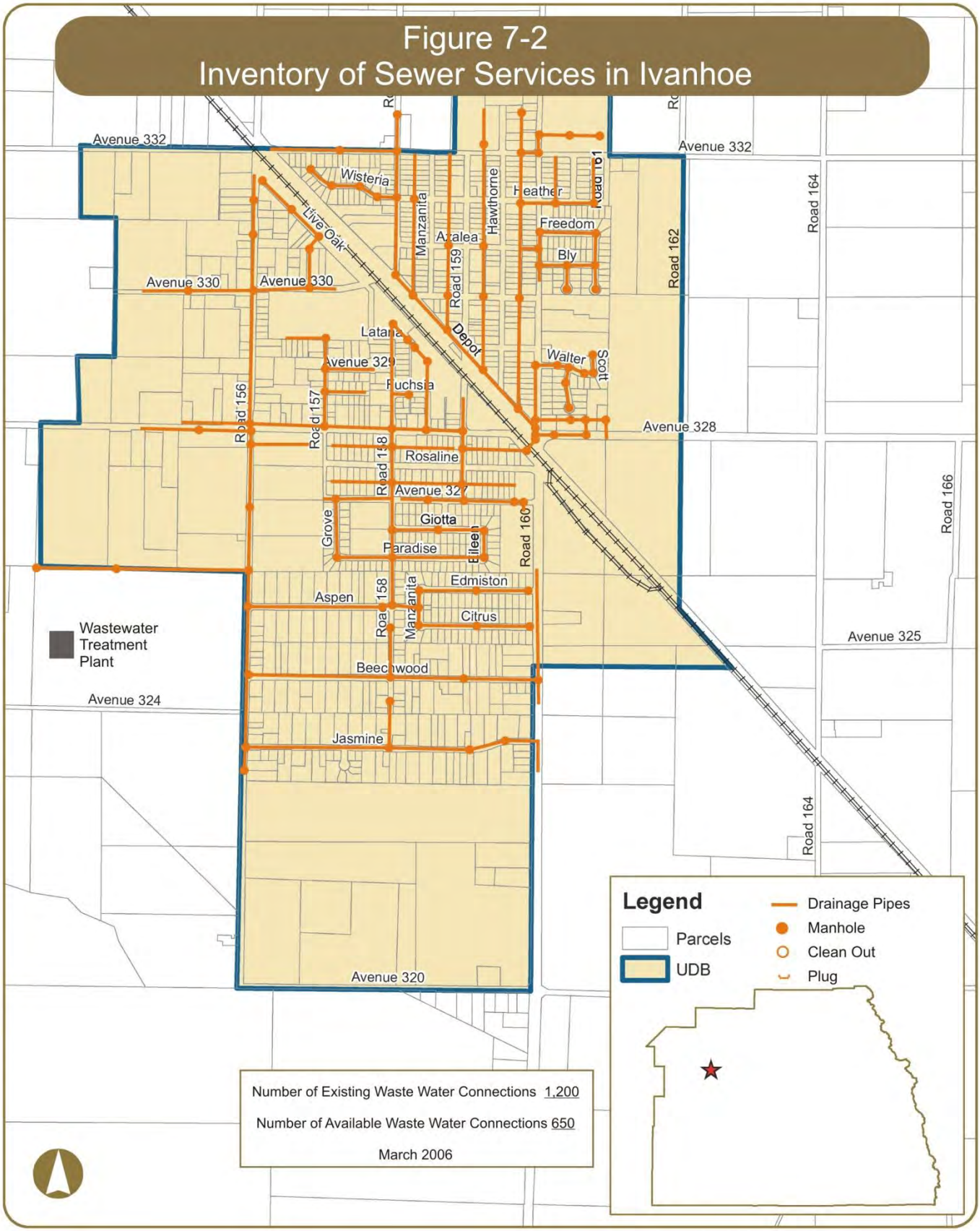


Figure 7-2
Inventory of Sewer Services in Ivanhoe
Avenue 332
Avenue 332
Wisteria
Live Oak
Manzanita
Azalea
Hawthorne
Heather
Road 161
Freedom
Bly
Road 162
Road 164
Avenue 330
Avenue 330
Road 159
Depot
Latana
Avenue 329
Fuchsia
Walter
Scott
Road 156
Road 157
Avenue 328
Rosaline
Road 158
Avenue 327
Giotta
Grove
Paradise
Eileen
Road 160
Road 166
Edmiston
Aspen
Manzanita
Citrus
Road 158
Avenue 325
Wastewater Treatment Plant
Beechwood
Avenue 324
Jasmine
Road 164
Avenue 320
Legend
Parcels
UDB
Drainage Pipes
Manhole
Clean Out
Plug
Number of Existing Waste Water Connections 1,200
Number of Available Waste Water Connections 650
March 2006

7.4 Roads

There are various roadways in Ivanhoe that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 7-3 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 7-3 graphically displays this information on a map.

TABLE 7-3

Roads in Need of Major and Medium Repair in Ivanhoe

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Aspen Avenue	Road 158 to Manzanita Road	OLAY
2	Avenue 327	Manzanita Road to Road 159	CHIP
3	Avenue 328	Road 152 to Manzanita Road	CHIP
4	Avenue 329	Road 157 to Road 158	CHIP
5	Avenue 330	Road 154 to Road 156	CHIP
6	Avenue 332	Road 152 to Road 156	GRX
7	Avenue 332	Road 156 to Road 162	CHIP
8	Azalea Avenue	Road 158 to Road 160	CHIP
9	Beechwood Avenue	Road 156 to Road 160	CHIP
10	Citrus Avenue	Manzanita Road to Road 160	OLAY

TABLE 7-3 (Continued)
Roads in Need of Major and Medium Repair in Ivanhoe

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
11	Depot Drive	Avenue 328 to Road 158	CHIP
12	Edmiston Avenue	Manzanita Road to Road 160	OLAY
13	Eileen Road	Paradise Avenue to Giotta Avenue	CHIP
14	Fuchsia Avenue	Road 157 to east end	CHIP
15	Fuchsia Avenue	Road 158 to Manzanita Road	CHIP
16	Giotta Avenue	Road 158 to Eileen Road	CHIP
17	Grove Street	Paradise Avenue to Avenue 327	CHIP
18	Hawthorne Road	Depot Drive to Avenue 332	CHIP
19	Heather Avenue	Road 158 to Road 160	GRX
20	Heather Avenue	Road 160 to Road 161	CHIP
21	Ivanhoe Drive	Avenue 328 to Road 160	CHIP
22	Live Oak Drive	Avenue 330 to Road 156	CHIP
23	Manzanita Road	Citrus Avenue to Edmiston Avenue	OLAY
24	Manzanita Road	Avenue 328 to Fuchsia Avenue	CHIP
25	Paradise Avenue	Grove Street to Eileen Road	CHIP
26	Road 156	Avenue 320 to Aspen Avenue	CHIP
27	Road 156	Aspen Avenue to Avenue 328	GRX
28	Road 156	Avenue 328 to Avenue 332	OLAY
29	Road 157	Avenue 327 to Avenue 328	OLAY
30	Road 158	Beechwood Avenue to Avenue 327	CHIP
31	Road 158	Avenue 328 to Latana Avenue	CHIP
32	Road 158	Azalea Avenue to Heather Avenue	CHIP
33	Road 159	Avenue 327 to Rosaline Road	CHIP
34	Road 159	Avenue 328 to Azalea Avenue	CHIP
35	Road 160	Avenue 328 to Avenue 332	CHIP
36	Rosaline Avenue	Road 157 to Road 158	OLAY
37	Rosaline Avenue	Road 159 to Road 160	OLAY
38	Scott Lane	Walter Avenue to north end	CHIP
39	Scott Road	Freedom Avenue to south end	CHIP

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

(Source: County of Tulare Public Works, 2012)

7.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street

crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are various ADA compliant curb ramps located within Ivanhoe and are listed in Table 7-4 and displayed in Figure 7-3.

TABLE 7-4
Existing ADA Curb Ramps in Ivanhoe

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
1	Avenue 327	Grove Street	SE Corner
2	Avenue 327	Grove Street	SW Corner
3	Avenue 327	Road 158	SE Corner
4	Avenue 327	Road 158	SW Corner
5	Avenue 327	Carmaline Road	SE Corner
6	Avenue 327	Carmaline Road	SW Corner
7	Avenue 328	Road 158	SW Corner
8	Avenue 328	Manzanita Road	NE Corner
9	Avenue 328	Manzanita Road	NW Corner
10	Avenue 328	Road 159	NE Corner
11	Avenue 328	Road 160	NE Corner
12	Avenue 330	Road 159	NE Corner
13	Avenue 330	Road 159	NW Corner
14	Avenue 330	Road 159	SE Corner
15	Avenue 330	Road 159	SW Corner
16	Avenue 332	Road 160	NE Corner
17	Avenue 332	Road 160	NW Corner
18	Avenue 332	Road 160	SE Corner
19	Avenue 332	Road 160	SW Corner
20	Avenue 332	Buckeye Road	NE Corner
21	Avenue 332	Buckeye Road	NW Corner
22	Avenue 332	Buckeye Road	SE Corner
23	Avenue 332	Buckeye Road	SW Corner
24	Azalea Avenue	Road 158	SE Corner
25	Azalea Avenue	Manzanita Road	SE Corner

TABLE 7-4 (Continued)
Existing ADA Curb Ramps in Ivanhoe

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
26	Azalea Avenue	Road 159	SE Corner
27	Azalea Avenue	Road 159	SW Corner
28	Bly Avenue	Waverly Court	SW Corner
29	Bly Avenue	Scott Road	NW Corner
30	Bly Avenue	Scott Road	SW Corner
31	Freedom Avenue	Road 160	NE Corner
32	Freedom Avenue	Road 160	SE Corner
33	Freedom Avenue	Scott Road	SW Corner
34	Giotta Avenue	Road 158	NE Corner
35	Giotta Avenue	Road 158	SE Corner
36	Giotta Avenue	Carmaline Road	NE Corner
37	Giotta Avenue	Carmaline Road	NW Corner
38	Giotta Avenue	Eileen Road	SW Corner
39	Heather Avenue	Hawthorne Road	NE Corner
40	Heather Avenue	Road 160	NE Corner
41	Heather Avenue	Road 160	NW Corner
42	Heather Avenue	Road 160	SE Corner
43	Lantana Avenue	Road 159	NE Corner
44	Lantana Avenue	Road 159	NW Corner
45	Paradise Avenue	Grove Street	NE Corner
46	Paradise Avenue	Road 158	NE Corner
47	Paradise Avenue	Road 158	NW Corner
48	Paradise Avenue	Road 158	SE Corner
49	Paradise Avenue	Road 158	SW Corner
50	Paradise Avenue	Eileen Road	NW Corner
51	Walter Avenue	Road 160	NE Corner
52	Walter Avenue	Road 160	SE Corner
53	Walter Avenue	Waverly Court	SE Corner
54	Walter Avenue	Waverly Court	SW Corner

(Source: County of Tulare Public Works, August 2013)

7.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 7-5 identifies the location of existing sidewalks in Ivanhoe. Figure 7-3 also displays this information graphically. The sidewalks represented in Table 7-5 and Figure 7-3 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 7-5
Existing Sidewalks in Ivanhoe

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
1	Aspen Avenue	Road 158 to Manzanita Road	North side
2	Avenue 327	Road 159 to Road 160	North side
3	Avenue 327	Road 157 to Road 160	South side
4	Avenue 328	Road 159 to Live Oak Drive	North side
5	Avenue 332	Road 160 to Buckeye Road	North side
6	Avenue 332	Road 160 to Buckeye Road	South side
7	Azalea Avenue	175' west of Road 159 to 150' east of Road 159	North side
8	Bly Avenue	Road 160 to Scott Road	North side
9	Bly Avenue	Road 160 to Scott Road	South side
10	Buckeye Road	Avenue 332 to 225' south	East side
11	Carmaline Road	Avenue 327 to Giotta Avenue	East side
12	Carmaline Road	Avenue 327 to Giotta Avenue	West side
13	Depot Drive	Hawthorne Road to 225' east	North side
14	Eileen Road	Giotta Avenue to Paradise Avenue	East side
15	Eileen Road	Giotta Avenue to Paradise Avenue	West side
16	Freedom Avenue	Road 160 to Scott Road	North side
17	Freedom Avenue	Road 160 to Scott Road	South side
18	Giotta Avenue	Road 158 to Eileen Road	North side
19	Giotta Avenue	Road 158 to Eileen Road	South side
20	Grove Street	Avenue 327 to Paradise Avenue	East side
21	Grove Street	Avenue 327 to Paradise Avenue	West side
22	Heather Avenue	Hawthorne Road to Buckeye Road	North side
23	Heather Avenue	Road 160 to Road 161	South side
24	Manzanita Road	Fuchsia Avenue to Avenue 328	West side
25	Paradise Avenue	Grove Street to Eileen Road	North side

TABLE 7-5 (Continued)
Existing Sidewalks in Ivanhoe

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
26	Paradise Avenue	Grove Street to Eileen Road	South side
27	Road 158	125' south of Paradise Avenue to Giotta Avenue	West side
28	Road 158	Aspen Avenue to Avenue 327	East side
29	Road 159	Avenue 328 to RR tracks	East side
30	Road 159	Depot Drive to Heather Avenue	West side
31	Road 159	Depot Drive to Azalea Avenue	East side
32	Road 160	Avenue 327 to Edmiston Avenue	West side
33	Road 160	Avenue 332 to Heather Avenue	West side
34	Road 160	Heather Avenue to 275' south of Bly Avenue	East side
35	Rosaline Road	Road 159 to Road 160	North side
36	Rosaline Road	200' west of Road 159 to 250' west of Road 160	South side
37	Scott Road	Walter Avenue to north end	East side
38	Scott Road	Walter Avenue to north end	West side
39	Scott Road	Freedom Avenue to south end	East side
40	Scott Road	Freedom Avenue to south end	West side
41	Walter Avenue	Road 160 to Scott Road	North side
42	Walter Avenue	Road 160 to Scott Road	South side
43	Waverly Court	Walter Avenue to south end	East side
44	Waverly Court	Walter Avenue to south end	West side
45	Waverly Court	Bly Avenue to south end	East side
46	Waverly Court	Bly Avenue to south end	West side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

7.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 7-6 identifies the location of existing street lights that are maintained by Tulare County, in Ivanhoe, as well as their specifications. Figure 7-3 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type “W” represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 7-6
Existing Street Lights in Ivanhoe

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Aspen Avenue	Road 156	SE Corner	4224613E	5800	W	W	SCE
2	Aspen Avenue	Road 158	SW Corner	2109772E	5800	W	E	SCE
3	Aspen Avenue	Manzanita Road	NE Corner	N/A	5800	W	W	SCE
4	Avenue 327	Road 160	SW Corner	1413755E	5800	W	E	SCE
5	Avenue 327	Grove Street	SE Corner	4226603E	5800	C	N	SCE
6	Avenue 327	Road 158	SE Corner	4226471E	5800	C	N	SCE
7	Avenue 327	Carmaline Road	SE Corner	4226472E	5800	C	N	SCE
8	Avenue 327	Road 159	SE Corner	4226473E	5800	C	N	SCE
9	Avenue 328	Road 156	SE Corner	1011970E	9500	W	N	SCE
10	Avenue 328	Road 157	SE Corner	2123342E	5800	W	N	SCE
11	Avenue 328	Road 158	SW Corner	2366349E	5800	W	N	SCE
12	Avenue 328	Road 159	SW Corner	1011983E	5800	W	N	SCE
13	Avenue 328	Road 160	SW Corner	1011987E	16000	W	E	SCE
14	Avenue 329	Road 158	NW Corner	12256T	5800	W	E	SCE
15	Avenue 329	Road 157	SE Corner	4520353E	5800	W	N	SCE
16	Avenue 330	Road 156	NE Corner	1432817E	9500	W	W	SCE
17	Avenue 330	Depot Drive	NW Corner	1382878E	5800	W	E	SCE
18	Avenue 330	Road 159	SW Corner	571392E	5800	W	E	SCE
19	Avenue 330	Hawthorne Road	SE Corner	4013376E	5800	W	N	SCE
20	Avenue 332	Wisteria Drive	NW Corner	4193133E	5800	W	S	SCE
21	Avenue 332	Road 158	NW Corner	590806E	5800	W	S	SCE
22	Avenue 332	Hawthorne Road	NW Corner	1304742E	5800	W	S	SCE
23	Avenue 332	Road 160	NW Corner	1842838E	5800	W	S	SCE
24	Avenue 332	Road 161	NE Corner	723235E	5800	W	S	SCE
25	Avenue 332	Road 156	NW Corner	2000604E	5800	W	E	SCE
26	Avenue 332	Road 156	SW Corner	2000605E	5800	W	E	SCE
27	Avenue 332	160' west of Road 159	North Side	209384E	5800	W	S	SCE
28	Avenue 332	Buckeye Road	SE Corner	4354625E	5800	W	NW	SCE
29	Azalea Avenue	Hawthorne Road	SW Corner	N/A	5800	W	E	SCE
30	Azalea Avenue	Road 159	SE Corner	N/A	5800	W	W	SCE
31	Beechwood Avenue	Road 156	NW Corner	1722374E	5800	W	S	SCE
32	Beechwood Avenue	Road 158	NE Corner	1382870E	5800	W	W	SCE
33	Beechwood Avenue	Road 160	NW Corner	N/A	5800	W	E	SCE
34	Bly Avenue	Road 160	NE Corner	4274837E	5800	C	S	SCE
35	Bly Avenue	Waverly Court	NW Corner	4274824E	5800	C	S	SCE
36	Bly Avenue	Scott Road	NE Corner	4274823E	5800	C	W	SCE
37	Depot Drive	Hawthorne Road	NW Corner	2001151E	5800	W	W	SCE
38	Freedom Avenue	Road 160	NE Corner	4263630E	5800	C	S	SCE
39	Freedom Avenue	Scott Road	NE Corner	4263631E	5800	C	S	SCE
40	Giotta Avenue	Road 158	NE Corner	4226476E	5800	C	W	SCE
41	Giotta Avenue	Carmaline Road	NW Corner	4226475E	5800	C	S	SCE
42	Giotta Avenue	Eileen Road	NE Corner	4226474E	5800	C	SW	SCE
43	Heather Avenue	Road 158	NW Corner	3452T	5800	W	E	SCE
44	Heather Avenue	Manzanita Road	SE Corner	N/A	5800	W	W	SCE
45	Heather Avenue	Road 159	SE Corner	449638E	5800	W	W	SCE

TABLE 7-6 (Continued)
Existing Street Lights in Ivanhoe

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
46	Heather Avenue	Hawthorne Road	SE Corner	N/A	5800	W	N	SCE
47	Heather Avenue	Road 160	SE Corner	4263629E	5800	C	N	SCE
48	Heather Avenue	Buckeye Road	North Side	4263633E	5800	C	S	SCE
49	Heather Avenue	Road 161	SW Corner	4263632E	5800	C	N	SCE
50	Jasmine Avenue	Road 156	NW Corner	4430776	5800	W	E	SCE
51	Jasmine Avenue	Road 160	NW Corner	1391547E	5800	W	E	SCE
52	Jasmine Avenue	Between Road 156 and Road 160	North Side	N/A	5800	W	S	SCE
53	Lantana Avenue	Road 159	SE Corner	959844E	5800	W	W	SCE
54	Paradise Avenue	Grove Street	SW Corner	4226602E	5800	C	N	SCE
55	Paradise Avenue	Road 158	NE Corner	4262602E	5800	W	W	SCE
56	Paradise Avenue	Eileen Road	SE Corner	4262601E	5800	C	W	SCE
57	Rosaline Road	Road 159	SW Corner	660718E	5800	W	E	SCE
58	Walter Avenue	Road 160	NE Corner	4226767E	5800	C	W	SCE
59	Walter Avenue	Waverly Court	SE Corner	4226766E	5800	C	W	SCE
60	Walter Avenue	Scott Lane	NW Corner	4226768E	5800	C	E	SCE

(Source: Tulare County Public Works, March 2013)

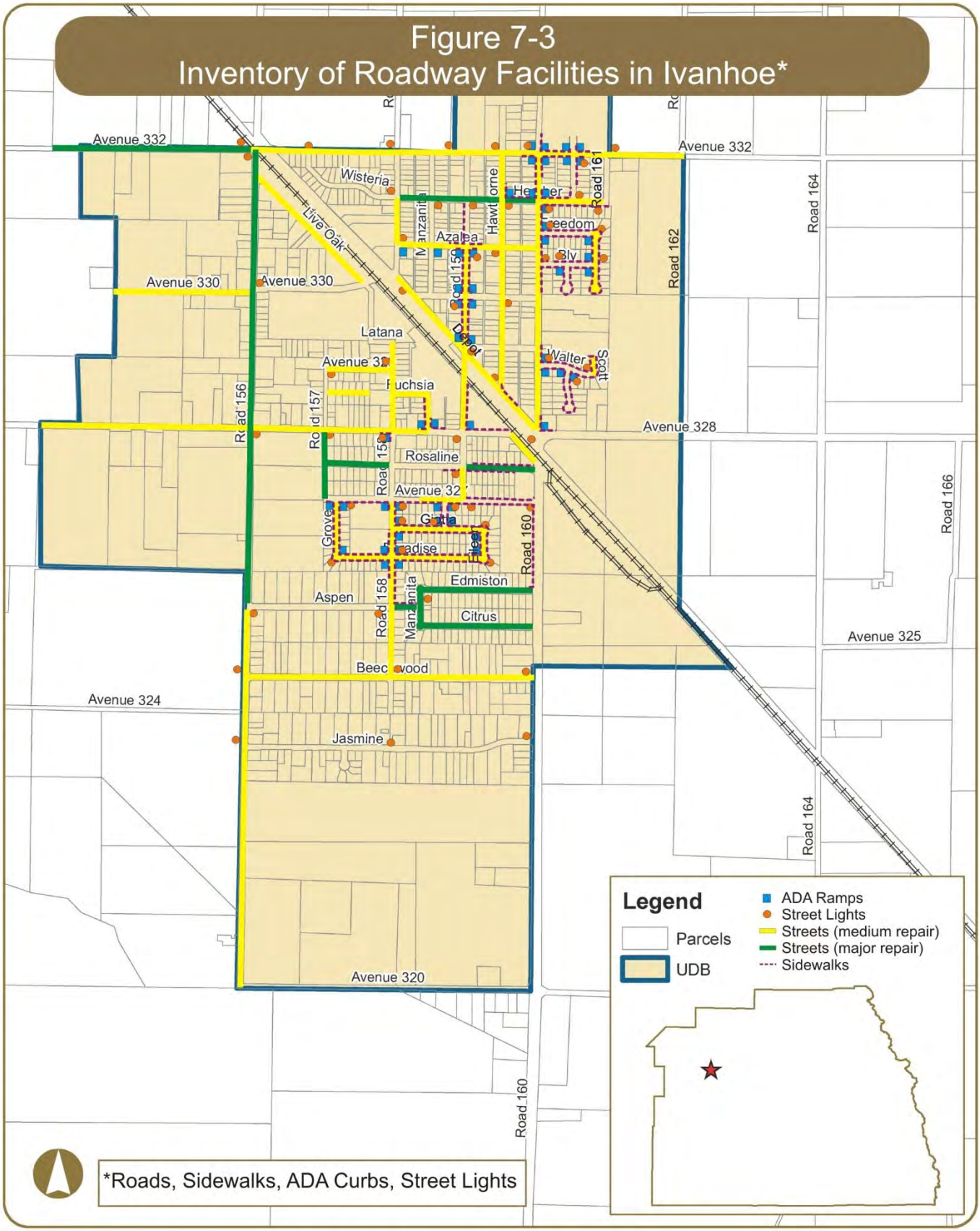


Figure 7-3
Inventory of Roadway Facilities in Ivanhoe*
Avenue 332
Avenue 332
Wisteria
Live Oak
Azalea
Avenue 330
Avenue 330
Road 162
Road 164
Latana
Fuchsia
Avenue 328
Road 156
Road 157
Rosaline
Road 160
Road 166
Aspen
Edmiston
Citrus
Avenue 325
Avenue 324
Jasmine
Road 164
Avenue 320
Road 160
Legend
Parcels
UDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, ADA Curbs, Street Lights

8. COMMUNITY OF LEMON COVE

8.1 General Information

Lemon Cove is a census-designated place located in the northern portion of Tulare County, approximately four miles southeast of Woodlake and eleven miles northeast of Visalia. It is generally bounded by Avenue 319 in the south, Goodale Lane in the north, Road 236 in the west, and Road 248 in the east and encompasses 0.8 square miles of land. Lemon Cove is an agriculturally oriented service community surrounded by lands in agricultural production, vacant lands, and scattered residential homes. State Route (SR) 198 and SR 216 provide primary access to the cities of Visalia and Woodlake, respectively. Cities and communities surrounding Lemon Cove include Visalia to the southwest; Woodlake to the northwest; and the community of Three Rivers to the northeast. The Tulare County/Fresno County Line is located approximately 10.5 miles north of Lemon Cove.

Based on the 2010 Census, the population in Lemon Cove was 308. Similar to other communities in Tulare County, the population of Lemon Cove is racially diverse with 85% White, 0% African American, 2% Native American, 2% Asian/Pacific Islander, 4% from other races, and 8% from 2 or more races. 25% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 153 housing units located within Lemon Cove, of which 64% are owner-occupied and 36% are renter-occupied.

8.2 Domestic Water & Wastewater

Domestic water and sewer service in Lemon Cove is provided by the Lemon Cove Sanitary Sewer District, formed in December 1950. Table 8-1 shows the number of existing water and sewer connections, the capacity of each system, and the number of additional connections the systems can accommodate for new development (Housing Element, May 2012 and Municipal Service Review, May 2006). Maps of the sewer and water systems are currently unavailable.

According to the Municipal Service Review 2006 (MSR), the Lemon Cove Sanitary District operates a water supply and distribution system under the jurisdiction of the Tulare County Environmental Health Services Division, which is responsible for the administration and enforcement of the Safe Drinking Water Act involving those systems in Tulare County with less than 200 connections. The District's water supply and distribution system, which includes a 30,000 gallon storage tank, booster pump, and a 4,000 gallon pressure tank, supports approximately 50 active connections.

The water system has no permanently installed treatment at this time, and there is no backup water supply on the District's system. The District's water system is fully metered, which is indicative of the District's desire to promote water conservation, and continue to provide effective water service to its residents.

According to the District's 2004 Consumer Confidence Report, water samples taken in December 2004 contained nitrate levels of 55 mg/L, which exceeds the maximum contaminant level (MCL) of 45 mg/L. The Lemon Cove Sanitary District has been issued a compliance order (No. 04-95) to address the elevated

nitrate levels.

Assuming 50 equivalent dwelling units (EDUs), in order to meet Tulare County Improvement Standards the Lemon Cove Sanitary District water system would need to be capable of delivering a combined flow rate (from all source and storage facilities) of 780 gallons per minute (GPM) (500 GPM fire flow, and 280 GPM domestic demand) for a period of two hours while maintaining a minimum pressure of 25 pounds per square inch (PSI) to each lot served; The water system storage volume of 34,000 gallons would be capable of delivering a source flow of approximately 280 GPM for a period of two hours, indicating that the pumping efficiency of the District's only well would need to be 500 GPM in order to meet the requirements of the Tulare County Improvement Standards. Prior to granting any sphere of influence (SOI) expansions, it is recommended that the Local Agency Formation Commission (LAFCO) verify that there is adequate water system capacity to meet any anticipated increased demands. It is also recommended that the District work to develop a backup water supply. The District would need to expand its water supply and distribution system to support any significant development projects proposed within its SOI.

The Lemon Cove Sanitary District is also responsible for providing sanitary sewer service to residents within its Boundary. It is assumed that there are 50 connections to the District's sewer system, the same number of connections to their water system. The District owns and operates a Wastewater Treatment Facility (WWTF) located approximately 0.7 miles north of the community. The WWTF is operated under the provisions of Waste Discharge Requirements Order No. 94-348, issued by the Regional Water Quality Control Board (RWQCB).

Order No. 94-348 prescribes that the monthly average dry weather discharge flow shall not exceed 20,000 gallons per day (GPD). According to the Wastewater User Charge Survey Report FY 2004-05 (Cal EPA-State Water Resources Control Board, May 2005), the average dry weather flow at the WWTF is approximately 12,000 GPD. Using a demand of 310 GPD per connection, it is estimated that the District's sanitary sewer treatment and disposal capabilities would allow for approximately 25 additional connections (equivalent dwelling units) to the system. The District would need to expand the capacity of its WWTF to support any significant development projects proposed within its SOI.

TABLE 8-1

Existing Water & Wastewater Connections in Lemon Cove

Description of Existing Infrastructure					
Drinking Water*			Waste Water **		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
50	50	0	50	75	25

* Data current as of May 2012

** Data current as of May 2006

8.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself

typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Lemon Cove does not currently have a storm drainage system.

8.4 Roads

There are various roadways in Lemon Cove that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 8-2 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 8-1 graphically displays this information on a map.

TABLE 8-2
Roads in Need of Major and Medium Repair in Lemon Cove

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Avenue 324	Road 236 to Road 248	GRX
2	Avenue 328	SR 198 to Road 248	GRX
3	Avenue 330	SR 198 to east end	CHIP
4	Lemon Road	SR 198 to Avenue 330	CHIP

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

(Source: County of Tulare Public Works, 2012)

8.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are no ADA compliant curb ramps located within Lemon Cove.

8.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk

width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in clear width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 8-3 identifies the location of existing sidewalks in Lemon Cove. Figure 8-1 also displays this information graphically. The sidewalks represented in Table 8-3 and Figure 8-1 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 8-3
Existing Sidewalks in Lemon Cove

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
1	Avenue 328	SR 198 to 200' west	North side
2	Avenue 328	SR 198 to 200' west	South side
3	Douglas Drive	SR 198 to 200' west	South side
4	SR 198	Douglas Drive to Avenue 328	West side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

8.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 8-4 identifies the location of existing street lights that are maintained by Tulare County, in Lemon Cove, as well as their specifications. Figure 8-1 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type “W” represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 8-4
Existing Street Lights in Lemon Cove

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Avenue 328	Road 244	NE Corner	1557370E	5800	W	W	SCE
2	Avenue 328	SR 198	NW Corner	1843145E	5800	W	S	SCE
3	Avenue 330	Lemon Road	NW Corner	1666526E	5800	W	S	SCE
4	Douglas Drive	Road 244	NE Corner	133650E	5800	W	S	SCE
5	Pogue Avenue	Road 244	NE Corner	2281867E	5800	W	W	SCE
6	Summit Drive	Road 244	SE Corner	600579E	5800	W	N	SCE
7	Summit Drive	Lemon Road/SR 198	SW Corner	2045421E	5800	W	E	SCE

(Source: Tulare County Public Works, March 2013)

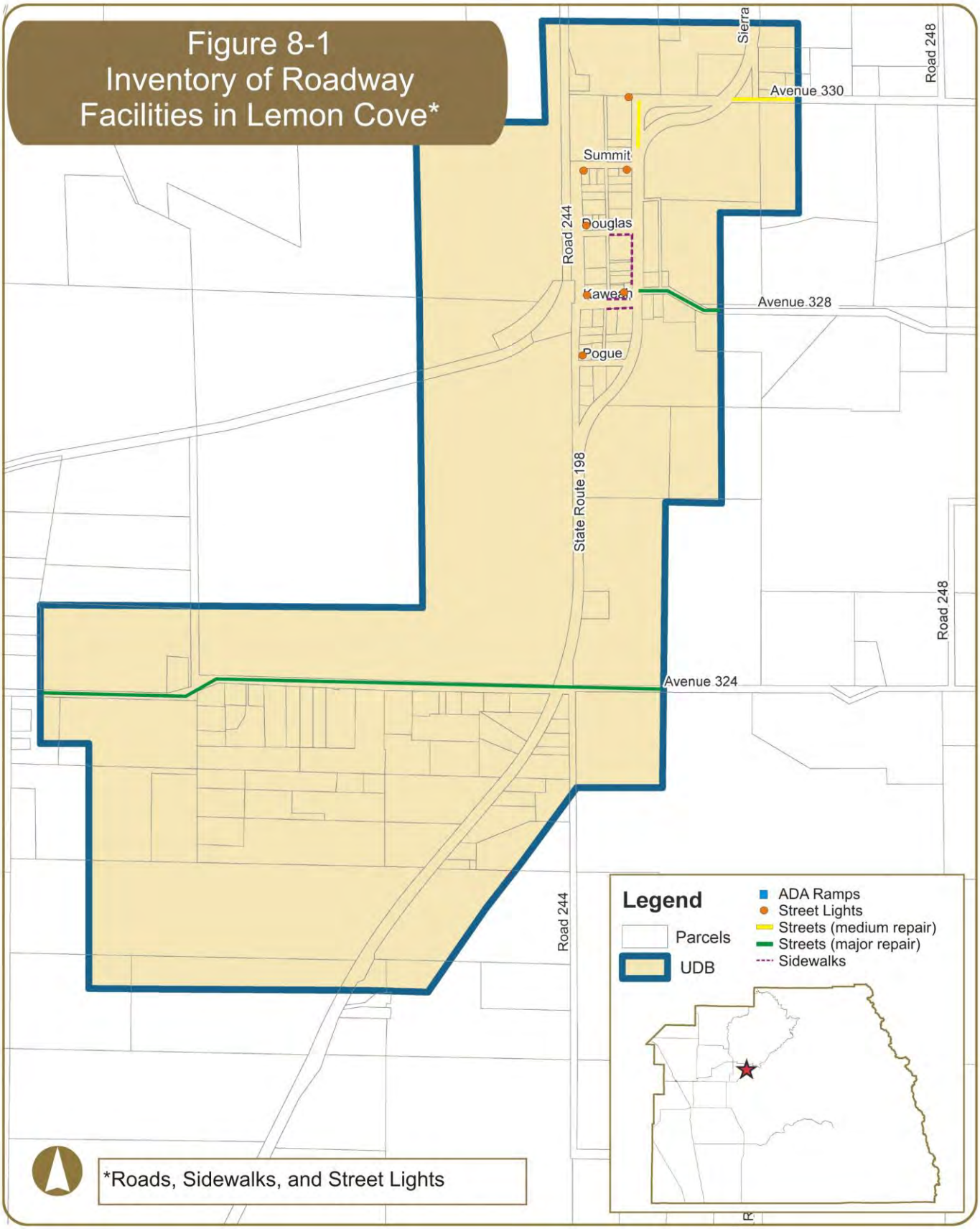


Figure 8-1
Inventory of Roadway Facilities in Lemon Cove*
Sierra
Road 248
Avenue 330
Summit
Douglas
Road 244
Kawean
Avenue 328
Pogue
State Route 198
Road 248
Avenue 324
Road 244
Legend
Parcels
UDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, and Street Lights

9. COMMUNITY OF LONDON

9.1 General Information

London is a census-designated place located in the northern portion of the County, approximately three miles southwest of Dinuba and ten miles northwest of Visalia. It is generally bounded by Avenue 376 in the south, Avenue 384 in the north, Kennedy School House Ditch in the west, and Road 60 in the east and encompasses 0.6 square miles of land. London is an agriculturally oriented service community surrounded on all sides by lands in agricultural production, vacant lands, and scattered rural residential homes. Cities and communities surrounding London include Visalia to the southeast; Dinuba to the northeast; and the community of Traver to the southwest. The Tulare County/Fresno County Line is located approximately 4.8 miles west of London.

Based on the 2010 Census, the population in London was 1,869. Similar to other communities in Tulare County, the population of London is racially diverse with 41% White, less than 1% African American, 3% Native American, 0% Asian/Pacific Islander, 52% from other races, and 4% from 2 or more races. 93% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 408 housing units located within London, of which 40% are owner-occupied and 60% are renter-occupied.

9.2 Domestic Water & Wastewater

Domestic water and sewer service in London is provided by the London Community Service District (CSD), formed in March 1952. Table 9-1 shows the number of existing water and sewer connections, the capacity of each system, and the number of additional connections the systems can accommodate for new development (Housing Element, May 2012). Figure 9-1 graphically displays the approximate location of water wells and water lines. Figure 9-2 graphically displays the approximate location of the sewer system and wastewater treatment plant.

According to the Municipal Service Review 2006 (MSR), the London CSD operates a water supply and distribution system under the jurisdiction of the California Department of Health Services Division of Drinking Water and Environmental Management, which is responsible for the administration and enforcement of the Safe Drinking Water Act involving those systems in California with more than 200 connections. London CSD staff has indicated that there are approximately 430 connections to the District's water system, which consists of three active wells and one hydro-pneumatic pressure tank. The water system has no permanently installed treatment at this time.

CSD staff has indicated that the water system was constructed in 1952 and experiences minor leaks. Water system leaks have the potential for causing cross contamination problems. The London CSD received Proposition 13 funding in the amount of $98,156 to prepare an infrastructure rehabilitation feasibility study to detect and evaluate leaks and determine the feasibility of replacing the distribution system. The CSD is currently pursuing funding through the State Revolving Fund Program for construction of a new domestic water well and hydro-pneumatic tank, along with distribution system improvements.

The London CSD water system is currently un-metered, which does not promote water conservation. The CSD should consider evaluating the potential water savings and the projected total cost to water users in the community resulting from the installation of water meters. The CSD would likely need funding assistance through state and/or federal grant/loan programs to install water meters. User fees would also likely need to be increased. A fully metered water system could serve as a water conservation measure by minimizing over usage and/or wasting of water.

Assuming 430 equivalent dwelling units (EDUs), in order to meet Tulare County Improvement Standards the London CSD water system would need to be capable of delivering a combined flow rate (from all source and storage facilities) of 1,120 gallons per minute (GPM) (500 GPM fire flow, and 620 GPM domestic demand) for a period of two hours while maintaining a minimum pressure of 25 pounds per square inch (PSI) to each lot served; The total pumping efficiency of the CSD's water supply sources is unknown. Prior to granting any sphere of influence (SOI) expansions, it is recommended that Local Agency Formation Commission (LAFCO) verify that there is adequate water system capacity to meet any anticipated increased demands. It is likely that the CSD would need to expand its water supply and improve the distribution system to support any significant development projects proposed within its SOI.

The London CSD is also responsible for providing sanitary sewer service to residents within its Boundary. London CSD staff has indicated that there are approximately 430 connections to their sewer system. The District owns and operates a Wastewater Treatment Facility (WWTF) southeast of the community, which is operated under the provisions of Waste Discharge Requirements Order No. 96-172, issued by the Regional Water Quality Control Board (RWQCB).

Order No. 96-172 prescribes that the monthly average discharge flow shall not exceed 0.3 million gallons per day (MGD). Available data indicates that the current flow at the WWTF is 0.20 MGD. The CSD's Engineer noted that improvements completed in 2000 with US Department of Agriculture (USDA) Rural Development funding increased the plant's capacity to 0.50 MGD. The London CSD should work with the RWQCB to get the CSD's Waste Discharge Requirements (WDR) Order updated. According to WDR Order No. 96-172, the London CSD has not assessed growth in the community and has not predicted future flows. As such, the London CSD has not made any plans on increasing the capacity of the WWTF for future flows.

TABLE 9-1

Existing Water & Wastewater Connections in London

Description of Existing Infrastructure					
Drinking Water*			Waste Water *		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
430	430	0	430	1,075	645

* Data current as of May 2012

9.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

London does not currently have a storm drainage system.

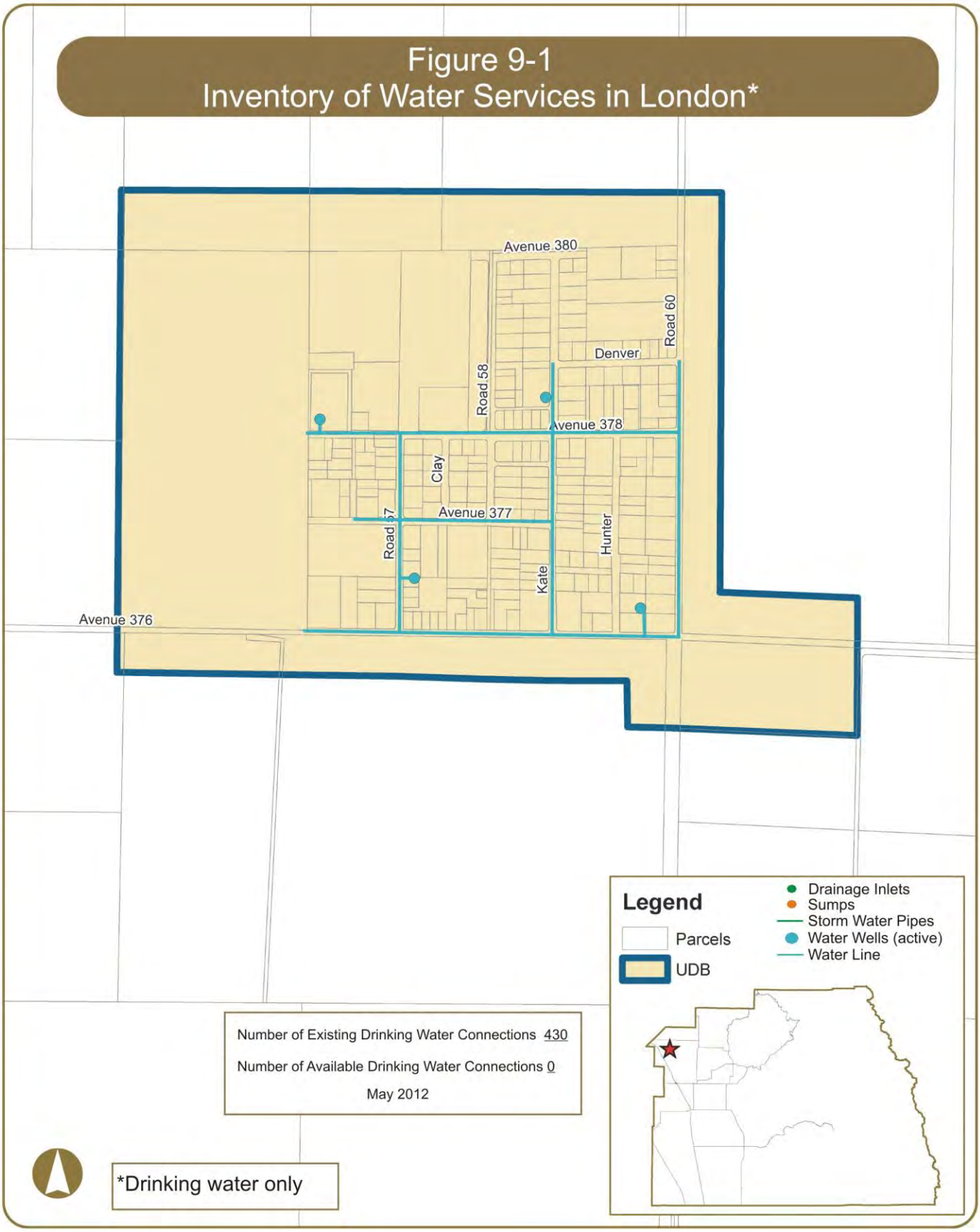


Figure 9-1
Inventory of Water Services in London*
Avenue 380
Road 60
Denver
Road 58
Avenue 378
Clay
Avenue 377
Road 57
Hunter
Kate
Avenue 376
Legend
Parcels
UDB
Drainage Inlets
Sumps
Storm Water Pipes
Water Wells (active)
Water Line
Number of Existing Drinking Water Connections 430
Number of Available Drinking Water Connections 0
May 2012
*Drinking water only

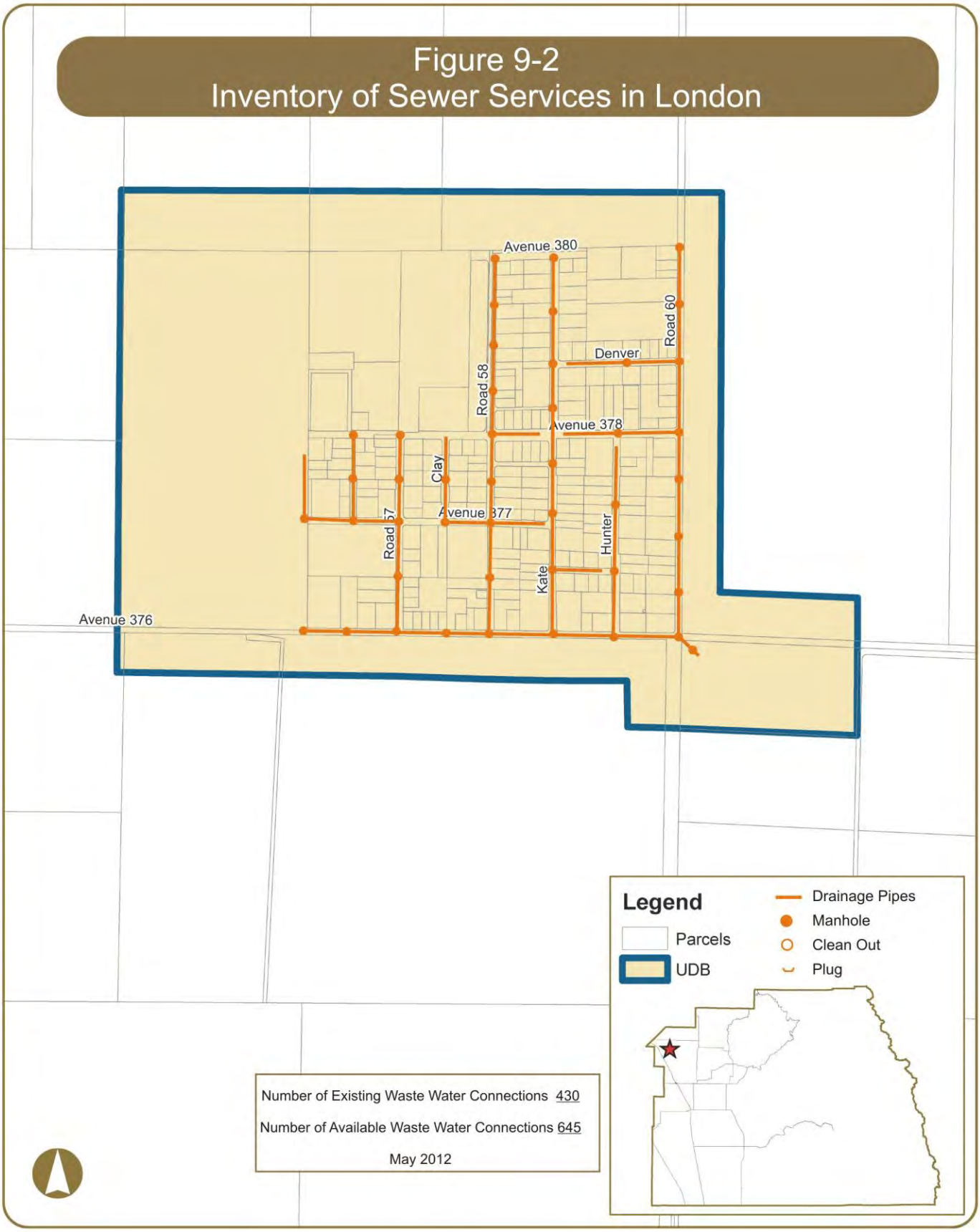


Figure 9-2
Inventory of Sewer Services in London
Avenue 380
Road 60
Denver
Road 58
Avenue 378
Clay
Avenue 377
Road 57
Hunter
Kate
Avenue 376
Legend
Parcels
UDB
Drainage Pipes
Manhole
Clean Out
Plug
Number of Existing Waste Water Connections 430
Number of Available Waste Water Connections 645
May 2012

9.4 Roads

There are various roadways in London that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 9-2 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 9-3 graphically displays this information on a map.

TABLE 9-2

Roads in Need of Major and Medium Repair in London

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Avenue 376	Road 57 to Hunter Road	CHIP
2	Avenue 378	Kate Road to west end	GRX
3	Avenue 378	Kate Road to Road 60	CHIP
4	Avenue 380	Road 58 to Kate Road	GRX
5	Kate Road	Avenue 376 to Avenue 378	GRX
6	Kate Road	Avenue 378 to Avenue 380	CHIP
7	Road 60	Avenue 376 to Avenue 378	CHIP

(Source: County of Tulare Public Works, 2012)

OLAY – overlay resurfacing operation	ACST – asphalt reconstruction
CHIP – chip seal	RCST – cold mix
reconstruction	
GRX – grind and remix	

9.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are no ADA compliant curb ramps located within London.

9.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 9-3 identifies the location of existing sidewalks in London. Figure 9-3 also displays this information graphically. The sidewalks represented in Table 9-3 and Figure 9-3 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 9-3

Existing Sidewalks in London

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
1	Road 58	Avenue 378 to Avenue 380	West side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

9.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 9-4 identifies the location of existing street lights that are maintained by Tulare County, in London, as well as their specifications. Figure 9-3 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type "W" represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 9-4
Existing Street Lights in London

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Avenue 376	Road 57	NW Corner	1474	5800	W	S	PG&E
2	Avenue 376	Between Road 57 and	North Side	1475	5800	W	S	PG&E
3	Avenue 376	Kate Road	NW Corner	1464	5800	W	S	PG&E
4	Avenue 376	Road 60	NW Corner	1465	5800	W	S	PG&E
5	Avenue 376	Hunter Road	NW Corner	3635	5800	W	S	PG&E
6	Avenue 377	Hunter Road	West Side	1455	5800	W	E	PG&E
7	Avenue 377	Road 57	SW Corner	1472	5800	W	E	PG&E
8	Avenue 377	Between Road 57 and	South Side	54	5800	W	N	PG&E
9	Avenue 377	Road 58	SW Corner	1469	5800	W	N	PG&E
10	Avenue 377	Kate Road	SW Corner	1463	5800	W	E	PG&E
11	Avenue 377	Clay Road	West Side	3325	5800	W	N	PG&E
12	Avenue 378	West end	North Side	1473	5800	W	S	PG&E
13	Avenue 378	Road 57	NW Corner	1471	5800	W	S	PG&E
14	Avenue 378	Road 58	NW Corner	1468	5800	W	S	PG&E
15	Avenue 378	Kate Road	NW Corner	1461	5800	W	S	PG&E
16	Avenue 378	Hunter Road	NW Corner	1478	5800	W	S	PG&E
17	Avenue 378	Road 60	NW Corner	1466	5800	W	E	PG&E
18	Avenue 378	Clay Road	NE Corner	3324	5800	W	S	PG&E
19	Avenue 380	Road 58	SW Corner	1477	5800	W	E	PG&E
20	Avenue 380	Kate Road	NW Corner	1476	5800	W	S	PG&E
21	Avenue 380	Road 60	West Side	1479	5800	W	E	PG&E
22	Between Avenue 377 and Avenue 378	Kate Road	West Side	1480	5800	W	E	PG&E
23	Between Avenue 378 and Avenue 380	Road 58	West Side	1470	5800	W	E	PG&E
24	Denver Avenue	Kate Road	SW Corner	1462	5800	W	E	PG&E
25	Denver Avenue	Road 60	SW Corner	1467	5800	W	E	PG&E

(Source: Tulare County Public Works, March 2013)

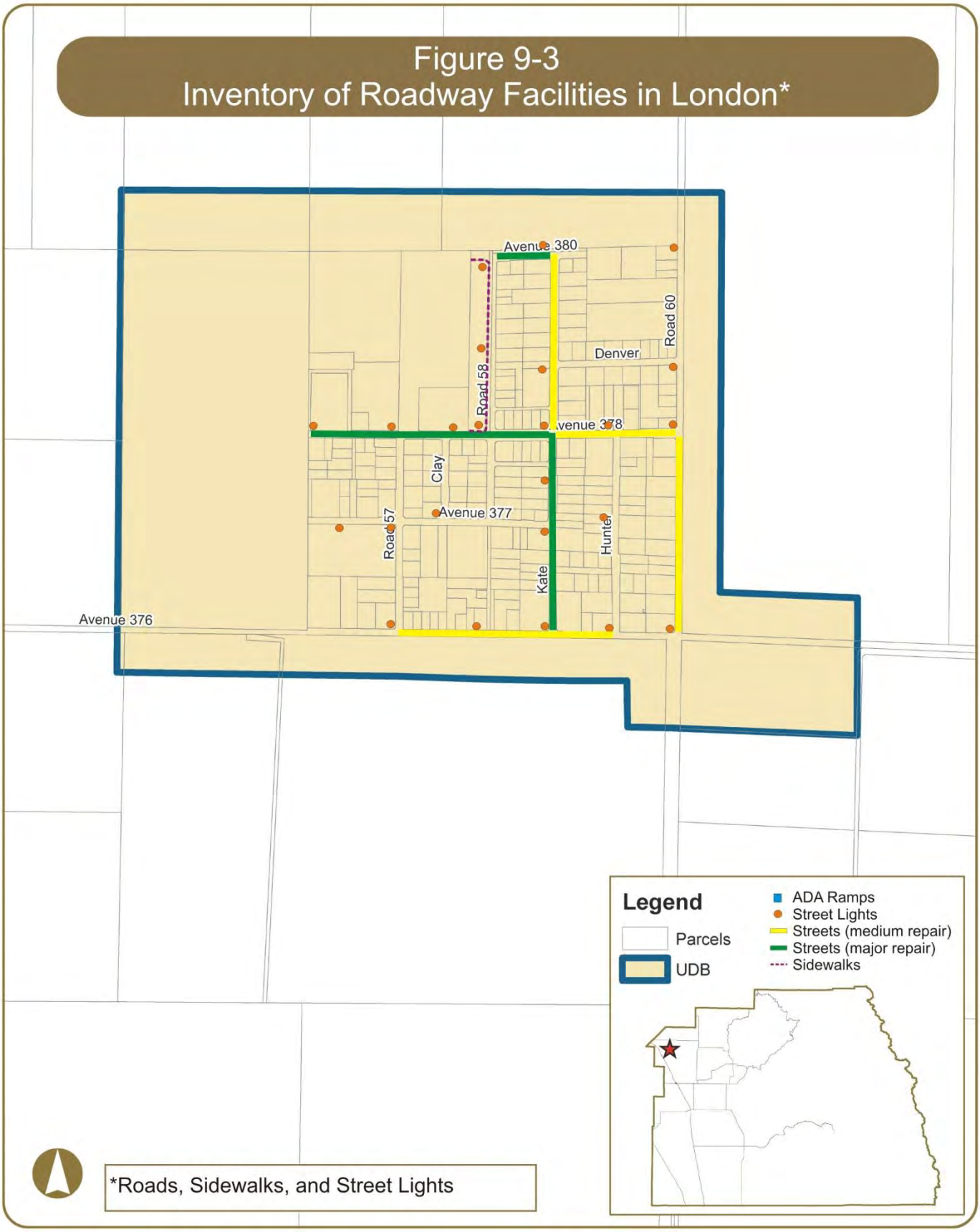


Figure 9-3
Inventory of Roadway Facilities in London*
Avenue 380
Road 60
Denver
Road 58
venue 378
Clay
Avenue 377
Road 57
Hunter
Kate
Avenue 376
Legend
Parcels
UDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, and Street Lights

10. COMMUNITY OF PIXLEY

10.1 General Information

Pixley is a census-designated place is located in the southwest portion of Tulare County between the communities of Tipton and Earlimart along State Route (SR) 99. It is generally bounded by Terra Bella Avenue in the south, Stanford Avenue in the north, Airport Street in the west, and Palm Street in the east and encompasses 3.1 square miles of land. Pixley is square in shape and is bisected in a north-south direction by SR 99, which runs east of and parallel to the Southern Pacific Railroad (S.P.R.R.) tracks. Local roads that provide access across SR 99 include East Court Avenue, Davis Avenue, and Terra Bella Avenue (interchange). Local railroad crossings are located at Davis Avenue and Terra Bella Avenue. Pixley is an agriculturally oriented service community surrounded on all sides by lands in agricultural production, scattered rural residential uses, and vacant land. There is also a public airport southwest of the community. Industrial development is present north and south of the community. Most of the commercial development within Pixley is located between the S.P.R.R. tracks and SR 99. Cities and communities surrounding Pixley include Porterville and Poplar to the northeast, Tulare and Tipton to the north, and Earlimart to the south.

Based on the 2010 Census, the population in Pixley was 3,310. Similar to other communities in Tulare County, the population of Pixley is racially diverse with 45% White, 3% African American, 1% Native American, less than 1% Asian/Pacific Islander, 48% from other races, and 4% from 2 or more races. 81% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 875 housing units located within Pixley, of which 54% are owner-occupied and 46% are renter-occupied.

10.2 Domestic Water & Wastewater

Domestic water and sewer service in Pixley is provided by the Pixley Public Utilities District (PUD), which was formed in December 1946. Table 10-1 shows the number of existing water and sewer connections, the capacity of each system, and the number of additional connections the systems can accommodate for new development (Housing Element, May 2012). Figure 10-1 graphically displays the approximate location of water wells and water lines. Figure 10-2 graphically displays the approximate location of the sewer system and wastewater treatment plant.

According to the Municipal Service Review 2006 (MSR), Pixley's water supply is derived from four existing deep underground wells. The four wells have a maximum production efficiency of approximately 2,700 gallons per minute (GPM). As indicated by the PUD's Engineer, three of the existing four wells exceed the acceptable arsenic level for drinking water that became effective January 2006, and the water supply system will require treatment or replacement of wells to meet current water quality standards.

Assuming 800 equivalent dwelling units (EDUs), in order to meet Tulare County Improvement Standards the Pixley PUD water system would need to be capable of delivering a combined flow rate (from all source and storage facilities) of 2,400 GPM (1,500 GPM fire flow, and 900 GPM domestic demand) for a period of two hours while maintaining a minimum pressure of 25 pounds per square inch (PSI) to each lot served.

The PUD's water system is capable of delivering a source flow of 2,700 GPM, and includes pneumatic pressure tanks for storage, indicating that the system currently meets the requirements of the Tulare County Improvement Standards. According to the PUD Engineer, there is only sufficient capacity in the water system to meet existing domestic demands without considering fire flow requirements. The PUD Engineer indicated that no additional connections could be supported by the water system when considering fire flows and the possibility of the maximum producing well being out of service.

As indicated by the PUD Engineer, a water master plan that includes a capital facilities plan needs to be developed to address current and future needs. The PUD Engineer noted that the existing water system includes many 4-inch and 6-inch diameter lines, which may not be suitable for peak and fire flows. Since land within the PUD's sphere of influence (SOI) that is zoned for development (by the Tulare County General Plan) will rely on domestic water service from the Pixley PUD, the master planning boundary should be consistent with the PUD's SOI.

The PUD operates a Wastewater Treatment Facility (WWTF) located southwest of the community, just west of the Pixley airport. The WWTF is operated under the provisions of Order No. 5-00-096 issued by the Central Valley Regional Water Quality Control Board (RWQCB). The PUD indicated that the WWTF is currently operating at or near its capacity, and is operating under a Cease and Desist Order. The permitted capacity is 0.29 million gallons per day (MGD), and the current flow is approximately 0.284 MGD. *The Wastewater Treatment Facility Upgrade and Expansion Project – Project Feasibility Report* (Provost & Pritchard, February 2005) outlines a major reconstruction proposal for the PUD's WWTF. The improved WWTF would be capable of treating 0.5 MGD. A 0.5 MGD WWTF may provide sufficient capacity for a 20-year planning period with reserve capacity for industrial/commercial growth.

As indicated by the District Engineer, a sewer master plan that includes a capital facilities plan needs to be developed to address current and future needs. The District Engineer noted that the adequacy of the existing sewer system to accept additional flows is not known. Since land within the District's SOI that is zoned for development (by the Tulare County General Plan) will rely on sanitary sewer service from the Pixley PUD, the master planning boundary should be consistent with the District's SOI.

TABLE 10-1

Existing Water & Wastewater Connections in Pixley

Description of Existing Infrastructure					
Drinking Water*			Waste Water *		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
800	800	0	800	800	0

* Data current as of May 2012

10.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself

typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Table 10-2 identifies the location of drainage inlets and sumps in Pixley. Figure 10-1 also displays this information graphically.

TABLE 10-2
Existing Storm Drainage Facilities in Pixley

Location of Existing Storm Drainage Facilities			
No.	**East-West Roadway**	**North-South Roadway**	**Type**
1	Allen Avenue	Market Street	Inlet
2	Between Court Avenue and Howard Avenue	Pine Street	Inlet
3	Bradbury Avenue	Cedar Street	Inlet
4	Bradbury Avenue	Ash Street	Inlet
5	Bradbury Avenue	Market Street	Inlet
6	Carol Avenue	Walnut Street	Sump
7	Compton Avenue	Cedar Street	Inlet
8	Compton Avenue	Ash Street	Inlet
9	Court Avenue	Ash Street	Sump
10	Court Avenue	Park Drive	Inlet
11	Court Avenue	Pine Street	Inlet
12	Davis Avenue	Ash Street	Inlet
13	Davis Avenue	Maple Street	Inlet
14	Ellsworth Avenue	Park Drive	Inlet
15	Ellsworth Avenue	Pine Street	Inlet

TABLE 10-2 (Continued)
Existing Storm Drainage Facilities in Pixley

Location of Existing Storm Drainage Facilities			
No.	**East-West Roadway**	**North-South Roadway**	**Type**
16	Ellsworth Avenue	Maple Street	Inlet
17	Ellsworth Avenue	Elm Street	Inlet
18	Ellsworth Avenue	Walnut Street	Inlet
19	Ellsworth Street	Ash Street	Inlet
20	Franklin Avenue	Center Street	Inlet
21	Franklin Avenue	Park Drive	Inlet
22	Howard Avenue	Pine Street	Inlet
23	Joanne Avenue	Walnut Street	Sump
24	Joanne Avenue	Maple Street	Sump
25	Joanne Avenue	Park Drive	Inlet
26	South of Compton Avenue	Cedar Street	Inlet
27	Terra Bella Avenue	Park Drive	Inlet
28	Terra Bella Avenue	Maple Street	Sump
29	Terra Bella Avenue	Elm Street	Sump
30	Terra Bella Avenue	Walnut Street	Sump
31	Terra Bella Street	Cedar Street	Inlet

(Source: County of Tulare Public Works, 2014)

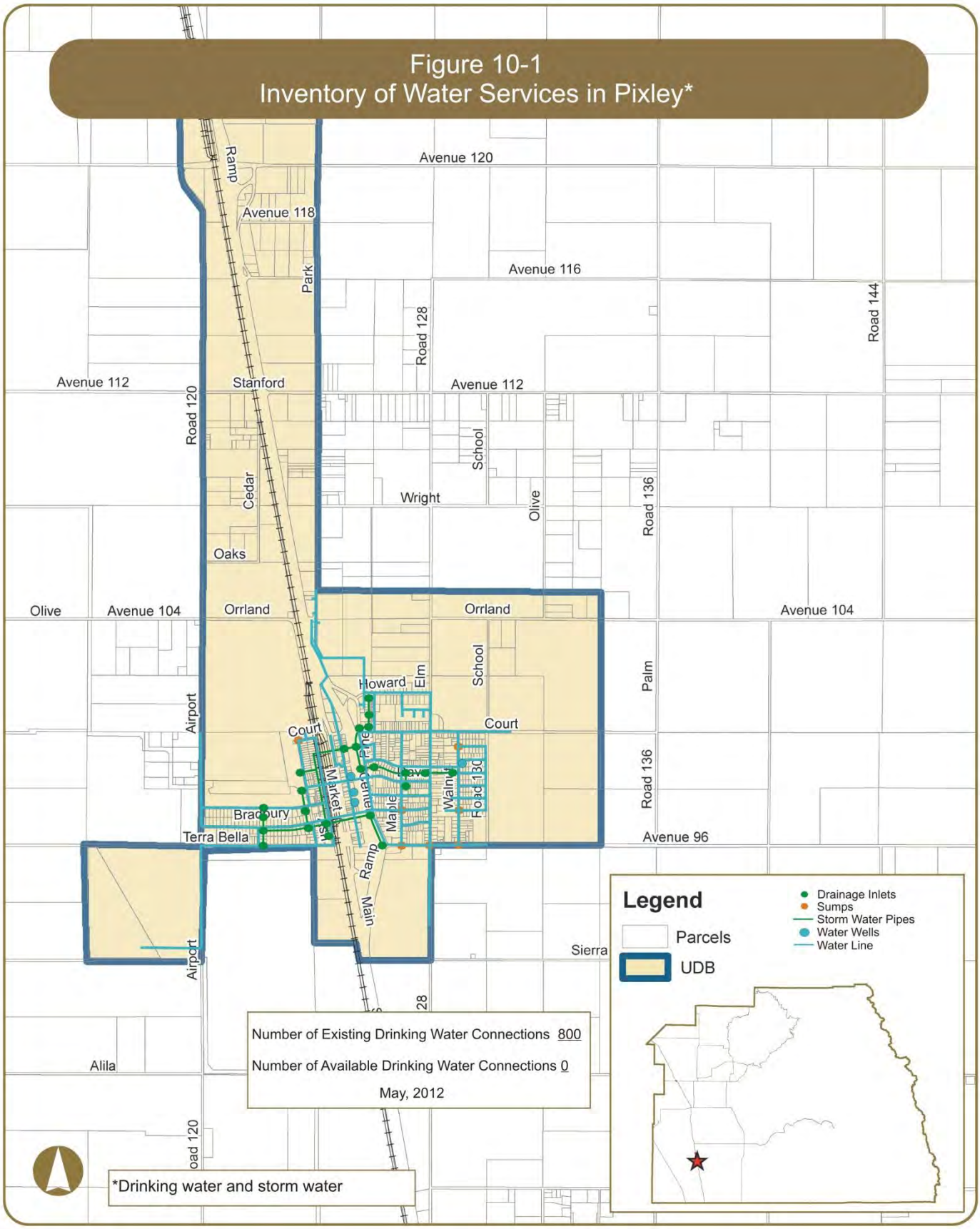


Figure 10-1
Inventory of Water Services in Pixley*
Avenue 120
Avenue 118
Avenue 116
Avenue 112
Avenue 104
Avenue 96
Road 120
Road 128
Road 136
Road 144
Ramp
Park
Stanford
Cedar
Oaks
Wright
School
Olive
Orrland
Palm
Airport
Howard
Elm
Court
Market
Maple
Walnut
Road 130
Bradbury
Terra Bella
Main
Sierra
Alila
Number of Existing Drainage Water Connections 800
Number of Available Drainage Water Connections 0
May, 2012
*Drinking water and storm water
Legend
Parcels
UDB
Drainage Inlets
Sumps
Storm Water Pipes
Water Wells
Water Line

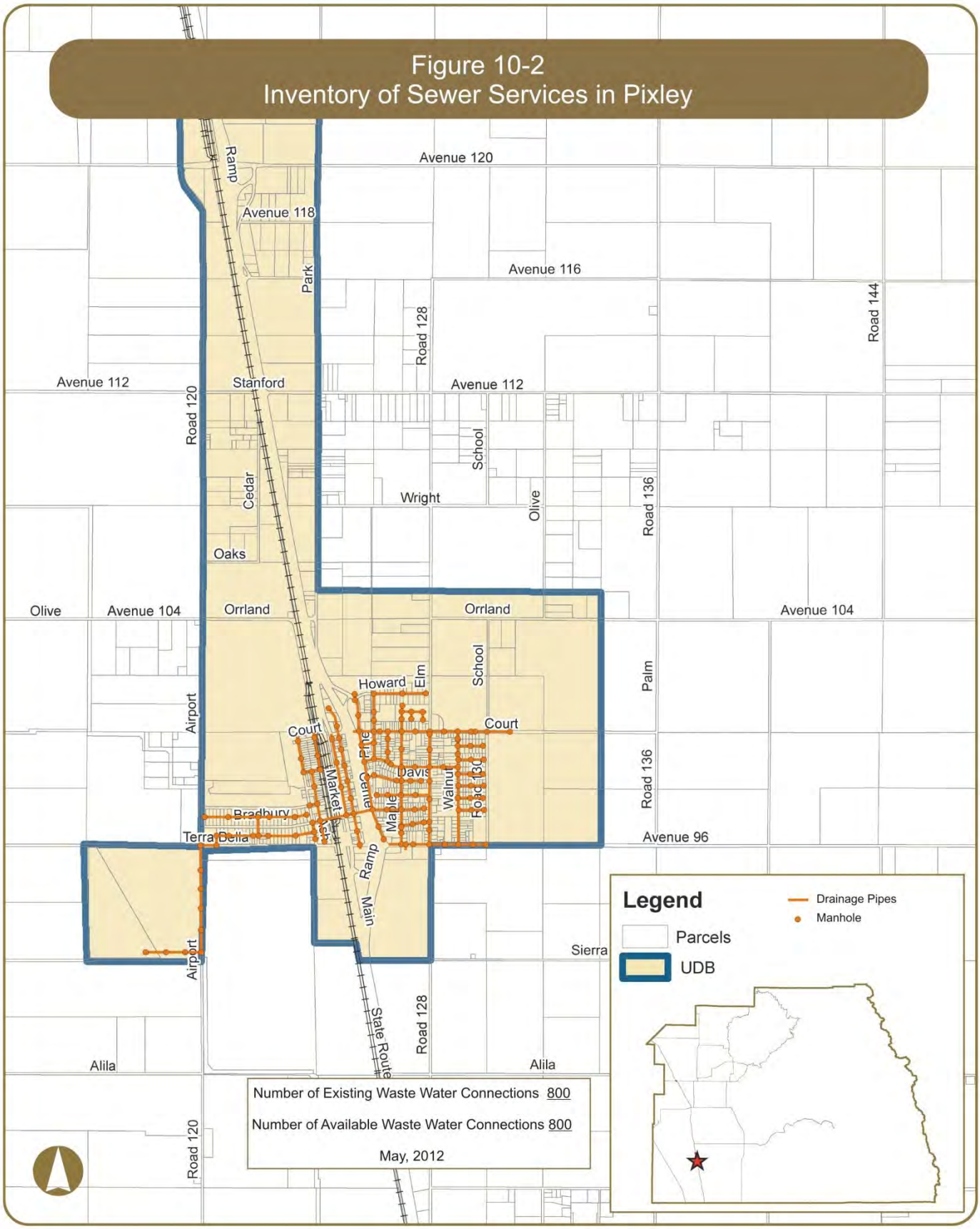


Figure 10-2
Inventory of Sewer Services in Pixley
Avenue 120
Avenue 118
Avenue 116
Avenue 112
Avenue 104
Avenue 96
Ramp
Park
Road 128
Road 144
Road 120
Stanford
Cedar
Oaks
Wright
School
Olive
Road 136
Orrland
Palm
Howard
Elm
Court
Pine
Davis
Walnut
Road 130
Market
Maple
Bradbury
Terra Bella
Main
Airport
Sierra
State Route
Alila
Legend
Drainage Pipes
Manhole
Parcels
UDB
Number of Existing Waste Water Connections 800
Number of Available Waste Water Connections 800
May, 2012

10.4 Roads

There are various roadways in Pixley that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 10-3 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 10-3 graphically displays this information on a map.

TABLE 10-3

Roads in Need of Major and Medium Repair in Pixley

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Airport Street	Terra Bella Street to Compton Avenue	GRX
2	Airport Street	Compton Avenue to Orrland Avenue	CHIP
3	Allen Avenue	Main Street to Center Street	CHIP
4	Ash Street	Terra Bella Street to Davis Avenue	CHIP
5	Ash Street	Davis Avenue to north end	RCST
6	Bradbury Avenue	Ash Street to Market Street	CHIP
7	Bradbury Avenue	Main Street to Center Street	CHIP
8	Bradbury Avenue	Airport Street to Cedar Street	GRX
9	Carla Avenue	Walnut Street to School Street	CHIP
10	Carol Avenue	Walnut Street to School Street	CHIP

TABLE 10-3 (Continued)

Roads in Need of Major and Medium Repair in Pixley

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
11	Center Street	Terra Bella Street to Court Avenue	CHIP
12	Compton Avenue	Bend west of Ash Street to Market Street	CHIP
13	Compton Avenue	Main Street to Center Street	CHIP
14	Court Avenue	SR 99 to Park Drive	CHIP
15	Court Avenue	Park Drive to Elm Street	GRX
16	Court Avenue	Elm Street to Walnut Street	CHIP
17	Court Avenue	Walnut Street to School Street	GRX
18	Court Avenue	Main Street to SR 99	CHIP
19	Davis Street	Ash Street to Maple Street	CHIP
20	Dianna Avenue	Walnut Street to School Street	CHIP
21	Ellsworth Avenue	Park Drive to Maple Street	GRX
22	Ellsworth Street	Ash Street to Market Street	CHIP
23	Ellsworth Street	Main Street to Center Street	CHIP
24	Elm Street	Court Avenue to Howard Avenue	GRX
25	Elm Street	Howard Avenue to Orrland Avenue	CHIP
26	Franklin Avenue	Main Street to Center Street	CHIP
27	Franklin Avenue	Park Drive to Pine Street	CHIP
28	Howard Avenue	Park Drive to Pine Street	CHIP
29	Howard Avenue	Pine Street to Elm Street	CHIP
30	Joanne Avenue	Park Drive to Elm Street	CHIP
31	Joanne Avenue	Walnut Street to School Street	CHIP
32	Lavonia Avenue	Maple Street to Elm Street	CHIP
33	Maple Street	Terra Bella Avenue to Lavonia Avenue	CHIP
34	Maple Street	Lavonia Avenue to Davis Street	GRX
35	Market Street	Court Avenue to Orrland Avenue	CHIP
36	McCreary Avenue	Park Drive to Maple Street	OLAY
37	Orrland Avenue	Airport Street to Market Street	CHIP
38	Park Drive	Terra Bella Avenue to Joanne Avenue	GRX
39	Park Drive	Joanne Avenue to Court Avenue	CHIP
40	Pine Street	McCreary Avenue to Howard Avenue	CHIP
41	Sarah Avenue	Walnut Street to School Street	CHIP
42	School Street	Terra Bella Avenue to north end	CHIP
43	Spani Way	Ellsworth Avenue to Court Avenue	CHIP
44	Terra Bella Avenue	Airport Street to Cedar Street	RCST
45	Terra Bella Avenue	Cedar Street to Ash Street	CHIP
46	Terra Bella Avenue	Main Street to Elm Street	OLAY
47	Terra Bella Avenue	Elm Street to School Street	CHIP

(Source: County of Tulare Public Works, 2012)

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

10.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are various ADA compliant curb ramps located within Pixley and are listed in Table 10-4 and displayed in Figure 10-3.

TABLE 10-4

Existing ADA Curb Ramps in Pixley

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
1	Bradbury Avenue	Airport Street	NE Corner
2	Carla Avenue	Walnut Street	NE Corner
3	Carla Avenue	Walnut Street	SE Corner
4	Carla Avenue	School Street	NW Corner
5	Carla Avenue	School Street	SW Corner
6	Compton Avenue	Airport Street	SE Corner
7	Court Avenue	Center Street	SW Corner
8	Court Avenue	Pine Street	NW Corner
9	Court Avenue	Spani Way	SE Corner
10	Court Avenue	Elm Street	SE Corner
11	Court Avenue	Walnut Street	NE Corner
12	Court Avenue	Walnut Street	NW Corner
13	Court Avenue	Walnut Street	SW Corner
14	Court Avenue	School Street	NW Corner
15	Dianna Avenue	Walnut Street	NE Corner
16	Dianna Avenue	Walnut Street	SE Corner
17	Dianna Avenue	School Street	NW Corner
18	Dianna Avenue	School Street	SW Corner
19	Ellsworth Avenue	Park Drive	SE Corner
20	Ellsworth Avenue	Pine Street	SW Corner
21	Ellsworth Street	Main Street	SE Corner
22	Ellsworth Street	Main Street	SW Corner
23	Entrance at Pixley Park	Park Drive	NE Corner
24	Entrance at Pixley Park	Park Drive	SE Corner
25	Franklin Avenue	Main Street	NE Corner

TABLE 10-4 (Continued)
Existing ADA Curb Ramps in Pixley

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
26	Holste Avenue	School Street	SW Corner
27	Howard Avenue	Park Drive	NE Corner
28	Howard Avenue	Park Drive	SE Corner
29	Joanne Avenue	Maple Street	NE Corner
30	Joanne Avenue	Maple Street	SE Corner
31	Joanne Avenue	Elm Street	NW Corner
32	Joanne Avenue	Elm Street	SW Corner
33	Lavonia Avenue	Maple Street	NE Corner
34	Lavonia Avenue	Maple Street	SE Corner
35	Lavonia Avenue	Elm Street	NW Corner
36	Lavonia Avenue	Elm Street	SW Corner
37	McCreary Avenue	Pine Street	NE Corner
38	Terra Bella Avenue	Park Drive	NE Corner
39	Terra Bella Avenue	Elm Street	NW Corner
40	Terra Bella Avenue	Elm Street	SW Corner
41	Terra Bella Street	Main Street	SE Corner

(Source: County of Tulare Public Works, August 2013)

10.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 10-5 identifies the location of existing sidewalks in Pixley. Figure 10-3 also displays this information graphically. The sidewalks represented in Table 10-5 and Figure 10-3 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were constructed

prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 10-5
Existing Sidewalks in Pixley

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
1	Airport Street	Bradbury Avenue to Compton Avenue	East side
2	Bradbury Avenue	Cedar Street to 525' west	North side
3	Bradbury Avenue	Cedar Street to 525' west	South side
4	Carla Avenue	Walnut Street to School Street	North side
5	Carla Avenue	Walnut Street to School Street	South side
6	Carol Avenue	Walnut Street to School Street	North side
7	Carol Avenue	Walnut Street to School Street	South side
8	Center Street	Ellsworth Street to Franklin Avenue	West side
9	Court Avenue	Park Drive to Pine Street	North side
10	Court Avenue	Park Drive to Pine Street	South side
11	Court Avenue	Elm Street to School Street	North side
12	Court Avenue	Elm Street to School Street	South side
13	Davis Street	Center Street to Park Drive	North side
14	Davis Street	Center Street to Park Drive	South side
15	Dianna Avenue	Walnut Street to School Street	North side
16	Dianna Avenue	Walnut Street to School Street	South side
17	Ellsworth Avenue	Park Drive to Pine Street	North side
18	Ellsworth Avenue	Park Drive to Pine Street	South side
19	Ellsworth Street	Main Street to Center Street	South side
20	Elm Street	Lavonia Avenue to Joanne Avenue	West side
21	Holste Avenue	Walnut Street to School Street	South side
22	Joanne Avenue	Maple Street to Elm Street	North side
23	Joanne Avenue	Maple Street to Elm Street	South side
24	Joanne Avenue	Walnut Street to School Street	North side
25	Joanne Avenue	Walnut Street to School Street	South side
26	Lavonia Avenue	Maple Street to Elm Street	North side
27	Lavonia Avenue	Maple Street to Elm Street	South side
28	Main Street	Compton Avenue to Ellsworth Street	West side
29	Maple Street	Lavonia Avenue to Joanne Avenue	East side
30	Maple Street	McCreary Avenue to Davis Street	West side
31	McCreary Avenue	Pine Street to Maple Street	North side
32	McCreary Avenue	Pine Street to Maple Street	South side
33	Park Drive	Joanne Avenue to McCreary Avenue	East side
34	Park Drive	Court Avenue to north of Pixley Park entrance	East side
35	Pine Street	McCreary Avenue to Davis Street	East side

TABLE 10-5 (Continued)
Existing Sidewalks in Pixley

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
36	School Street	Joanne Avenue to Holste Avenue	West side
37	School Street	Carol Avenue to north end	West side
38	School Street	Court Avenue to north end	East side
39	Terra Bella Avenue	Park Drive to Maple Street	North side
40	Terra Bella Avenue	Maple Street to Elm Street	South side
41	Terra Bella Street	Main Street to Center Street	South side
42	Walnut Street	Joanne Avenue to Holste Avenue	East side
43	Walnut Street	Carol Avenue to Court Avenue	East side
44	Walnut Street	Carol Avenue to Court Avenue	West side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

10.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 10-6 identifies the location of existing street lights that are maintained by Tulare County, in Pixley, as well as their specifications. Figure 10-3 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type “W” represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 10-6
Existing Street Lights in Pixley

Specifications of Existing Street Lights								
No.	**East-West Roadway**	**North-South Roadway**	**Location**	**Pole**	**Lumens**	**Pole Type**	**Arm Direction**	**Utility**
1	Allen Avenue	Main Street	NE corner	934857E	5800	W	W	SCE
2	Bradbury Avenue	Cedar Street	NW corner	2272765E	5800	W	S	SCE
3	Bradbury Avenue	Ash Street	SW corner	1706649EE	5800	W	E	SCE
4	Bradbury Avenue	Market Street	SE corner	1790095E	5800	W	W	SCE
5	Bradbury Avenue	Main Street	SE corner	1342431E	5800	W	W	SCE
6	Carla Avenue	Walnut Street	West side	765315E	5800	W	E	SCE
7	Carol Avenue	Walnut Street	SW corner	896218E	5800	W	E	SCE
8	Compton Avenue	Ash Street	NE corner	4002250E	5800	W	W	SCE
9	Compton Avenue	Market Street	NW corner	1170428E	5800	W	E	SCE
10	Compton Avenue	Main Street	North side	401719E	5800	W	S	SCE

TABLE 10-6 (Continued)
Existing Street Lights in Pixley

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
11	Compton Avenue	Center Street	NW corner	2277750E	5800	W	E	SCE
12	Compton Avenue	Pine Street	NE corner	1235813E	5800	W	W	SCE
13	Court Avenue	Main Street	SE corner	401721E	5800	W	E	SCE
14	Court Avenue	Center Street	NE corner	1018659E	5800	W	S	SCE
15	Court Avenue	Park Drive	SW corner	1018660E	5800	W	E	SCE
16	Court Avenue	Pine Street	SE corner	1536012E	5800	W	N	SCE
17	Court Avenue	Maple Street	NE corner	994560E	5800	W	S	SCE
18	Court Avenue	Elm Street	NE corner	2191804E	5800	W	S	SCE
19	Court Avenue	School Street	NW corner	4672206E	5800	W	S	SCE
20	Davis Street	Elm Street	East side	571112E	5800	W	W	SCE
21	Davis Street	Maple Street	NW corner	2272766E	5800	W	S	SCE
22	Davis Street	Market Street	NW corner	2017309E	5800	W	S	SCE
23	Davis Street	Main Street	SE corner	533394E	5800	W	W	SCE
24	Davis Street	Center Street	SW corner	854166E	5800	W	N	SCE
25	Davis Street	Park Drive	SW corner	505086E	5800	W	E	SCE
26	Ellsworth Avenue	Maple Street	SW corner	555844E	5800	W	E	SCE
27	Ellsworth Avenue	Elm Street	SE corner	995478E	5800	W	W	SCE
28	Ellsworth Avenue	Walnut Street	SW corner	1955150E	5800	W	E	SCE
29	Ellsworth Street	Market Street	East side	2017348E	5800	W	W	SCE
30	Ellsworth Street	Main Street	SE corner	4355947E	5800	W	W	SCE
31	Franklin Avenue	Main Street	SE corner	934859E	5800	W	W	SCE
32	Howard Avenue	Pine Street	SE corner	995182E	5800	W	W	SCE
33	Howard Avenue	Park Drive	NE corner	1400711E	5800	W	S	SCE
34	Howard Avenue	Elm Street	NE corner	852870E	5800	W	W	SCE
35	Joanne Avenue	Walnut Street	West side	896218EE	5800	W	E	SCE
36	Joanne Avenue	Maple Street	NW corner	994518E	5800	W	E	SCE
37	Joanne Avenue	Park Drive	NE corner	5871T	5800	W	W	SCE
38	North of Ellsworth Avenue	Maple Street	West side	N/A	5800	W	E	SCE
39	Terra Bella Avenue	Park Drive	NE corner	N/A	9500	W	SW	SCE
40	Terra Bella Avenue	Elm Street	NE corner	2053248E	5800	W	S	SCE
41	Terra Bella Avenue	Maple Street	NW corner	2053252E	5800	W	S	SCE
42	Terra Bella Avenue	SR 99	South side	N/A	5800	W		SCE
43	Terra Bella Street	Cedar Street	NW corner	2272764E	5800	W	S	SCE
44	Terra Bella Street	Main Street	NW corner	2088954E	5800	W	E	SCE

(Source: Tulare County Public Works, March 2013)

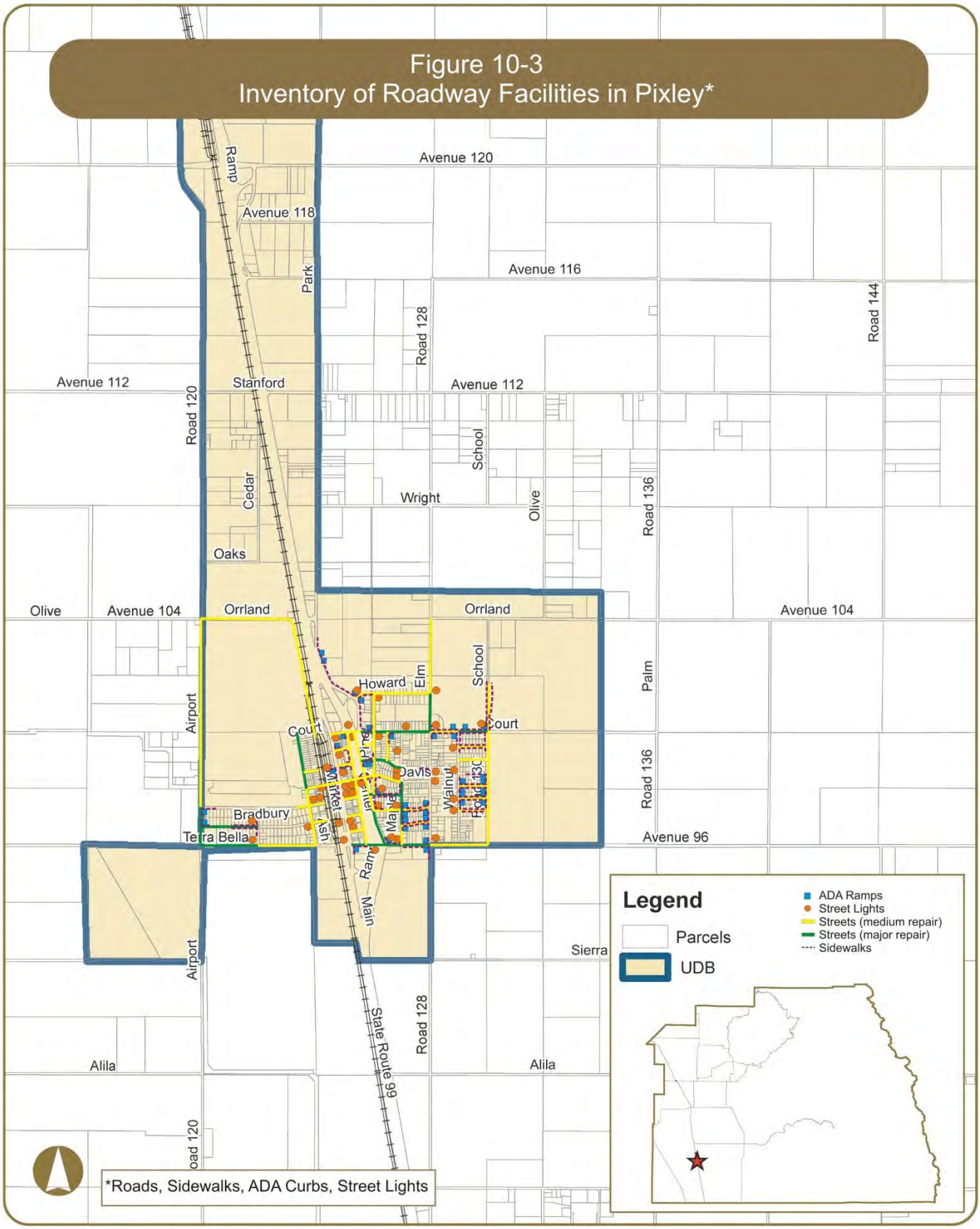


Figure 10-3
Inventory of Roadway Facilities in Pixley*
Avenue 120
Avenue 118
Avenue 116
Avenue 112
Avenue 104
Avenue 96
Ramp
Park
Road 128
Road 144
Road 120
Road 136
Stanford
Cedar
Oaks
Wright
Olive
School
Orrland
Howard
Elm
Court
Davis
Walnut
Market
Bradbury
Terra Bella
Main
Palm
Airport
Sierra
Alila
State Route 99
Legend
Parcels
UDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, ADA Curbs, Street Lights

11. COMMUNITY OF PLAINVIEW

11.1 General Information

Plainview is a census-designated place located in the western portion of Tulare County. It is generally bounded by Avenue 192 in the south, Avenue 196 in the north, Road 195 in the west, and Road 198 in the east and encompasses 0.3 square miles of land. It is not directly served by any State Route.

Based on the 2010 Census, the population in Plainview was 945. Similar to other communities in Tulare County, the population of Plainview is racially diverse with 38% White, 1% African American, 2% Native American, less than 1% Asian/Pacific Islander, 55% from other races, and 4% from 2 or more races. 92% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 224 housing units located within Plainview, of which 51% are owner-occupied and 49% are renter-occupied.

11.2 Domestic Water & Wastewater

Domestic water service in Plainview is provided by the Plainview Mutual Water Company (MWC). Plainview lacks a sanitary sewer system and is served by individual or community septic systems. Table 11-1 shows the number of existing water connections, the capacity of the system, and the number of additional connections the system can accommodate for new development (Tulare County, January 2014). Figure 11-1 graphically displays the approximate location of water wells and water lines.

TABLE 11-1

Existing Water & Wastewater Connections in Plainview

Description of Existing Infrastructure					
Drinking Water*			Waste Water		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
168	168	0	Septic only	--	--

* Data current as of January 2014

11.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Plainview does not currently have a storm drainage system.

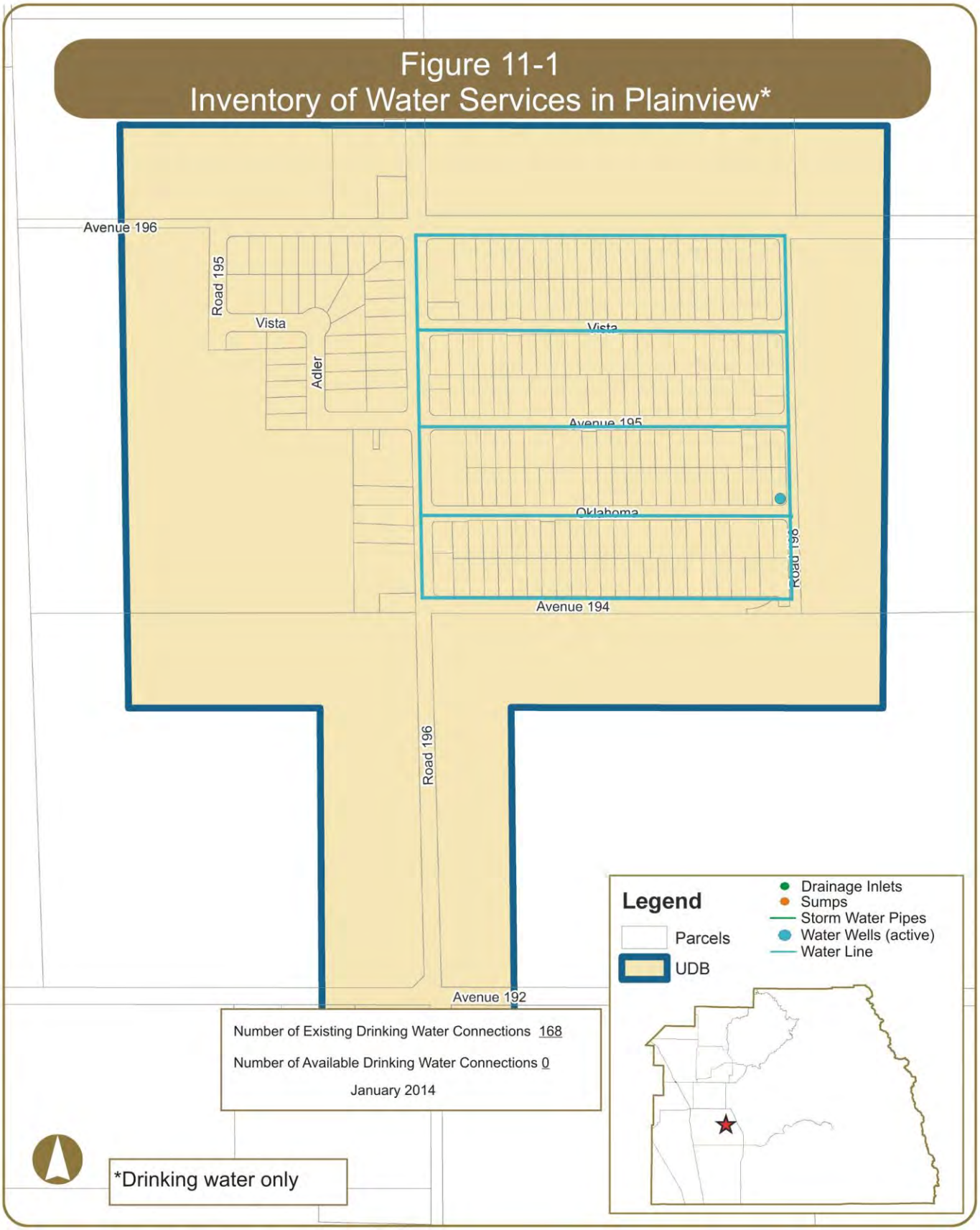


Figure 11-1
Inventory of Water Services in Plainview*
Avenue 196
Road 195
Vista
Adler
Vista
Avenue 195
Oklahoma
Road 196
Avenue 194
Road 196
Avenue 192
Legend
Parcels
UDB
Drainage Inlets
Sumps
Storm Water Pipes
Water Wells (active)
Water Line
Number of Existing Drinking Water Connections 168
Number of Available Drinking Water Connections 0
January 2014
*Drinking water only

11.4 Roads

There is one roadway in Plainview that is in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 11-2 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 11-2 graphically displays this information on a map.

TABLE 11-2

Roads in Need of Major and Medium Repair in Plainview

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Road 196	Avenue 194 to Avenue 196	CHIP

OLAY – overlay resurfacing operation	ACST – asphalt reconstruction
CHIP – chip seal	RCST – cold mix reconstruction
GRX – grind and remix	

(Source: County of Tulare Public Works, 2012)

11.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are no ADA compliant curb ramps located within Plainview.

11.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in clear width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

There are currently no sidewalks located within Plainview.

11.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 11-3 identifies the location of existing street lights that are maintained by Tulare County, in Plainview, as well as their specifications. Figure 11-2 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure

the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type "W" represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 11-3
Existing Street Lights in Plainview

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Avenue 192	Road 196	NW Corner	4109826E	9500	W	N	SCE
2	Avenue 195	Alder Road	NE Corner	2281651E	5800	W	S/W	SCE
3	Avenue 195	Road 196	NE Corner	1051118E	5800	W	W	SCE
4	Avenue 196	Road 196	NE Corner	1274826E	5800	W	W	SCE
5	Oklahoma Avenue	Road 196	SE Corner	1051117E	5800	W	W	SCE
6	Vista Avenue	Alder Road	SW Corner	2281652E	5800	W	N/E	SCE
7	Vista Avenue	Road 196	NE Corner	4289463E	5800	W	W	SCE

(Source: Tulare County Public Works, March 2013)

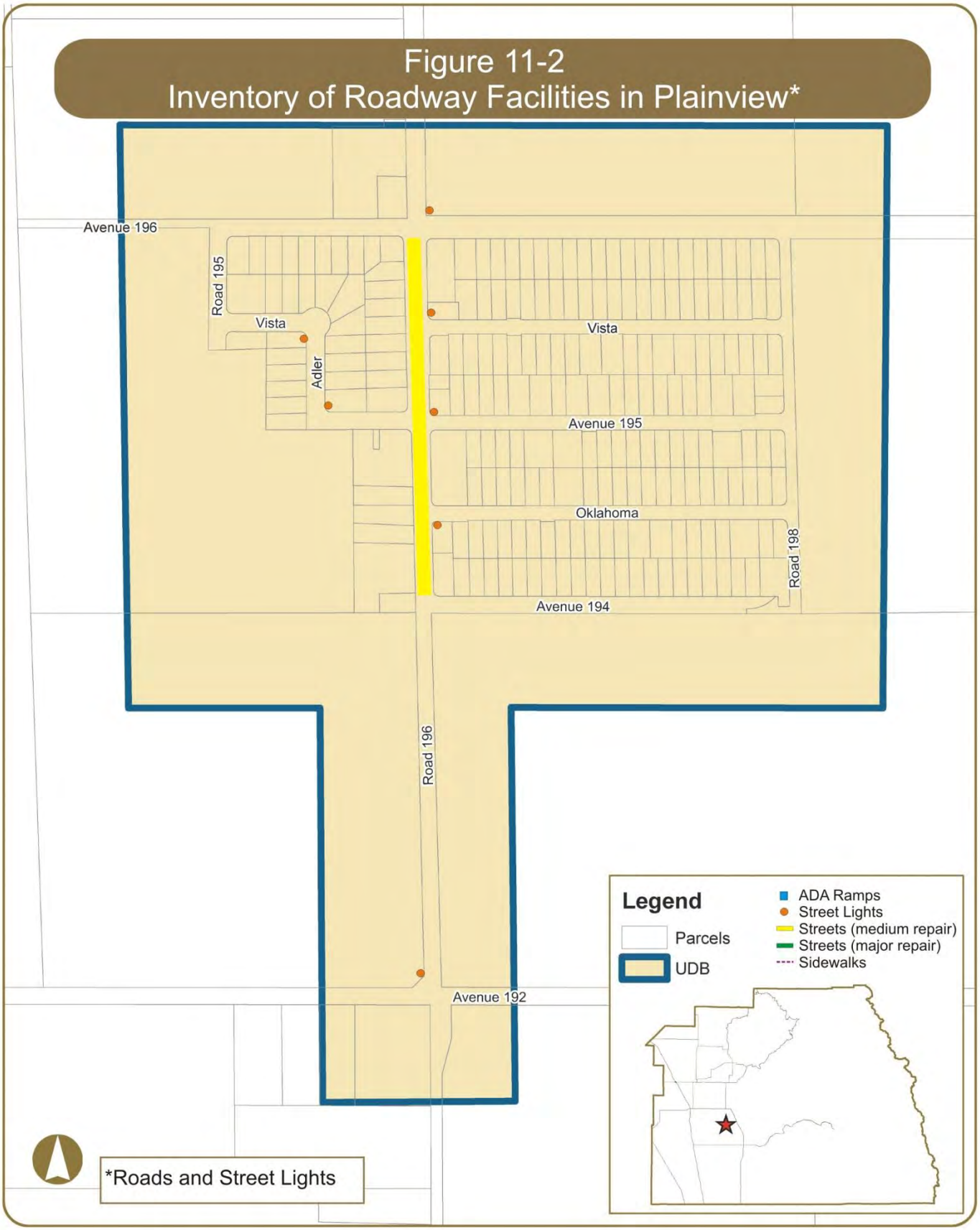


Figure 11-2
Inventory of Roadway Facilities in Plainview*
Avenue 196
Road 195
Vista
Adler
Vista
Avenue 195
Oklahoma
Road 198
Avenue 194
Road 196
Avenue 192
Legend
Parcels
UDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads and Street Lights

12. COMMUNITY OF POPLAR-COTTON CENTER

12.1 General Information

Poplar-Cotton Center is a census-designated place located in the southern portion of Tulare County, approximately eight miles west of Porterville and eleven miles southwest of Lindsay. It is generally bounded by Avenue 136 in the south, Avenue 152 in the north, Road 184 in the west, and Road 193 in the east and encompasses 1.3 square miles of land. Poplar-Cotton Center is an agriculturally oriented service community surrounded on all sides by lands in agricultural production, vacant lands, and scattered rural residential homes. Cities and communities surrounding Poplar-Cotton Center include Porterville to the east, Lindsay to the northeast, Tulare to the northwest, Woodville to the northwest, and Tipton to the east. The Tulare County/Kern County Line is located approximately 18 miles south of Poplar-Cotton Center.

Based on the 2010 Census, the population in Poplar-Cotton Center was 2,470. Similar to other communities in Tulare County, the population of Poplar-Cotton Center is racially diverse with 70% White, 0% African American, 1% Native American, 14% Asian/Pacific Islander, 13% from other races, and 2% from 2 or more races. 73% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 611 housing units located within Poplar-Cotton Center, of which 46% are owner-occupied and 54% are renter-occupied.

12.2 Domestic Water & Wastewater

Domestic water and sewer service in Poplar-Cotton Center is provided by the Poplar Community Services District (CSD), which was formed in December 1959. Table 12-1 shows the number of existing water and sewer connections, the capacity of each system, and the number of additional connections the systems can accommodate for new development (Housing Element, May 2012). Maps of the sewer and water systems are currently unavailable.

According to the Municipal Service Review 2007 (MSR), the Poplar CSD operates a water supply and distribution system under the jurisdiction of the California Department of Health Services Division of Drinking Water and Environmental Management, which is responsible for the administration and enforcement of the Safe Drinking Water Act involving those systems in California with more than 200 connections. Poplar CSD staff has indicated that there are approximately 640 connections to the District's water system, which consists of three active wells with a total maximum production efficiency of 2,280 gallons per minute (GPM), and a 300,000 gallon storage tank. The CSD's water supply is chlorinated, but has no permanently installed treatment. Based upon the District's 2004 Annual Drinking Water Quality Report, there is no evidence suggesting that the District's water supply does not meet Federal drinking water standards.

Assuming 650 equivalent dwelling units (EDUs), in order to meet Tulare County Improvement Standards the Poplar CSD water system would need to be capable of delivering a combined flow rate (from all source and storage facilities) of 1,250 GPM (500 GPM fire flow, and 750 GPM domestic demand) for a period of two hours while maintaining a minimum pressure of 25 pounds per square inch (PSI) to each lot served;

The District's water system is capable of delivering a combined source flow of 3,530 GPM (approximately 1,250 GPM could be delivered for two hours from a 300,000 gallon storage tank), indicating that the District's water system meets the requirements of the Tulare County Improvement Standards. Prior to granting any sphere of influence (SOI) amendments that would increase demand for water services provided by the District, the CSD's engineer should provide evidence that the increase in demand would not result in substandard pressures, or inadequate supply capacity for the remainder of the system.

The CSD's water system is in good operating condition, and has available capacity to connect additional users however additional capacity would likely be needed to accommodate build-out of the District's SOI. A complete assessment by the CSD Engineer should be completed prior to the approval of additional connections to ensure that adequate distribution system pressures can be achieved.

The Poplar CSD is also responsible for providing sanitary sewer service to residents within its Boundary. Poplar CSD staff has indicated that there are approximately 640 connections to their sewer system. The District owns and operates a Wastewater Treatment Facility (WWTF) southwest of the community, which is operated under the provisions of Waste Discharge Requirements Order No. 98-214, issued by the Regional Water Quality Control Board (RWQCB). The CSD's WWTF is currently operating in full compliance with the requirements of Order No. 98-214. Order No. 98-214 prescribes that the monthly average discharge flow shall not exceed 0.31 million gallons per day (MGD). Available data indicates that current average dry weather flow at the WWTF is 0.22 MGD, indicating that the WWTF is currently operating at about 71% of its capacity.

Based upon information provided by the CSD's Engineer, developments which have recently been approved within the existing District Boundary will use the remaining capacity at the WWTF. Based upon this realization, the CSD would need to expand its WWTF to support any additional development projects proposed within its District Boundary and/or SOI.

The Poplar CSD recycles its wastewater by irrigating 41-acres of alfalfa owned by the District. The land used for wastewater reclamation will increase in the near future, as the District recently purchased additional acreage for this purpose. The District's wastewater reclamation activities promote water conservation, groundwater recharge, and demonstrate the District's desire to conserve its potable water sources.

TABLE 12-1

Existing Water & Wastewater Connections in Poplar-Cotton Center

Description of Existing Infrastructure					
Drinking Water*			Waste Water *		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
640	965	325	640	901	261 [1]

* Data current as of May 2012

1 Recently approved projects will use up remaining capacity (Source: MSR)

12.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Poplar-Cotton Center does have a storm drainage system, but system information and mapping is currently unavailable.

12.4 Roads

There are various roadways in Poplar-Cotton Center that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways

- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 12-2 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 12-1 graphically displays this information on a map.

TABLE 12-2

Roads in Need of Major and Medium Repair in Poplar-Cotton Center

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Avenue 145	Road 190 to west of Walker Road	CHIP
2	Avenue 147	Kilroy Road to Road 192	CHIP
3	Avenue 150	Road 190 to Road 192	CHIP
4	Avenue 151	Road 190 to Road 192	CHIP
5	Kilroy Road	Avenue 145 to Avenue 146	CHIP
6	Road 192	SR 190 to Avenue 147	OLAY
7	Road 192	Avenue 147 to Avenue 148	ACST
8	Road 192	Avenue 148 to Avenue 152	OLAY

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

(Source: County of Tulare Public Works, 2012)

12.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012.

According to the survey, there are various ADA compliant curb ramps located within Poplar-Cotton Center and are listed in Table 12-3 and displayed in Figure 12-1.

TABLE 12-3

Existing ADA Curb Ramps in Poplar-Cotton Center

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
1	Avenue 145	Frankie Road	NE Corner
2	Avenue 145	School Driveway east of Frankie Road	NE Corner
3	Avenue 145	School Driveway east of Frankie Road	NW Corner
4	Avenue 145	School Driveway west of Walker Road	NE Corner
5	Avenue 145	School Driveway west of Walker Road	NW Corner
6	Avenue 145	Walker Road	NE Corner
7	Avenue 145	Walker Road	NW Corner
8	Avenue 145	Walker Road	SE Corner
9	Avenue 145	Walker Road	SW Corner
10	Avenue 145	Road 190	NE Corner
11	Avenue 145	Road 190	NW Corner
12	Avenue 145	Road 190	SW Corner
13	Avenue 146	Road 192	NE Corner
14	Avenue 147	Walker Road	NE Corner
15	Avenue 147	Walker Road	NW Corner
16	Avenue 147	Walker Road	SE Corner
17	Avenue 147	Walker Road	SW Corner
18	Avenue 147	Road 190	NW Corner
19	Avenue 147	Road 190	SW Corner
20	SR 190	Road 192	NE Corner
21	SR 190	Road 192	NW Corner
22	SR 190	Road 192	SE Corner
23	SR 190	Road 192	SW Corner
24	Tule Avenue	Walker Road	SE Corner
25	Tule Avenue	Walker Road	SW Corner
26	Tule Avenue	Road 190	NW Corner
27	Tule Avenue	Road 190	SW Corner

(Source: County of Tulare Public Works, August 2013)

12.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in clear width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 12-4 identifies the location of existing sidewalks in Poplar-Cotton Center. Figure 12-1 also displays this information graphically. The sidewalks represented in Table 12-4 and Figure 12-1 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 12-4
Existing Sidewalks in Poplar-Cotton Center

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
1	Avenue 145	West end to Road 190	North side
2	Avenue 145	400' west of Walker Road to Road 190	South side
3	Avenue 145	Avenue 145 to north end	East side
4	Avenue 146	Road 192 to Road 193	North side
5	Avenue 147	West end to Road 190	North side
6	Avenue 147	West end to Road 190	South side
7	Road 190	Avenue 145 to Avenue 148	West side
8	Road 192	Avenue 146 to 225' north	West side
9	Tule Avenue	West end to Road 190	North side
10	Tule Avenue	West end to Road 190	South side
11	Walker Road	Avenue 145 to Tule Avenue	East side
12	Walker Road	Avenue 145 to Tule Avenue	West side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

12.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 12-5 identifies the location of existing street lights that are maintained by Tulare County, in Poplar-Cotton Center, as well as their specifications. Figure 12-1 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type "W" represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 12-5

Existing Street Lights in Poplar-Cotton Center

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Avenue 144	West of Road 191	North Side	1057086E	5800	W	S	SCE
2	Avenue 145	Imperial Road	SE Corner	4076101E	5800	W	N	SCE
3	Avenue 145	Kilroy Road	SW Corner	667274E	5800	W	N	SCE
4	Avenue 145	Road 193	SW Corner	61145E	5800	W	E	SCE
5	Avenue 145	Imperial Road	SW Corner	4076101E	5800	W	N	SCE
6	Avenue 145	Road 192	SE Corner	641136E	5800	W	N	SCE
7	Avenue 145	Tobias Road	SE Corner	641140E	5800	W	N	SCE
8	Avenue 145	Road 191	SE Corner	667274E	5800	W	N	SCE
9	Avenue 145	Walker Road	SW Corner	4420523E	5800	C	E	SCE
10	Avenue 146	Road 190	SW Corner	NONE	5800	W	N	SCE
11	Avenue 146	Road 191	SE Corner	937703E	5800	W	N	SCE
12	Avenue 146	Road 192	NE Corner	730676E	5800	W	W	SCE
13	Avenue 146	Tobias Road	SE Corner	69638E	5800	W	N	SCE
14	Avenue 146	Kilroy Road	SE Corner	696368E	5800	W	N	SCE
15	Avenue 146	Kilroy Road	SW Corner	937702E	5800	W	N	SCE
16	Avenue 146	Imperial Road	SE Corner	937704E	5800	W	N	SCE
17	Avenue 147	Kilroy Road	SW Corner	1057083E	5800	W	W	SCE
18	Avenue 147	Road 192	SW Corner	1057084E	5800	W	E	SCE
19	Avenue 147	Imperial Road	East Side	4044239E	5800	W	W	SCE
20	Avenue 147	Road 191	West Side	4044239E	5800	W	E	SCE
21	Avenue 147	Road 190	SW Corner	N/A	N/A	N/A	E	SCE
22	Avenue 148	Imperial Road	SE Corner	4076104E	5800	W	N	SCE
23	Avenue 148	Road 191	SE Corner	4076106E	5800	W	N	SCE
24	Avenue 148	Kilroy Road	SE Corner	4076108E	5800	W	N	SCE
25	Avenue 148	Road 192	SW Corner	N/A	N/A	N/A	N	SCE
26	Avenue 152	Road 192	SW Corner	894120E	9500	W	S	SCE
27	SR 190	Road 191	NE Corner	495921E	5800	W	S	SCE
28	SR 190	Road 193	NE Corner	2366581E	5800	W	S	SCE
29	SR 190	Road 192	SE Corner	X16224E	16000	W	N	SCE
30	SR 190	Road 192	NE Corner	593859E	5800	W	W	SCE
31	SR 190	Road 192	NW Corner	1896054E	16000	W	S	SCE

(Source: Tulare County Public Works, March 2013)

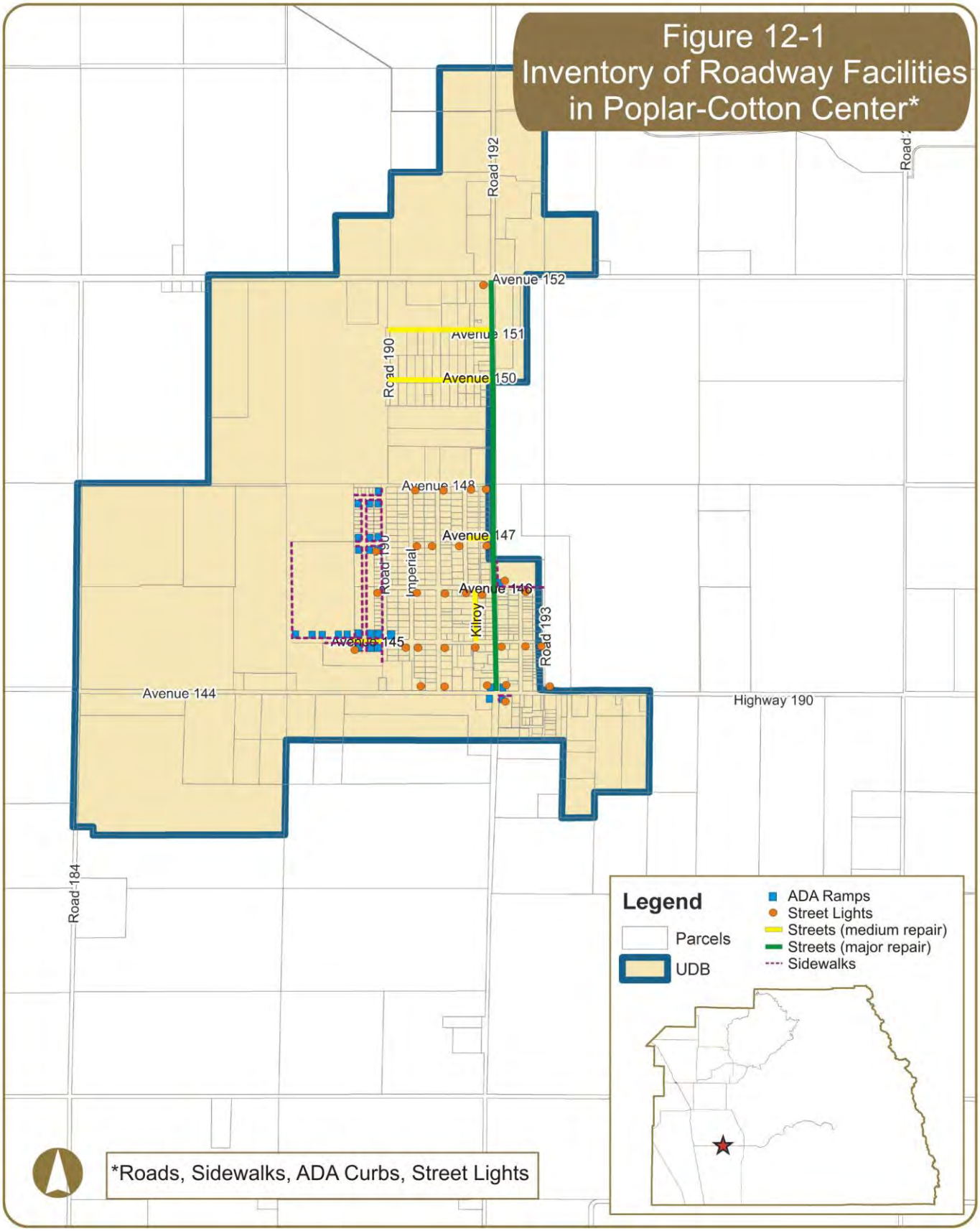


Figure 12-1
Inventory of Roadway Facilities in Poplar-Cotton Center*
Road 192
Avenue 152
Avenue 151
Road 190
Avenue 150
Avenue 148
Avenue 147
Road 190
Imperial
Avenue 146
Kilroy
Road 193
Avenue 145
Avenue 144
Highway 190
Road 184
Legend
Parcels
UDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, ADA Curbs, Street Lights

13. COMMUNITY OF RICHGROVE

13.1 General Information

Richgrove is a census-designated place located in the southern portion of Tulare County, just north of the Tulare County/Kern County line. It is generally bounded by County Line Road in the south, Avenue 8 in the north, Richgrove Drive in the west, and Road 210 in the east and encompasses 0.5 square miles of land. Nearby cities and communities include Ducor approximately 8 miles to the northeast, Delano approximately 10 miles to the west, Terra Bella approximately 12 miles to the northeast, Poplar-Cotton Center approximately 18 miles to the north, and Porterville approximately 20 miles to the northeast. Richgrove is an agriculturally oriented service community surrounded on all sides by lands in agricultural production, and vacant lands. Richgrove is a vibrant Hispanic community with a strong agricultural industry including many grape vineyards, citrus orchards, and row crops.

Based on the 2010 Census, the population in Richgrove was 2,882. Similar to other communities in Tulare County, the population of Richgrove is racially diverse with 37% White, 1% African American, 1% Native American, 5% Asian/Pacific Islander, 53% from other races, and 3% from 2 or more races. 94% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 610 housing units located within Richgrove, of which 45% are owner-occupied and 55% are renter-occupied.

13.2 Domestic Water & Wastewater

Domestic water and sewer service in Richgrove is provided by the Richgrove Community Services District (CSD), which was formed in March 1977. Table 13-1 shows the number of existing water and sewer connections, the capacity of each system, and the number of additional connections the systems can accommodate for new development (Housing Element, May 2012 and Municipal Service Review, March 2007). Maps of the sewer and water systems are currently unavailable.

According to the Municipal Service Review 2007 (MSR), the Richgrove CSD operates a water supply and distribution system under the jurisdiction of the California Department of Health Services Division of Drinking Water and Environmental Management, which is responsible for the administration and enforcement of the Safe Drinking Water Act involving those systems in California with more than 200 connections. Richgrove CSD staff has indicated that there are 523 connections to the District's water system, which consists of two active wells and a third well which is currently not operational. The CSD relies solely on groundwater for its water supply. The water is chlorinated at the well sites, and will likely have permanent chlorination installed in the future.

Assuming 550 equivalent dwelling units (EDUs), in order to meet Tulare County Improvement Standards the Richgrove CSD water system would need to be capable of delivering a combined flow rate (from all source and storage facilities) of 1,200 gallons per minute (GPM) (500 GPM fire flow, and 700 GPM domestic demand) for a period of two hours while maintaining a minimum pressure of 25 pounds per square inch (PSI) to each lot served. The total supply source available for the CSD's water system is

unknown. Prior to granting any sphere of influence (SOI) amendments that would increase demand for water services provided the CSD, the CSD's engineer should provide evidence that the increase in demand would not result in substandard pressures, or inadequate supply capacity for the remainder of the system. There is a project planned to install treatment on the well that is currently not in operation. It potentially will add capacity to the CSD's water system, and could also serve as a backup well should one of the existing wells be out of service.

The CSD owns and operates a Wastewater Treatment Facility (WWTF) located northeast of the community, which is operated under the provisions of Waste Discharge Requirements Order No. 83-088, issued by the California Regional Water Quality Control Board, Central Valley Region. Order No. 83-088 prescribes that the monthly average discharge flow shall not exceed 0.22 million gallons per day (MGD). According to the Wastewater User Charge Survey Report FY 2005-06 (Cal EPA State Water Resources Control Board, May 2006), the average dry weather flow at the WWTF is 0.25 MGD. Based upon this information, it is determined that the CSD's WWTF is currently operating above its permitted capacity, indicating that additional connections to the sewer system cannot be support at this time.

Treated effluent from the CSD's WWTF is recycled through irrigation of alfalfa, which is indicative of the CSD's efforts to conserve its potable water sources. The CSD recently completed a *"Wastewater Treatment Facility Performance and Capacity Study"* (Provost & Pritchard, September 2005) in order to evaluate wastewater treatment options to bring the plant into compliance regarding flow to the plant, and to address other WWTF related issues. The *"Wastewater Treatment Facility Performance and Capacity Study"* identifies potential grant sources for the implementation of the proposed improvements, planned to occur in three phases. The potential grant sources identified in the study are small community wastewater grants, community development block grants, and grant assistance provided by the economic development administration. Without increasing the capacity of its WWTF, the CSD will be unable to support any additional connections to its sewer system.

TABLE 13-1

Existing Water & Wastewater Connections in Richgrove

Description of Existing Infrastructure					
Drinking Water*			Waste Water **		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
523	--	(--) [1]	523	<523 [2]	0

* Data current as of May 2012

** Data current as of March 2007

1 Excess capacity likely, but further study is needed to determine available capacity (Source: MSR)

2 System is over capacity

13.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps.

The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Richgrove does not currently have a storm drainage system.

13.4 Roads

There are various roadways in Richgrove that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 13-2 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 13-1 graphically displays this information on a map.

TABLE 13-2

Roads in Need of Major and Medium Repair in Richgrove

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Ames Drive	Richgrove Drive to Vineyard Drive	GRX
2	Avenue 4	Richgrove Drive to Wheatland Drive	CHIP
3	Avenue 8	Road 208 to Richgrove Drive	CHIP
4	Avenue 8	Richgrove Drive to Road 210	GRX
5	Bibee Drive	Richgrove Drive to Vineyard Drive	RCST
6	Diaz Avenue	Road 210 to west end	CHIP
7	Espinoza Avenue	Road 210 to west end	CHIP
8	Flores Avenue	Road 210 to west end	CHIP
9	Richgrove Drive	Avenue 0 to Avenue 8	GRX
10	Road 210	Grove Drive to Avenue 8	CHIP

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

(Source: County of Tulare Public Works, 2012)

13.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are various ADA compliant curb ramps located within Richgrove and are listed in Table 13-3 and displayed in Figure 13-1.

TABLE 13-3
Existing ADA Curb Ramps in Richgrove

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
1	Ames Drive	Richgrove Drive	NE Corner
2	Ames Drive	Wheatland Drive	NE Corner
3	Ames Drive	Wheatland Drive	NW Corner
4	Ames Drive	Vineyard Drive	NW Corner
5	Avenue 4	Richgrove Drive	NE Corner
6	Avenue 4	Richgrove Drive	SE Corner
7	Avenue 4	Wheatland Drive	SW Corner
8	Avenue 4	Wheatland Drive	NE Corner
9	Avenue 4	Wheatland Drive	SE Corner
10	Avenue 4	Vineyard Drive	SE Corner
11	Avenue 4	Vineyard Drive	SW Corner
12	Avenue 4	Road 210	NW Corner
13	Avenue 4	Road 210	SW Corner
14	Avenue 8	Richgrove Drive	SE Corner
15	Avenue 8	Rowland Street	SE Corner
16	Avenue 8	Rowland Street	SW Corner
17	Avenue 8	Road 210	SW Corner
18	Bibee Drive	Richgrove Drive	NE Corner
19	Bibee Drive	Richgrove Drive	SE Corner
20	Bibee Drive	Wheatland Drive	NE Corner
21	Bibee Drive	Wheatland Drive	NW Corner
22	Bibee Drive	Wheatland Drive	SE Corner
23	Bibee Drive	Wheatland Drive	SW Corner
24	Bibee Drive	Vineyard Drive	NW Corner
25	Bibee Drive	Vineyard Drive	SW Corner
26	Chaney Drive	Richgrove Drive	NE Corner
27	Chaney Drive	Richgrove Drive	SE Corner
28	Chaney Drive	Wheatland Drive	NE Corner
29	Chaney Drive	Wheatland Drive	NW Corner
30	Chaney Drive	Wheatland Drive	SE Corner
31	Chaney Drive	Wheatland Drive	SW Corner
32	Chaney Drive	Vineyard Drive	NW Corner
33	Chaney Drive	Vineyard Drive	SW Corner
34	Diaz Avenue	Road 210	NW Corner
35	Diaz Avenue	Road 210	SW Corner

TABLE 13-3 (Continued)
Existing ADA Curb Ramps in Richgrove

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
36	Dooley Drive	Richgrove Drive	NE Corner
37	Dooley Drive	Richgrove Drive	SE Corner
38	Dooley Drive	Wheatland Drive	NE Corner
39	Dooley Drive	Wheatland Drive	NW Corner
40	Dooley Drive	Wheatland Drive	SE Corner
41	Dooley Drive	Wheatland Drive	SW Corner
42	Dooley Drive	Vineyard Drive	NW Corner
43	Dooley Drive	Vineyard Drive	SW Corner
44	Dooley Drive	Vineyard Drive	NE Corner
45	Dooley Drive	Vineyard Drive	SE Corner
46	Dooley Drive	Road 210	NW Corner
47	Ensign Drive	Richgrove Drive	NE Corner
48	Ensign Drive	Richgrove Drive	SE Corner
49	Ensign Drive	Wheatland Drive	NE Corner
50	Ensign Drive	Wheatland Drive	NW Corner
51	Ensign Drive	Wheatland Drive	SE Corner
52	Ensign Drive	Wheatland Drive	SW Corner
53	Ensign Drive	Vineyard Drive	NW Corner
54	Ensign Drive	Vineyard Drive	SW Corner
55	Espinoza Avenue	Road 210	NW Corner
56	Espinoza Avenue	Road 210	SW Corner
57	Flores Avenue	Road 210	NW Corner
58	Flores Avenue	Road 210	SW Corner
59	Francis Drive	Richgrove Drive	NE Corner
60	Francis Drive	Richgrove Drive	SE Corner
61	Francis Drive	Wheatland Drive	NE Corner
62	Francis Drive	Wheatland Drive	NW Corner
63	Francis Drive	Wheatland Drive	SE Corner
64	Francis Drive	Wheatland Drive	SW Corner
65	Francis Drive	Vineyard Drive	NW Corner
66	Francis Drive	Vineyard Drive	SW Corner
67	Francis Drive	Vineyard Drive	NE Corner
68	Francis Drive	Vineyard Drive	SE Corner
69	Francis Drive	Road 210	NW Corner
70	Francis Drive	Road 210	SW Corner

TABLE 13-3 (Continued)
Existing ADA Curb Ramps in Richgrove

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
71	Guerrero Avenue	Richgrove Drive	NE Corner
72	Guerrero Avenue	Richgrove Drive	SE Corner
73	Guerrero Avenue	Rowland Street	NE Corner
74	Guerrero Avenue	Rowland Street	NW Corner
75	Guerrero Avenue	Road 210	NW Corner
76	Guerrero Avenue	Road 210	SW Corner
77	Hernandez Avenue	Rowland Street	NE Corner
78	Hernandez Avenue	Road 210	NW Corner
79	Hernandez Avenue	Road 210	SW Corner
80	Robles Court	Road 210	NW Corner
81	Robles Court	Road 210	SW Corner

(Source: County of Tulare Public Works, August 2013)

13.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 13-4 identifies the location of existing sidewalks in Richgrove. Figure 13-1 also displays this information graphically. The sidewalks represented in Table 13-4 and Figure 13-1 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 13-4
Existing Sidewalks in Richgrove

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
1	Ames Drive	Richgrove Drive to Vineyard Drive	North side
2	Avenue 4	Richgrove Drive to Road 210	North side
3	Avenue 4	Richgrove Drive to Road 210	South side
4	Avenue 8	Rowland Street to Road 210	South side
5	Bibee Drive	Richgrove Drive to Vineyard Drive	North side
6	Bibee Drive	Richgrove Drive to Vineyard Drive	South side
7	Chaney Drive	Richgrove Drive to Vineyard Drive	North side
8	Chaney Drive	Richgrove Drive to Vineyard Drive	South side
9	Diaz Avenue	Road 210 to west end	North side
10	Diaz Avenue	Road 210 to west end	South side
11	Dooley Drive	Richgrove Drive to Vineyard Drive	South side
12	Dooley Drive	Richgrove Drive to Road 210	North side
13	Ensign Drive	Richgrove Drive to Vineyard Drive	North side
14	Ensign Drive	Richgrove Drive to Vineyard Drive	South side
15	Espinoza Avenue	Road 210 to west end	North side
16	Espinoza Avenue	Road 210 to west end	South side
17	Flores Avenue	Road 210 to west end	North side
18	Flores Avenue	Road 210 to west end	South side
19	Francis Drive	Richgrove Drive to Road 210	North side
20	Francis Drive	Richgrove Drive to Road 210	South side
21	Guerrero Avenue	Richgrove Drive to Road 210	North side
22	Guerrero Avenue	Richgrove Drive to Road 210	South side
23	Hernandez Avenue	Rowland Street to Road 210	North side
24	Hernandez Avenue	Rowland Street to Road 210	South side
25	Richgrove Drive	Ames Drive to Avenue 8	East side
26	Road 210	Dooley Drive to Avenue 8	West side
27	Robles Court	Road 210 to west end	North side
28	Robles Court	Road 210 to west end	South side
29	Rowland Street	Guerrero Avenue to Avenue 8	East side
30	Rowland Street	Guerrero Avenue to Avenue 8	West side
31	Vineyard Drive	Ames Drive to Avenue 4	West side
32	Vineyard Drive	Dooley Drive to Avenue 4	East side
33	Wheatland Drive	Ames Drive to Avenue 4	East side
34	Wheatland Drive	Ames Drive to Avenue 4	West side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

13.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 13-5 identifies the location of existing street lights that are maintained by Tulare County, in Richgrove, as well as their specifications. Figure 13-1 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type "W" represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 13-5
Existing Street Lights in Richgrove

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	400' south of Ames Drive	Richgrove Drive	West side	1529884E	9500	W	S/E	SCE
2	Ames Drive	Richgrove Drive	NE Corner	1529880E	5800	W	W	SCE
3	Ames Drive	Wheatland Drive	NW Corner	1827972E	5800	W	S	SCE
4	Avenue 8	Rowland Street	SE Corner	4276472E	5800	C	N	SCE
5	Bibee Drive	Vineyard Drive	NW Corner	4001705E	5800	W	E	SCE
6	Bibee Drive	Wheatland Drive	SW Corner	1235761E	5800	W	NE	SCE
7	Chaney Drive	Vineyard Drive	NW Corner	4001707E	5800	W	E	SCE
8	Chaney Drive	Richgrove Drive	NE Corner	1342446E	5800	W	W	SCE
9	Chaney Drive	Wheatland Drive	NW Corner	1827973E	5800	W	S	SCE
10	Diaz Avenue	Road 210	NW Corner	N/A	5800	C	E	SCE
11	Dooley Drive	Vineyard Drive	SE Corner	4001708E	5800	W	W	SCE
12	Dooley Drive	Richgrove Drive	NE Corner	1342447E	5800	W	W	SCE
13	Dooley Drive	Wheatland Drive	SE Corner	1827974E	5800	W	N	SCE
14	Ensign Drive	Richgrove Drive	SE Corner	1235760E	5800	W	W	SCE
15	Ensign Drive	Wheatland Drive	NE Corner	1827975E	5800	W	S	SCE
16	Ensign Drive	Vineyard Drive	NW Corner	1235763E	5800	W	SE	SCE
17	Espinoza Avenue	Road 210	NW Corner	4002137E	5800	O	E	SCE
18	Flores Avenue	Road 210	NW Corner	4002136E	5800	O	E	SCE
19	Francis Drive	Richgrove Drive	SE Corner	1529870E	5800	W	W	SCE
20	Francis Drive	Wheatland Drive	NE Corner	1235769E	5800	W	SW	SCE
21	Francis Drive	Vineyard Drive	NE Corner	2100138E	5800	W	S	SCE
22	Grove Drive	Vineyard Drive	NE Corner	4001888E	5800	W	S	SCE
23	Grove Drive	Richgrove Drive	SE Corner	1235770E	5800	W	W	SCE
24	Grove Drive	Wheatland Drive	SW Corner	4002138E	5800	W	N	SCE
25	Hernandez Avenue	Rowland Street	West side	4276473E	5800	C	E	SCE
26	North of Grove Drive	Richgrove Drive	East side	1529864E	5800	W	W	SCE
27	Robles Court	Road 210	SW Corner	4276472E	5800	C	E	SCE

(Source: Tulare County Public Works, March 2013)

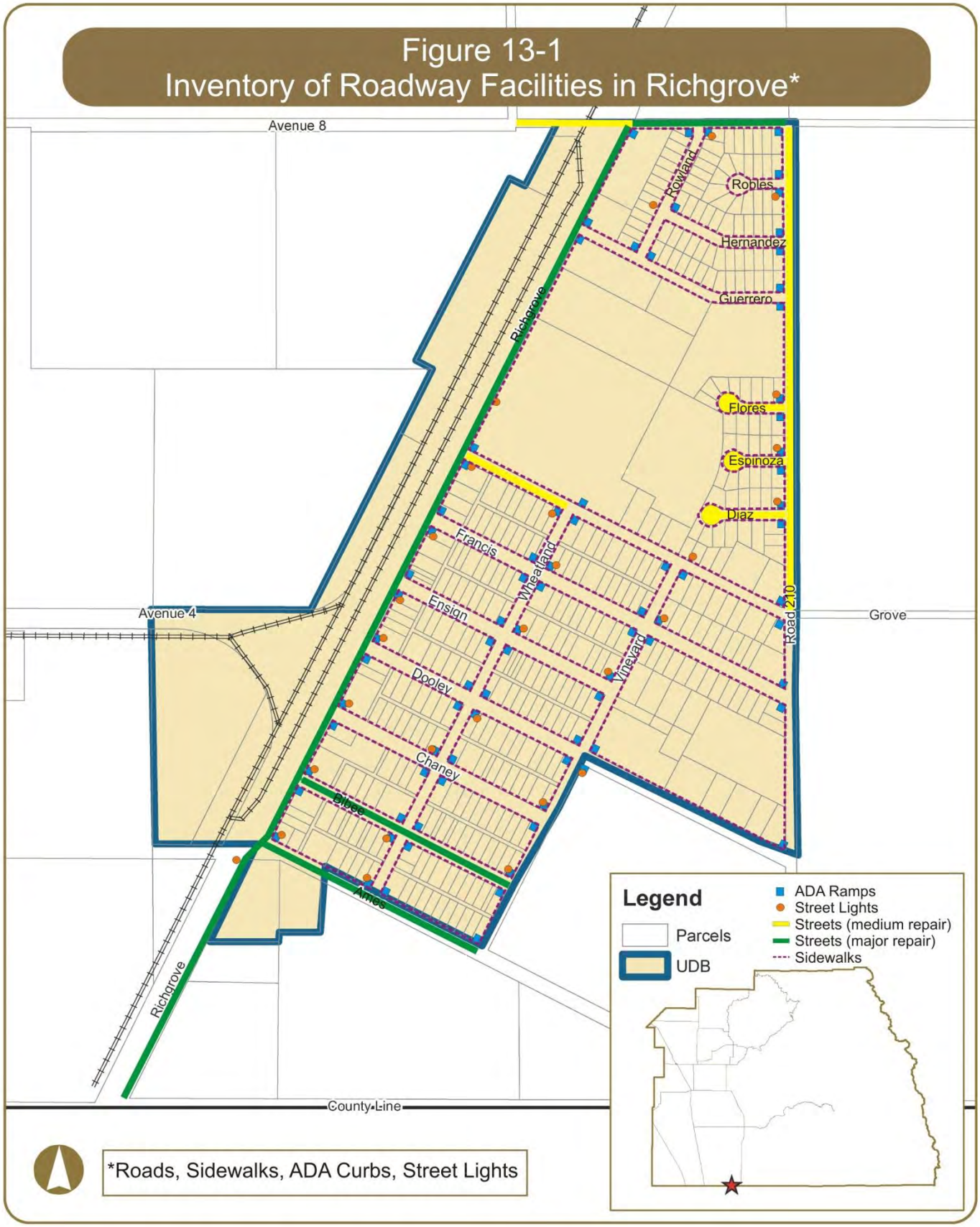


Figure 13-1
Inventory of Roadway Facilities in Richgrove*
Avenue 8
Avenue 4
Grove
County Line
Rowland
Robles
Hernandez
Guerrero
Richgrove
Flores
Espinoza
Diaz
Francis
Wheatland
Ensign
Dooley
Vineyard
Road 210
Chaney
Bliss
Ames
Richgrove
Legend
Parcels
UDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, ADA Curbs, Street Lights

14. COMMUNITY OF SPRINGVILLE

14.1 General Information

Springville is a census-designated place located in the eastern portion of Tulare County, northeast of Porterville. It is generally bounded by State Route (SR) 190 in the south, Mount Whitney Ditch in the north, Campbell Creek Drive in the west, and the Tule River in the east and encompasses 4.2 square miles of land. Springville is located in the Sierra Foothills along SR 190 approximately 15 miles east of Porterville. Springville is a small town rural and suburban community that prides itself on a variety of local attractions including antique shops, road and mountain bike trails, boating and fishing at the Lake Success Recreational Area, hiking and backpacking throughout the Giant Sequoia National Monument & Sequoia National Forest, and golfing at the River Island Country Club. Cities and communities surrounding Springville include Porterville approximately 15 miles to the northwest, Strathmore 17 miles to the west, Terra Bella 19 miles to the southwest and Lindsay 19 miles to the northwest.

Based on the 2010 Census, the population in Springville was 934. Similar to other communities in Tulare County, the population of Springville is racially diverse with 90% White, 1% African American, 2% Native American, 1% Asian/Pacific Islander, 3% from other races, and 4% from 2 or more races. 12% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 516 housing units located within Springville, of which 62% are owner-occupied and 38% are renter-occupied.

14.2 Domestic Water & Wastewater

Domestic water and sewer service in Springville is provided by the Springville Public Utilities District (PUD), which was formed in December 1924. Table 14-1 shows the number of existing water and sewer connections, the capacity of each system, and the number of additional connections the systems can accommodate for new development (Housing Element, May 2012). Figure 14-1 graphically displays the approximate location of water wells and water lines. Figure 14-2 graphically displays the approximate location of the sewer system and wastewater treatment plant.

According to the Municipal Service Review 2006 (MSR), the Springville PUD operates a water supply and distribution system under the jurisdiction of the California Department of Health Services Division of Drinking Water and Environmental Management, which is responsible for the administration and enforcement of the Safe Drinking Water Act involving those systems in California with more than 200 connections. Springville's water supply is derived from surface water obtained from the Tule River. The Springville PUD operates and maintains a domestic water treatment facility that processes the surface water before entering the distribution system. The PUD's water system also includes two storage tanks with capacities of 150,000 and 200,000 gallons.

Assuming 410 equivalent dwelling units (EDUs), in order to meet Tulare County Improvement Standards the Springville PUD water system would need to be capable of delivering a combined flow rate (from all source and storage facilities) of 1,110 gallons per minute (GPM) (500 GPM fire flow, and 610 GPM

domestic demand) for a period of two hours while maintaining a minimum pressure of 25 pounds per square inch (PSI) to each lot served; The PUD's water system is capable of delivering a combined source flow of 3,940 GPM (approximately 2,900 GPM could be delivered for two hours from two storage tanks totaling 350,000 gallons), indicating that the PUD's water system meets the requirements of the Tulare County Improvement Standards. Prior to granting any sphere of influence (SOI) amendments that would increase demand for water services provided by the PUD, the PUD's engineer should provide evidence that the increase in demand would not result in substandard pressures, or inadequate supply capacity for the remainder of the system.

Based upon the requirements of the Tulare County Improvement Standards, it is estimated that the PUD's water system is operating at approximately 30% of its capacity, and is capable of supporting about 950 additional equivalent dwelling units. It should be noted that there could be special circumstances, i.e. distribution system pressure constraints, that could significantly affect this result, and a complete assessment should be completed by the PUD Engineer prior to the approval of additional connections. The water system would need to be tested at actual system pressure to determine the actual amount of available capacity for domestic and fire flow. Based upon information provided by the PUD Engineer, the PUD is currently pursuing the addition of more storage to its water system in an effort to optimize the water rights capabilities of the PUD.

The PUD owns and operates a Wastewater Treatment Facility (WWTF) located southeast of the community adjacent to and west of the Tule River, which is operated under the provisions of Waste Discharge Requirements Order No. 96-195 issued by the California Regional Water Quality Control Board (RWQCB), Central Valley Region. Order No. 96-195 prescribes that the monthly average dry weather discharge shall not exceed 0.06 million gallons per day (MGD). According to the Wastewater User Charge Survey Report FY 2005-06 (Cal EPA-State Water Resources Control Board, May 2006), the average dry weather flow at the WWTF is 0.056 MGD.

The PUD imposed a sewer connection moratorium back in 1980 due to the limited capacity of its WWTF, effectively ending most new development within its boundaries which include the commercial and residential town center of Springville along Highway 190. In 1996, the RWQCB issued Cease and Desist Order No. 96-196 requiring the Springville PUD to complete improvements to provide additional capacity at its WWTF. A compliance date of October 1, 1998 was established by the RWQCB. To date, the Springville PUD has been unable to comply with the requirements of the Cease and Desist Order due to funding shortfalls, and other setbacks. The Cease and Desist Order is still in effect as of September 2006. The PUD is in partial compliance with the RWQCB; non-compliance is related to the disposal of wastewater.

The PUD has plans to add disposal capacity to its WWTF by constructing a wastewater reclamation line over two miles in length to a property near Highway 190 and Globe Drive. The treated effluent would be stored on the property, and reused for agricultural irrigation purposes. Based upon correspondence from the PUD, it is estimated that the currently proposed project could support an additional 185 connections with allocations being based on capacity. PUD staff has indicated that there is currently a waiting list with 131 requests for sewer connections. This is an indication that additional capacity, above and beyond the currently proposed project would likely be needed in order to accommodate projected growth through year 2025.

The PUD has issued permits to a few residents within the District Boundary to place septic tanks on the

property with the provision that they would connect to the sewer system once additional capacity becomes available. Other residences will be allowed to stay with septic tanks as the Springville PUD does not have sewer lines available in all areas of the District, such as Rio Vista Drive. Once additional capacity is made available at the PUD's WWTF, it is recommended that the PUD work to provide sanitary sewer pipelines in areas of the District where the infrastructure does not currently exist. Priority should be given to residents within the existing Boundary of the District, prior to expanding the District's Boundary for additional service provisions.

TABLE 14-1

Existing Water & Wastewater Connections in Springville

Description of Existing Infrastructure					
Drinking Water*			Waste Water *		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
410	1,366	956	400	585 [1]	185 [1]

* Data current as of May 2012

1 A currently proposed project will add capacity as noted here (Source: Housing Element, MSR)

14.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Springville does not currently have a storm drainage system.

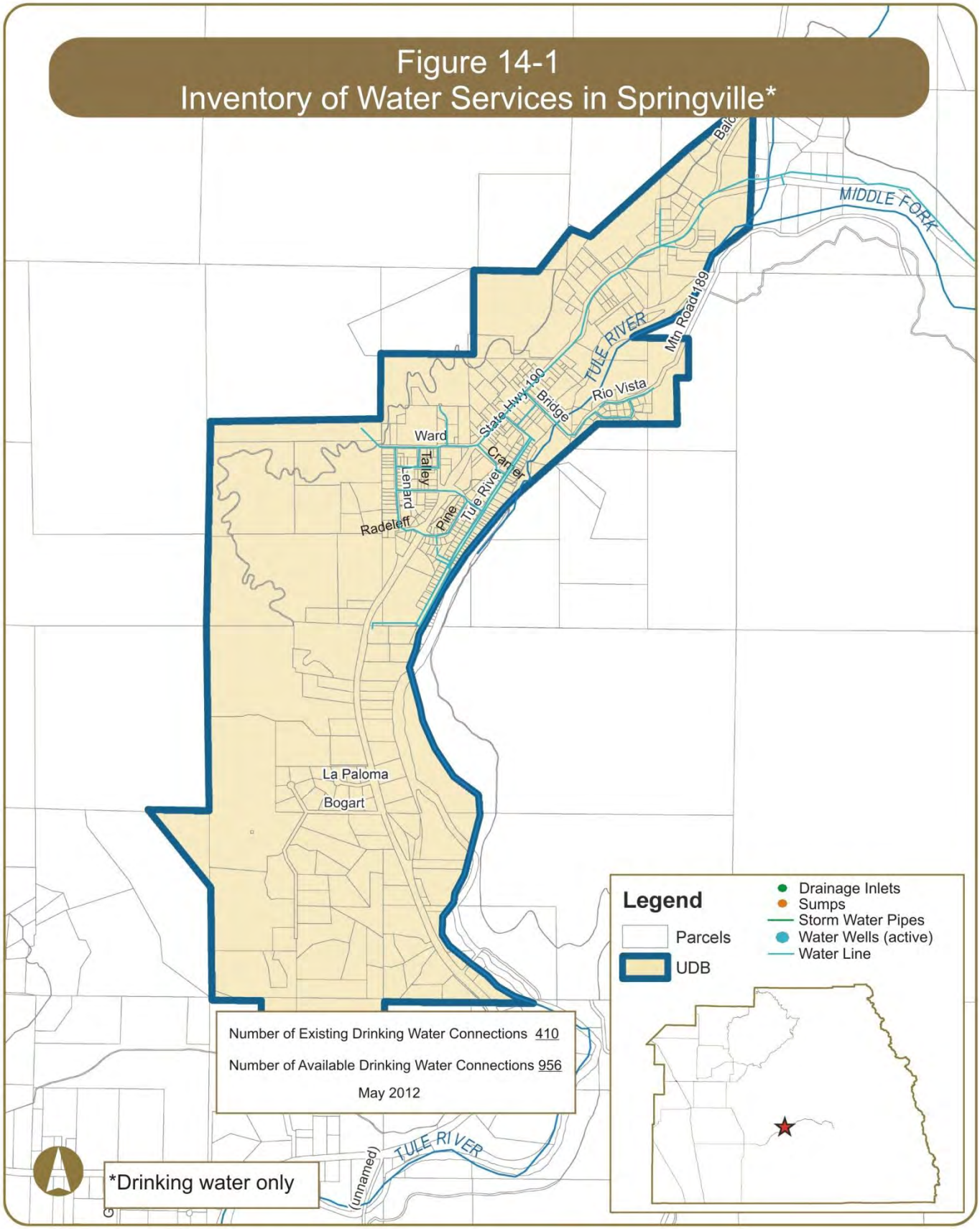


Figure 14-1
Inventory of Water Services in Springville*
MIDDLE FORK
TULE RIVER
Mtn Road 189
Rio Vista
State Hwy 190
Bridge
Ward
Talley
Lenard
Radeleff
Pine
Tule River
Crane
La Paloma
Bogart
(unnamed)
TULE RIVER
Legend
Parcels
UDB
Drainage Inlets
Sumps
Storm Water Pipes
Water Wells (active)
Water Line
Number of Existing Drinking Water Connections 410
Number of Available Drinking Water Connections 956
May 2012
*Drinking water only

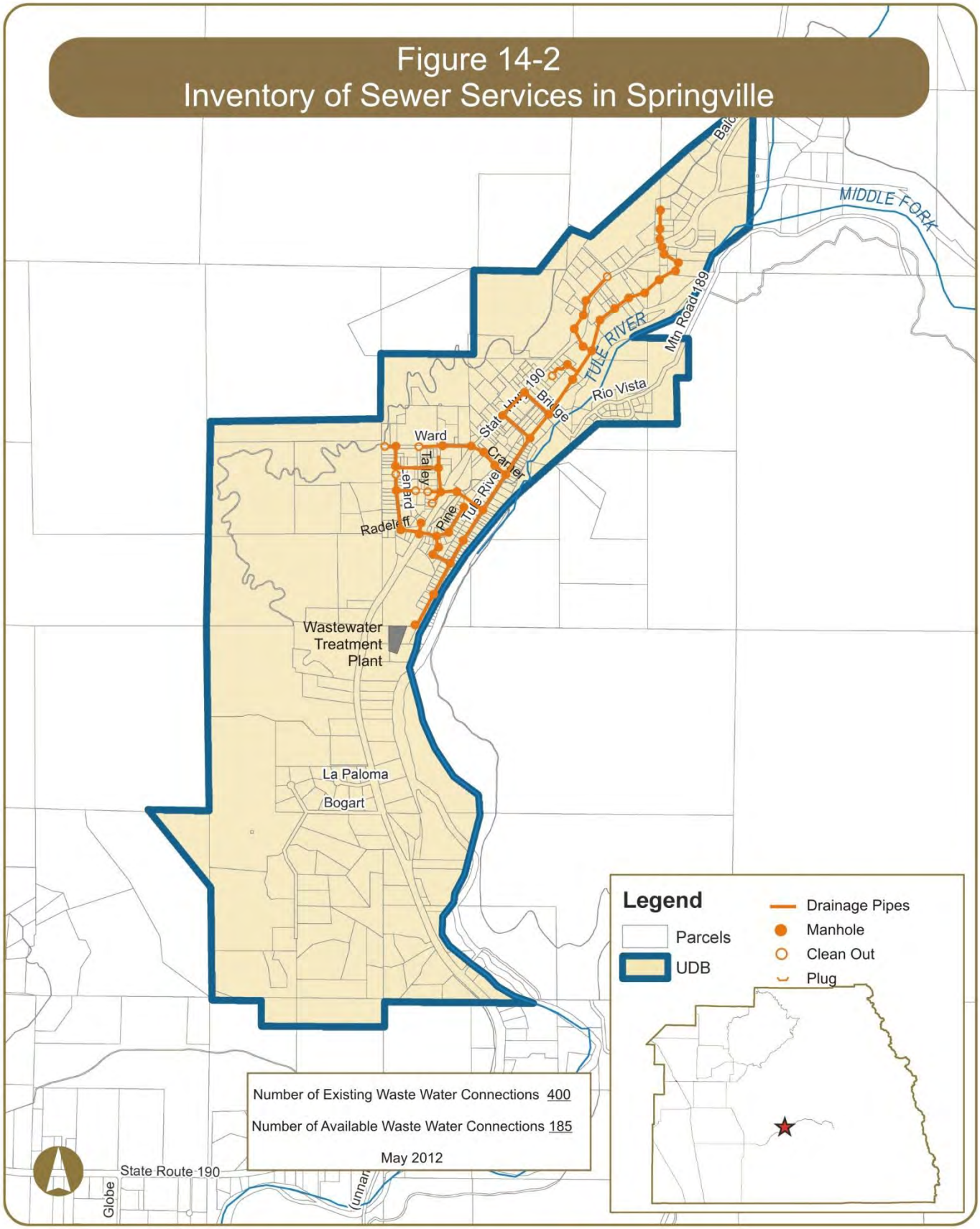


Figure 14-2
Inventory of Sewer Services in Springville
MIDDLE FORK
TULE RIVER
Mtn Road 189
Rio Vista
State Hwy 190
Bridge
Ward
Tulare
Leonard
Radcliff
Pine
Tule River
Crawford
Wastewater Treatment Plant
La Paloma
Bogart
State Route 190
Globe
Legend
Parcels
UDB
Drainage Pipes
Manhole
Clean Out
Plug
Number of Existing Waste Water Connections 400
Number of Available Waste Water Connections 185
May 2012

14.4 Roads

There are various roadways in Springville that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 14-2 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 14-3 graphically displays this information on a map.

TABLE 14-2

Roads in Need of Major and Medium Repair in Springville

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Bridge Drive	SH 190 to Rio Vista Drive	OLAY
2	Cramer Drive	SH 190 to east end	ACST
3	La Paloma Drive	SH 190 to west end	GRX
4	Pine Drive	SH 190 to James Avenue	CHIP
5	Radeleff Avenue	Lenard Road to SH 190	CHIP
6	Rio Vista Drive	Bridge Drive to Alta Drive (south)	OLAY
7	Rio Vista Drive	Alta Drive (south) to north of Alta Drive (north)	GRX
8	Rio Vista Drive	North of Alta Drive (north) to end	CHIP
9	Talley Street	Tennis Avenue to Ward Avenue	CHIP

(Source: County of Tulare Public Works, 2012)

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

14.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are several ADA compliant curb ramps located within Springville and are listed in Table 14-3 and displayed in Figure 14-3.

TABLE 14-3

Existing ADA Curb Ramps in Springville

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
1	Bridge Drive	SH 190	SE Corner
2	Crosswalk north of Bridge Drive	SH 190	East Side
3	Crosswalk north of Bridge Drive	SH 190	West Side
4	Ward Avenue	Driveway east of Rd Lr337	NE Corner

(Source: County of Tulare Public Works, August 2013)

14.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 14-4 identifies the location of existing sidewalks in Springville. Figure 14-3 also displays this information graphically. The sidewalks represented in Table 14-4 and Figure 14-3 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 14-4
Existing Sidewalks in Springville

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
1	SH 190	Cramer Drive to crosswalk north of Bridge Drive	East side
2	SH 190	Ward Avenue to Veterans Memorial Building	West side
3	Ward Avenue	Driveway east of Rd Lr337 to SH 190	North side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

14.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 14-5 identifies the location of existing street lights that are maintained by Tulare County, in Springville, as well as their specifications. Figure 14-3 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type “W” represents a wood post for which the light is commonly shared with a Utility Provider. Similary, "M" represents metal and "C" represents concrete.

TABLE 14-5
Existing Street Lights in Springville

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	At south end	Tule River Drive	East side	12140T	5800	W	N	SCE
2	Between Spring and Pine Drive	Tule River Drive	East side	12158	5800	W	N	SCE
3	James Avenue	Pine Drive	East side	731720E	5800	W	W	SCE
4	James Avenue	Lenard Road	NE Corner	4236913E	5800	W	S	SCE
5	James Avenue	SH 190	NE Corner	2024	5800	W	S	SCE
6	Malcolm Drive	Tule River Drive	South side	1855054E	5800	W	N	SCE
7	North of Cramer Drive	SH 190	NE Corner	1980713E	5800	W	SE	SCE
8	North of Malcolm Drive	Tule River Drive	East side	1895746E	5800	W	N	SCE
9	North of Pine Drive	Tule River Drive	East side	566704E	5800	W	N	SCE
10	Pine Drive	Tule River Drive	South side	NONE	5800	W	N	SCE
11	Pine Drive	SH 190	NW Corner	196139E	5800	W	S	SCE
12	Radeleff Avenue	Lenard Road	West side	2089001E	5800	W	E	SCE
13	SH 190	South of Bridge Drive	West side	1331240E	5800	C	SE	SCE
14	SH 190	Between Ward Avenue and Bridge Drive	West side	4424528E	5800	C	S	SCE
15	SH 190	Veterans Memorial Building	West side	1981241E	5800	C	SE	SCE
16	SH 190	North of Bridge Drive	West side	555987E	5800	C	SE	SCE
17	SH 190	South of crosswalk	West side	1981240E	5800	W	S	SCE
18	SH 190	BRIDGE DR	West side	661890E	5800	C	SE	SCE
19	SH 190	North of crosswalk	West side	1980725E	5800	C	S	SCE
20	SH 190	North of Bridge Drive	West side	586109E	5800	C	SE	SCE
21	SH 190	South of Veterans Memorial Building	West side	285905E	5800	C	SE	SCE
22	SH 190	Between Ward Avenue and Bridge Drive	North side	1981242E	5800	C	SE	SCE
23	SH 190	Between Ward Avenue and Bridge Drive	West side	N/A	N/A	N/A	SE	SCE
24	South of Malcolm Drive	Tule River Drive	East side	594009E	5800	W	N	SCE
25	South of Spring	Tule River Drive	East side	12151T	5800	W	N	SCE
26	Spring	Tule River Drive	North side	1980331E	5800	W	N	SCE
27	Tennis Avenue	Lenard Road	West side	4236915E	5800	W	S	SCE
28	Ward Avenue	Lenard Road	NW Corner	4236918E	5800	W	E	SCE
29	Ward Avenue	McDonald Street	SW Corner	4236922E	5800	W	E	SCE
30	Ward Avenue	North of SH 190	West side	532040E	5800	W	E	SCE

(Source: Tulare County Public Works, March 2013)

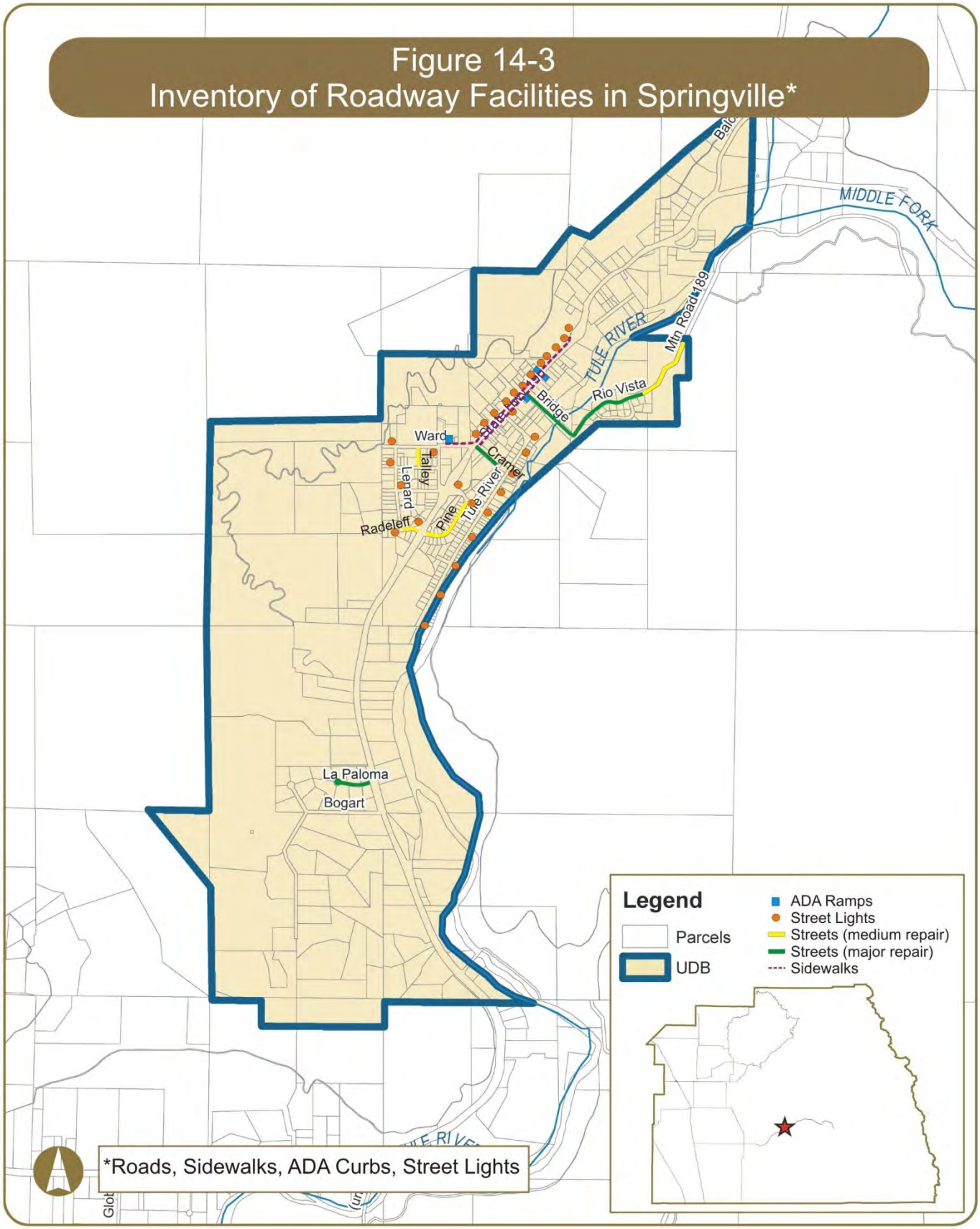


Figure 14-3
Inventory of Roadway Facilities in Springville*
MIDDLE FORK
TULE RIVER
Mtn Road 489
Rio Vista
Bridge
Ward
Crane
Tulley
Leonard
Tule River
Pine
Radeleff
La Paloma
Bogart
Legend
Parcels
UDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, ADA Curbs, Street Lights

15. COMMUNITY OF STRATHMORE

15.1 General Information

Strathmore is a census-designated place located southern portion of Tulare County along State Route (SR) 65, and is situated approximately midway between Lindsay and Porterville. It is generally bounded by Avenue 188 in the south, 7th Avenue in the north, SR 65 in the west, and Friant-Kern Canal in the east and encompasses 1.4 square miles of land. Strathmore is located along SR 65 approximately six miles north of Porterville, and five miles south of Lindsay. Strathmore is an agriculturally oriented service community surrounded on all sides by lands in agricultural production, scattered rural residential uses and vacant land. Other cities and communities near Strathmore include Poplar-Cotton Center to the southwest, Woodville to the west, Exeter to the north, and Terra Bella to the south.

Based on the 2010 Census, the population in Strathmore was 2,819. Similar to other communities in Tulare County, the population of Strathmore is racially diverse with 53% White, less than 1% African American, 2% Native American, less than 1% Asian/Pacific Islander, 41% from other races, and 4% from 2 or more races. 79% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 751 housing units located within Strathmore, of which 52% are owner-occupied and 48% are renter-occupied.

15.2 Domestic Water & Wastewater

Domestic water and sewer service in Strathmore is provided by the Strathmore Public Utility District (PUD), which was formed in January 1925. Table 15-1 shows the number of existing water and sewer connections, the capacity of each system, and the number of additional connections the systems can accommodate for new development (Housing Element, May 2012). Figure 15-1 graphically displays the approximate location of water wells and water lines. Figure 15-2 graphically displays the approximate location of the sewer system and wastewater treatment plant.

According to the Municipal Service Review 2006 (MSR), the Strathmore PUD operates a water supply and distribution system under the jurisdiction of the California Department of Health Services Division of Drinking Water and Environmental Management, which is responsible for the administration and enforcement of the Safe Drinking Water Act involving those systems in California with more than 200 connections.

Strathmore's water supply is derived from a sub-contract through Tulare County for water made available from the Cross Valley Canal through an exchange with the Arvin Edison Water District. A water filtration plant was constructed in Strathmore as a joint venture between the Strathmore PUD and the Lindsay-Strathmore Irrigation District (LSID). The LSID has 22.8% ownership of the plant, and the Strathmore PUD has the remaining ownership. The Strathmore PUD also has an underground water well that is used to supplement the District's surface water supply, and as a back-up water supply. Based upon information provided by the PUD, during the peak month, the District's metered water deliveries total about 0.62 million gallons per day (MGD), or 430 gallons per minute (GPM).

Assuming 475 equivalent dwelling units (EDUs), in order to meet Tulare County Improvement Standards the Strathmore PUD water system would need to be capable of delivering a combined flow rate (from all source and storage facilities) of 1,150 GPM (500 GPM fire flow, and 650 GPM domestic demand) for a period of two hours while maintaining a minimum pressure of 25 pounds per square inch (PSI) to each lot served. The Strathmore PUD has surface water rights of 400 acre-feet per year. Prior to granting any sphere of influence (SOI) amendments that would increase demand for water services provided by the PUD, the PUD's engineer should provide evidence that the increase in demand would not result in substandard pressures, or inadequate supply capacity for the remainder of the system. As indicated by the Engineer, pending developments near Avenue 196 and SR 65 would max out the District's water system capacity, and further expansion of water service would require the PUD to acquire additional water rights.

The PUD owns and operates a Wastewater Treatment Facility (WWTF) located southwest of the community near the southwest quadrant of the SR 65/Avenue 196 intersection that provides primary treatment of wastewater. The WWTF is operated under the provisions of Order No. 85-024 issued by the California Regional Water Quality Control Board (RWQCB), which prescribes that the monthly average daily discharge shall not exceed 0.40 MGD. According to the Wastewater User Charge Survey Report FY 2005-06 (Cal EPA-State Water Resources Control Board, May 2006), the average dry weather flow at the WWTF is 0.15 MGD, indicating that the WWTF is operating at approximately 40% of its permitted capacity.

Based upon a ratio of the current number of connections (480) to the current flow, it is estimated that the PUD's WWTF has available capacity for an additional 720 equivalent dwelling units. This is an indication that there is sufficient treatment capacity to accommodate projected growth through year 2025. Approximately six acres of eucalyptus trees and orange groves owned by the PUD are flood irrigated with treated effluent from the WWTF.

TABLE 15-1

Existing Water & Wastewater Connections in Strathmore

Description of Existing Infrastructure					
Drinking Water*			Waste Water *		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
455	--	0 [1]	480	1,200	720

* Data current as of May 2012

1 Additional study is needed to determine capacity. Pending developments are likely to max out water supply (Source: MSR)

15.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a

discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Table 15-2 identifies the approximate location of drainage inlets and sumps in Strathmore. Figure 15-1 also displays this information graphically.

TABLE 15-2
Existing Storm Drainage Facilities in Strathmore

Location of Existing Storm Drainage Facilities			
No.	**East-West Roadway**	**North-South Roadway**	**Type**
1	Avenue 195	Wallace Road	Inlet
2	Avenue 195	Richardson Road	Inlet
3	Avenue 196	Road 226 alignment	Inlet
4	Avenue 196	Road 228	Inlet
5	Avenue 196	Orange Belt Drive	Inlet
6	Avenue 196	West of Orange Belt Drive	Inlet
7	Avenue 196	Road 230	Inlet
8	Avenue 197	Wallace Road	Inlet
9	Avenue 197	Road 231	Inlet
10	Avenue 198	Road 226	Inlet
11	Avenue 198	Orange Belt Drive	Inlet
12	Avenue 198 alignment	East of Meredith Drive	Inlet
13	Between 8th Avenue and Avenue 196	Road 228	Inlet
14	Bishop Avenue	Orange Belt Drive	Inlet
15	Bishop Avenue	Road 230	Inlet
16	Lawson Avenue	Road 231	Inlet
17	Lawson Avenue alignment	Road 232	Inlet
18	Preston Avenue	Meredith Drive	Inlet
19	Preston Avenue alignment	East of Meredith Drive	Inlet
20	Road 226 bend	Road 226	Inlet
21	Road 226 bend	Road 226	Inlet
22	Road 226 bend	Road 226	Inlet
23	South of Bishop Avenue	Orange Belt Drive	Inlet
24	White Avenue	Roth Road	Inlet

(Source: County of Tulare Public Works, 2014)

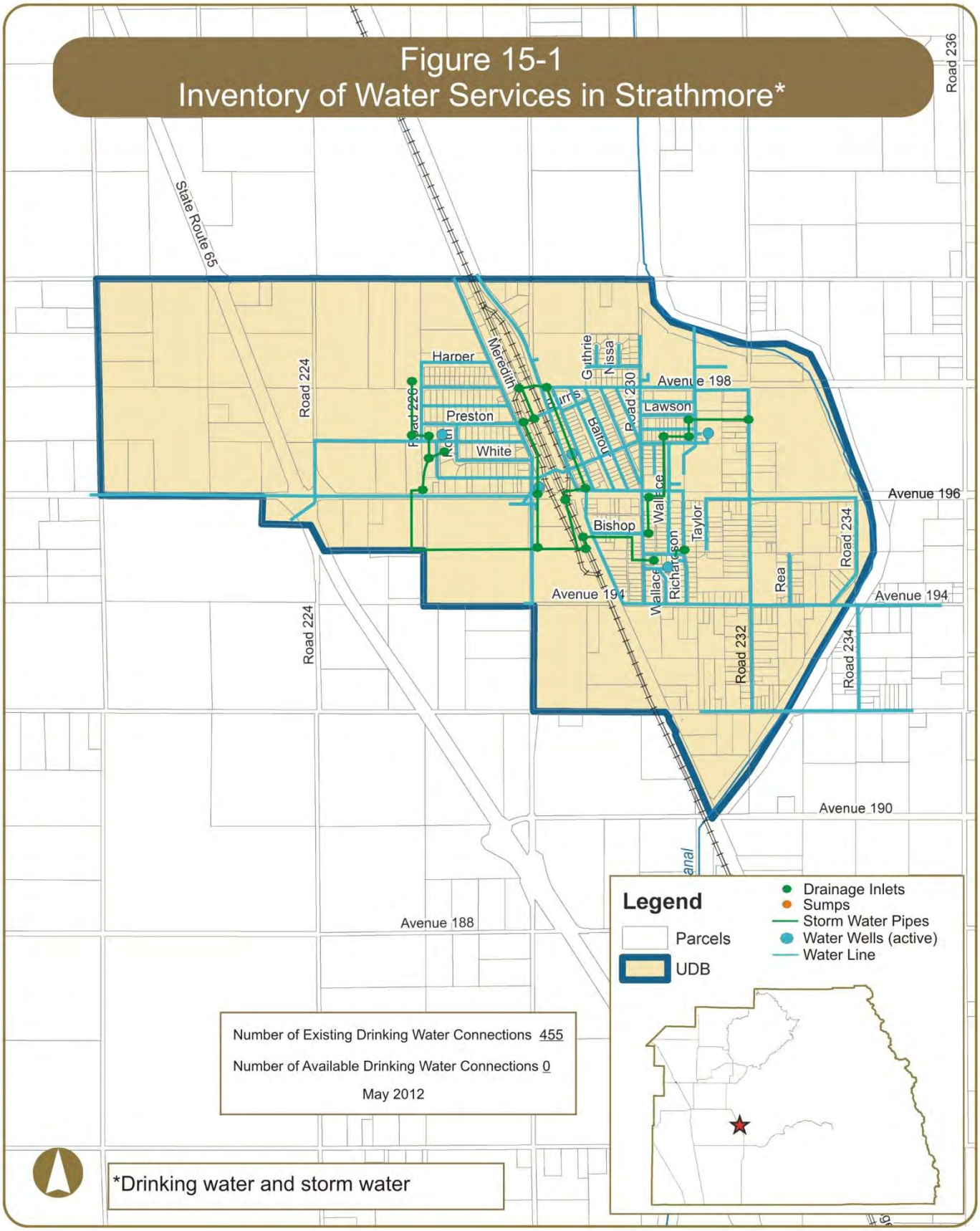


Figure 15-1
Inventory of Water Services in Strathmore*
State Route 65
Road 224
Road 226
Road 230
Road 232
Road 234
Road 236
Harper
Preston
White
Meredith
Guthrie
Nissa
Avenue 198
Lawson
Avenue 196
Bishop
Wallace
Richardson
Taylor
Rea
Avenue 194
Avenue 190
Avenue 188
Legend
Parcels
UDB
Drainage Inlets
Sumps
Storm Water Pipes
Water Wells (active)
Water Line
Number of Existing Drinking Water Connections 455
Number of Available Drinking Water Connections 0
May 2012
*Drinking water and storm water

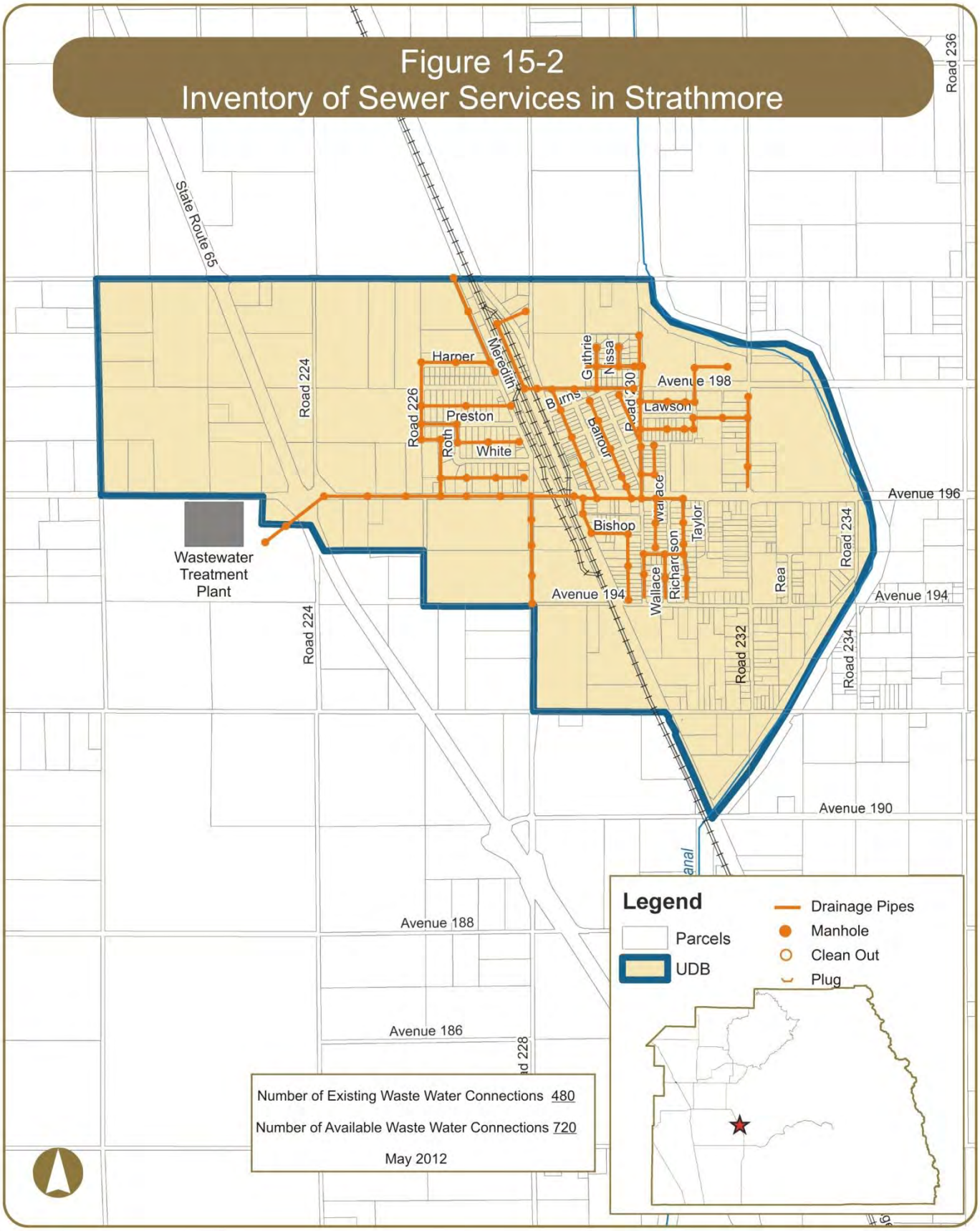


Figure 15-2
Inventory of Sewer Services in Strathmore
State Route 65
Road 224
Road 226
Road 230
Road 232
Road 234
Road 236
Harper
Preston
Roth
White
Meredith
Burns
Guthrie
Nissa
Lawson
Avenue 198
Avenue 196
Avenue 194
Avenue 190
Avenue 188
Avenue 186
Bishop
Wallace
Richardson
Taylor
Rea
Wastewater Treatment Plant
Legend
Parcels
UDB
Drainage Pipes
Manhole
Clean Out
Plug
Number of Existing Waste Water Connections 480
Number of Available Waste Water Connections 720
May 2012

15.4 Roads

There are various roadways in Strathmore that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 15-3 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 15-3 graphically displays this information on a map.

TABLE 15-3

Roads in Need of Major and Medium Repair in Strathmore

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Avenue 194	Road 228 to Orange Belt Drive	CHIP
2	Avenue 195	Road 230 to Richardson Road	OLAY
3	Avenue 196	Westwood Street to Road 228	OLAY
4	Avenue 196	Road 228 to Wallace Road	CHIP
5	Avenue 196	Road 232 to Road 234	CHIP
6	Avenue 197	Road 230 to Road 231	CHIP
7	Avenue 198	Orange Belt Drive to Road 230	CHIP
8	Avenue 200	Meredith Drive to Orange Belt Drive	GRX
9	Bruce Drive	Orange Belt Drive to Road 230	CHIP
10	Guthrie Court	Harper Avenue to north end	CHIP

TABLE 15-3 (Continued)
Roads in Need of Major and Medium Repair in Strathmore

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
11	Harper Avenue	Ward Avenue to Meredith Drive	CHIP
12	Harper Avenue	Road 230 to west end	OLAY
13	Nissa Court	Harper Avenue to north end	CHIP
14	Rea Road	Avenue 194 to north end	CHIP
15	Richardson Road	Avenue 194 to Avenue 195	CHIP
16	Road 232	Avenue 194 to Avenue 196	CHIP
17	Strathmore Avenue	Orange Belt Drive to Avenue 200	CHIP
18	Taylor Road	Avenue 196 to south end	CHIP
19	Wallace Road	Avenue 194 to north end	OLAY
20	Wallace Road	Avenue 196 to Avenue 197	OLAY
21	Ward Avenue	Harper Avenue to south of Preston Avenue	CHIP

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

(Source: County of Tulare Public Works, 2012)

15.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are various ADA compliant curb ramps located within Strathmore and are listed in Table 15-4 and displayed in Figure 15-3.

TABLE 15-4
Existing ADA Curb Ramps in Strathmore

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
1	Avenue 196	Orange Belt Drive	NE Corner
2	Avenue 196	Road 230	SE Corner
3	Avenue 196	Road 230	SW Corner
4	Avenue 196	Richardson Road	SE Corner
5	Avenue 198	Ward Avenue	NE Corner
6	Avenue 198	Meredith Drive	NW Corner
7	Avenue 198	Orange Belt Drive	NE Corner
8	Avenue 198	Road 230	NE Corner
9	Harmony Magnet Academy Driveway	Road 228	NW Corner
10	Harmony Magnet Academy Driveway	Road 228	SW Corner
11	Harper Avenue	Ward Avenue	SE Corner
12	Harper Avenue	Meredith Drive	SW Corner
13	Lawson Drive	Orange Belt Drive	SE Corner

(Source: County of Tulare Public Works, August 2013)

15.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 15-5 identifies the location of existing sidewalks in Strathmore. Figure 15-3 also displays this information graphically. The sidewalks represented in Table 15-5 and Figure 15-3 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 15-5
Existing Sidewalks in Strathmore

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
1	Avenue 196	Road 226 to Road 228	South side
2	Avenue 196	Orange Belt Drive to Road 230	South side
3	Avenue 196	Orange Belt Drive to Balfour Drive	North side
4	Avenue 197	Road 230 to Wallace Road	South side
5	Avenue 198	Ward Avenue to Meredith Drive	North side
6	Avenue 198	Orange Belt Drive to Guthrie Drive	North side
7	Avenue 198	Road 230 to Road 231	North side
8	Avenue 198	Road 230 to Road 231	South side
9	Balfour Drive	Avenue 196 to Bruce Drive	West side
10	Bruce Drive	Orange Belt Drive to Balfour Drive	North side
11	Bruce Drive	Orange Belt Drive to Balfour Drive	South side
12	Meredith Drive	Avenue 198 to Harper Avenue	West side
13	Meredith Drive	Preston Avenue to Harper Avenue	East side
14	Orange Belt Drive	Avenue 196 to Bruce Drive	West side
15	Orange Belt Drive	Avenue 196 to Lawson Avenue	East side
16	Orange Belt Drive	Burns Drive to Avenue 198	West side
17	Orange Belt Drive	Avenue 198 to Strathmore Avenue	East side
18	Road 228	Avenue 194 to Harmony Magnet Academy	West side
19	Road 228	South of Avenue 196 to Road 226	West side
20	Road 230	Guthrie Drive to Avenue 197	East side
21	Ward Avenue	Avenue 198 to Harper Avenue	East side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

15.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 15-6 identifies the location of existing street lights that are maintained by Tulare County, in Strathmore, as well as their specifications. Figure 15-3 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type “W” represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 15-6
Existing Street Lights in Strathmore

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Avenue 192	Road 232	NE Corner	4292256E	5800	W	S	SCE
2	Avenue 192	Orange Belt Drive	NE Corner	4044417E	9500	W	W	SCE
3	Avenue 194	Richardson Road	NW Corner	2138882E	5800	W	S	SCE
4	Avenue 194	Wallace Road	NW Corner	1980906E	5800	W	S	SCE
5	Avenue 194	Orange Belt Drive	SE Corner	2212331E	5800	W	N	SCE
6	Avenue 194	Road 230	SW Corner	318665E	5800	W	N	SCE
7	Avenue 195	Richardson Road	NW Corner	L6505Y	5800	W	E	SCE
8	Avenue 196	Diagonal 224	SW Corner	4247543E	5800	W	W	SCE
9	Avenue 196	Road 228	SE Corner	1274524E	5800	W	N	SCE
10	Avenue 196	Road 230	SW Corner	2174740E	5800	W	N	SCE
11	Avenue 196	Richardson Road	SE Corner	2174736E	5800	W	N	SCE
12	Avenue 196	Road 232	SE Corner	2174734E	5800	W	N	SCE
13	Avenue 196	West of Orange Belt Drive	South side	2186104E	16000	W	N	SCE
14	Avenue 196	Orange Belt Drive	NE Corner	N/A	5800	S	W	SCE
15	Avenue 196	West of Road 228	North side	2086208E	5800	W	S	SCE
16	Avenue 196	West of Road 228	North side	2086207E	5800	W	S	SCE
17	Avenue 196	West of Road 228	North side	2086206E	5800	W	S	SCE
18	Avenue 196	East of Road 228	South side	2186103E	5800	W	N	SCE
19	Avenue 196	Balfour Drive	South side	4122619E	5800	W	N	SCE
20	Avenue 196	West of Balfour Drive	South side	131314E	5800	W	N	SCE
21	Avenue 196	Orange Belt Drive	SW Corner	N/A	5800	S	E	SCE
22	Avenue 196	Orange Belt Drive	NW Corner	N/A	5800	S	S	SCE
23	Avenue 196	Orange Belt Drive	SE Corner	N/A	5800	S	N	SCE
24	Avenue 197	Wallace Road	North side	2123171E	5800	W	S	SCE
25	Avenue 198	Ward Avenue	SE Corner	894492E	5800	W	N	SCE
26	Avenue 198	Meredith Drive	NW Corner	NONE	5800	W	E	SCE
27	Avenue 198	Guthrie Drive	NE Corner	894495E	5800	W	W	SCE
28	Avenue 198	Road 230	NW Corner	2041461E	5800	W	S	SCE
29	Avenue 198	Road 231	SW Corner	1051121E	5800	W	N	SCE
30	Avenue 198	Between Road 230 and Road 231	South side	894495E	5800	W	W	SCE
31	Avenue 198	Orange Belt Drive	SE Corner	4097699E	5800	W	W	SCE
32	Avenue 200	Meredith Drive	SW Corner	894493E	5800	W	E	SCE
33	Bishop Avenue	Orange Belt Drive	SE Corner	1464957E	5800	W	W	SCE
34	Bishop Avenue	Road 230	SW Corner	513006E	5800	W	E	SCE
35	Bruce Drive	Orange Belt Drive	NE Corner	506557E	5800	W	W	SCE
36	Bruce Drive	Balfour Drive	SE Corner	NONE	5800	W	N/W	SCE
37	Bruce Drive	Guthrie Drive	SE Corner	594978E	5800	W	N	SCE
38	Bruce Drive	Road 230	NE Corner	1799457E	5800	W	W	SCE
39	Burns Drive	Orange Belt Drive	NE Corner	1783025E	5800	W	W	SCE
40	Burns Drive	Balfour Drive	NW Corner	894496E	5800	W	S	SCE
41	Guthrie Drive	Road 230	NE Corner	318651E	5800	W	S	SCE
42	Harper Avenue	Meredith Drive	NW Corner	NONE	5800	W	E	SCE
43	Lawson Avenue	Road 231	East side	2147040E	5800	W	W	SCE
44	Lawson Avenue	Orange Belt Drive	NE Corner	506556E	5800	W	W	SCE
45	Lawson Avenue	Balfour Drive	NE Corner	N/A	5800	W	S/W	SCE

TABLE 15-6 (Continued)
Existing Street Lights in Strathmore

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
46	Lawson Avenue	Guthrie Drive	NE Corner	1635174E	5800	W	S	SCE
47	Lawson Avenue	Road 230	NW Corner	391887E	5800	W	S	SCE
48	North of Avenue 194	Orange Belt Drive	East side	1051120E	5800	W	E	SCE
49	North of Avenue 196	Balfour Drive	West side	1209798E	5800	W	N	SCE
50	Preston Avenue	Roth Road	SE Corner	894490E	5800	W	W	SCE
51	Preston Avenue	Meredith Drive	NW Corner	666819E	5800	W	E	SCE
52	South end	Taylor Road	West side	722295E	5800	W	E	SCE
53	Strathmore Avenue	Orange Belt Drive	NE Corner	4289648E	5800	W	S/W	SCE
54	White Avenue	Road 228	NW Corner	4210219E	5800	W	E	SCE
55	White Avenue	Roth Road	NE Corner	4022771E	5800	W	W	SCE

(Source: Tulare County Public Works, March 2013)

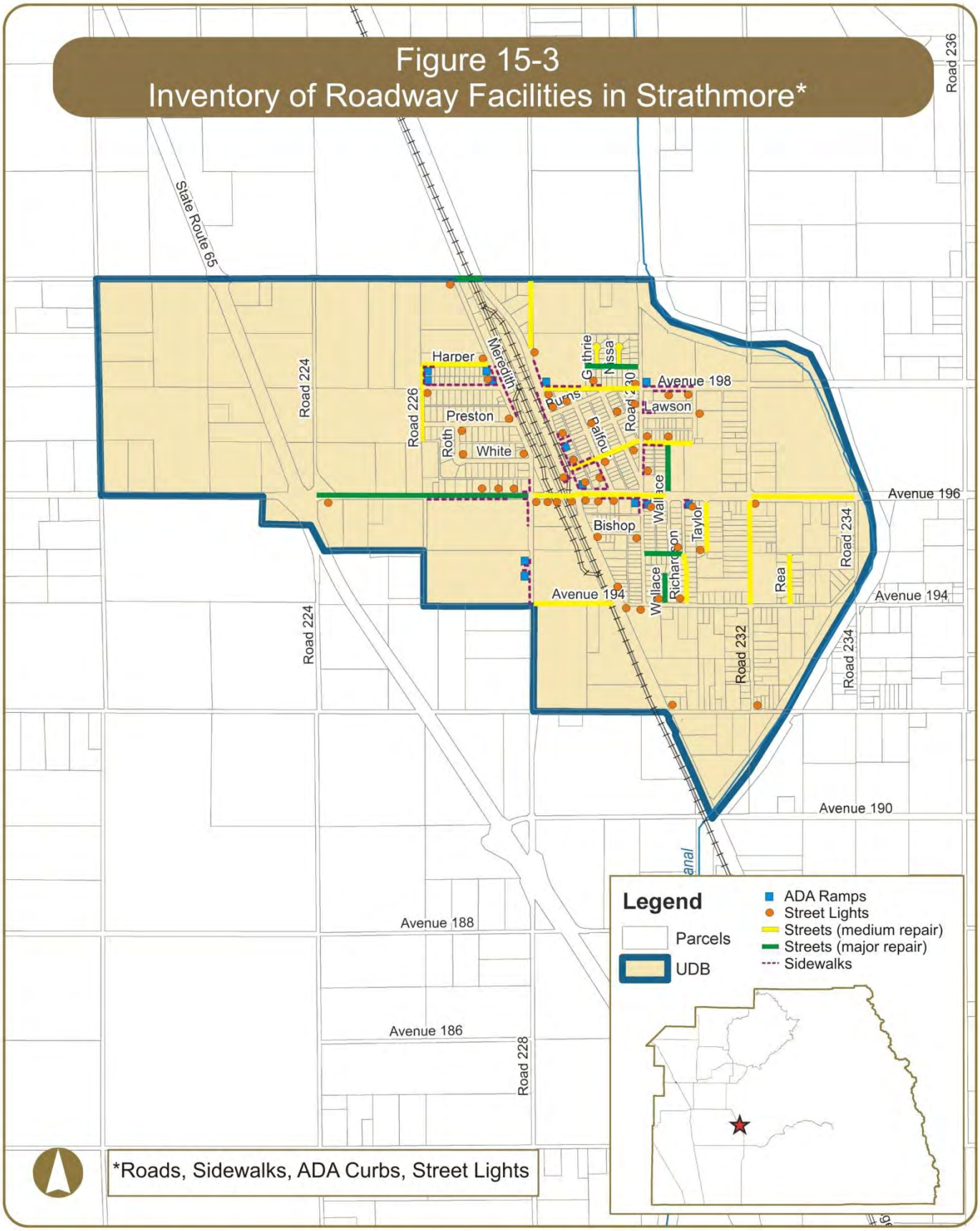


Figure 15-3
Inventory of Roadway Facilities in Strathmore*
State Route 65
Road 224
Road 226
Road 230
Road 232
Road 234
Road 236
Road 228
Harper
Preston
Roth
White
Meredith
Burns
Guthrie
Nissa
Taylor
Lawson
Avenue 198
Avenue 196
Avenue 194
Avenue 190
Avenue 188
Avenue 186
Bishop
Wallace
Richardson
Taylor
Rea
Legend
Parcels
UDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, ADA Curbs, Street Lights

16. COMMUNITY OF SULTANA

16.1 General Information

Sultana is a census-designated place located in the northwest portion of Tulare County. It is generally bounded by Avenue 412 in the south, north of Avenue 416 in the north, Road 100 in the west, and Road 108 in the east and encompasses 0.4 square miles of land. It is not directly served by any State Route.

Based on the 2010 Census, the population in Sultana was 775. Similar to other communities in Tulare County, the population of Sultana is racially diverse with 41% White, 0% African American, less than 1% Native American, 1% Asian/Pacific Islander, 55% from other races, and 4% from 2 or more races. 90% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 242 housing units located within Sultana, of which 34% are owner-occupied and 66% are renter-occupied.

16.2 Domestic Water & Wastewater

Domestic water service in Sultana is provided by the Sultana Community Services District (CSD), which was formed in 1977. Domestic sewer service is provided by the Cutler Public Utilities District (PUD). Table 16-1 shows the number of existing water connections, the capacity of the system, and the number of additional connections the system can accommodate for new development (Municipal Service Review, October 2011). Information related to domestic sewer connections, as well as sewer and water system maps, are currently unavailable.

According to the Municipal Service Review 2011 (MSR), the CSD community water system consists of 2 wells: Well No. 3 (Main Primary) and Well No. 2 (South Back-up) and Well No. 3 (North Emergency). Wells No. 3 (Main) is drilled to a depth of 430', is equipped with a 60 horse power (hp) turbine pipe that funnels water through a single check valve and into a 5500 gallon steel pressure storage tank. Well No. 3 (Main) is also equipped with a back-up propane engine in case of power failure. Well No. 2 (South Back-up) is drilled to a depth of 358' and contains a 75 hp turbine pump that also funnels water through a single check valve and into a 5500 gallon storage tank and then on to distribution. Well No. 3 (Main) is equipped with a Chlor-tec chlorine generator system that injects chlorine into the system as water is funneled through the check valve into the storage tank. Well No. 2 (South) has not been used for approximately 11 years, but can be put into service at any time if Well No. 3 (Main) ever becomes contaminated or compromised. Over the last 10 years, at least 2 other wells have been abandoned due to contamination (contaminants unknown).

Nitrates can be associated with septic systems, agricultural use of fertilizers and concentrated animal facilities. At least two dairies are located within the District's boundaries and the District is surrounded by agricultural uses, making the system vulnerable to high Nitrate levels. The District's 2009 Consumer Confidence Report (CCR) reiterates that leaks in the distribution plumbing, the presence of underground petroleum tanks, known contamination plumes, agricultural activity and sewer and drainage lines are the primary threats to Well No. 3 (Main) and Well No. 2. The 2009 CCR further indicates that the Sultana area has a history of DBCP contamination, a pesticide banned in the 1970s, but that the most recent sample test

results for DBCP were non-detect.

In order to protect the system from vulnerabilities, the latest CCR indicates that the well system should be kept clean and free of weeds and debris to prevent contamination. The report further directs that cement surface seals need to be checked for cracks and immediately repaired or sealed if needed.

Sample test results for Nitrates are to be submitted each year. If a well sample is found to have at least 50% of the maximum contaminate level (MCL) allowed, which is 45 parts per million (ppm), the CSD must submit quarterly test results until the issue is resolved. The CSD must also provide notice of the violation to customers on a quarterly basis and proof of this notice must be submitted to Environmental Health, also on a quarterly basis. The CSD was notified that Well No. 2 samples exceeded the 50% threshold in 2006 and 2007. Proof of customer notification for these violations were not found in the District's Environmental Health file. The record shows that annual Nitrate testing results were not submitted for the year 2005. The 2009 CCR indicates that test samples showed Nitrate levels well below the 50% threshold.

The County's Environmental Health Department provided notice of violation to the CSD for exceeding total Coliform MCL on 5 separate occasions in the last 5 years (bacteriological samples are tested on a monthly basis). No evidence was found in the District's Environmental Health file indicating whether a notice of this violation was mailed to district customers as required by law.

Based on the information available, the system's well, storage, and distribution apparatus are reliable and not in need of major repair, only standard maintenance as suggested in the District's 2009 CCR. The water provided seems to be of good quality with minimal contamination, especially when compared to similar size districts surrounded by similar land uses.

It is also determined; however, that based on the dairy operations within district boundaries and the agricultural uses that surround it, the system is highly vulnerable to contamination, in particular Nitrates. This is evidenced by the number of district wells that have been abandoned over the last 7 years due to contamination. Although the District can rely on Well No. 2 if Well No. 3 (Main) is forced offline, as more wells are abandoned, the number of feasible well sites diminishes. In the future, this could put district customers in a situation where they must rely on bottled water for consumption and boiled water for all other uses while the prolonged process of securing a new well site takes place. Accordingly, the CSD must consider long-term solutions that will expand water supplies available to the District.

TABLE 16-1

Existing Water & Wastewater Connections in Sultana

Description of Existing Infrastructure					
Drinking Water*			Waste Water		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
150	150	0	N/A	N/A	N/A

* Data current as of October 2011

16.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Sultana does have a storm drainage system, however system information and mapping is currently unavailable.

16.4 Roads

There are various roadways in Sultana that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and

adjusting any street hardware

- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 16-2 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 16-1 graphically displays this information on a map.

TABLE 16-2

Roads in Need of Major and Medium Repair in Sultana

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Avenue 417	Sultana Road to east end	CHIP
2	Perkins Road	Boone Avenue to Avenue 416	GRX
3	Road 104	Court Avenue to Avenue 416	CHIP
4	Road 105	Avenue 416 to north end	CHIP

OLAY – overlay resurfacing operation	ACST – asphalt reconstruction
CHIP – chip seal	RCST – cold mix reconstruction
GRX – grind and remix	

(Source: County of Tulare Public Works, 2012)

16.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are various ADA compliant curb ramps located within Sultana and are listed in Table 16-3 and displayed in Figure 16-1.

TABLE 16-3
Existing ADA Curb Ramps in Sultana

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
1	Avenue 416	Road 104	NW Corner
2	Avenue 416	Sultana Road	NE Corner
3	Avenue 416	Road 105	NW Corner
4	Avenue 416	Road 105	SW Corner
5	Avenue 416	Perkins Road	SE Corner
6	Avenue 416	Perkins Road	SW Corner
7	Avenue 416	Road 106	SE Corner
8	Avenue 416	Road 106	SW Corner
9	Road 105 North Loop (north)	Road 105	NE Corner
10	Road 105 North Loop (north)	Road 105	SE Corner
11	Road 105 North Loop (south)	Road 105	NE Corner
12	Road 105 North Loop (south)	Road 105	SE Corner
13	Road 105 South Loop (north)	Road 105	NE Corner
14	Road 105 South Loop (north)	Road 105	SE Corner
15	Road 105 South Loop (south)	Road 105	NE Corner
16	Road 105 South Loop (south)	Road 105	SE Corner

(Source: County of Tulare Public Works, August 2013)

16.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in clear width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 16-4 identifies the location of existing sidewalks in Sultana. Figure 16-1 also displays this information graphically. The sidewalks represented in Table 16-4 and Figure 16-1 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were

constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 16-4
Existing Sidewalks in Sultana

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
1	Avenue 416	Road 104 to 250' west	North side
2	Avenue 416	Sultana Road to Road 105	North side
3	Avenue 416	Road 104 to Road 106	South side
4	Road 104	Avenue 416 to 200' north	West side
5	Road 105	Road 105 South Loop (south) to Road 105 North Loop (north)	East side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

16.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 16-5 identifies the location of existing street lights that are maintained by Tulare County, in Sultana, as well as their specifications. Figure 16-1 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type “W” represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 16-5
Existing Street Lights in Sultana

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Avenue 416	Perkins Road	SW Corner	2358	9500	W	N	PG&E
2	Avenue 416	Road 104	NW Corner	CO. SIGNAL	21000	S	S	PG&E
3	Avenue 416	Road 104	SE Corner	CO. SIGNAL	21000	S	N	PG&E
4	Avenue 416	Road 106	SE Corner	1453	5800	W	N	PG&E
5	Avenue 416	Road 104	NE Corner	CO. SIGNAL	21000	S	W	PG&E
6	Avenue 416	Road 104	SW Corner	CO. SIGNAL	21000	S	E	PG&E
7	Avenue 416	Sultana Road	NW Corner	1447	5800	W	S	PG&E
8	Avenue 416	Between Road 104 and	North side	1448	5800	W	S	PG&E
9	Avenue 416	Road 105	NE Corner	1449	5800	W	S	PG&E
10	Avenue 417	Sultana Road	NW Corner	1452	5800	W	E	PG&E
11	Hopson Avenue	Sultana Road	NW Corner	2426	9500	W	E	PG&E
12	Hopson Avenue	Road 105	NE Corner	1450	5800	W	W	PG&E
13	South end	Perkins Road	West side	1451	5800	W	E	PG&E

(Source: Tulare County Public Works, March 2013)

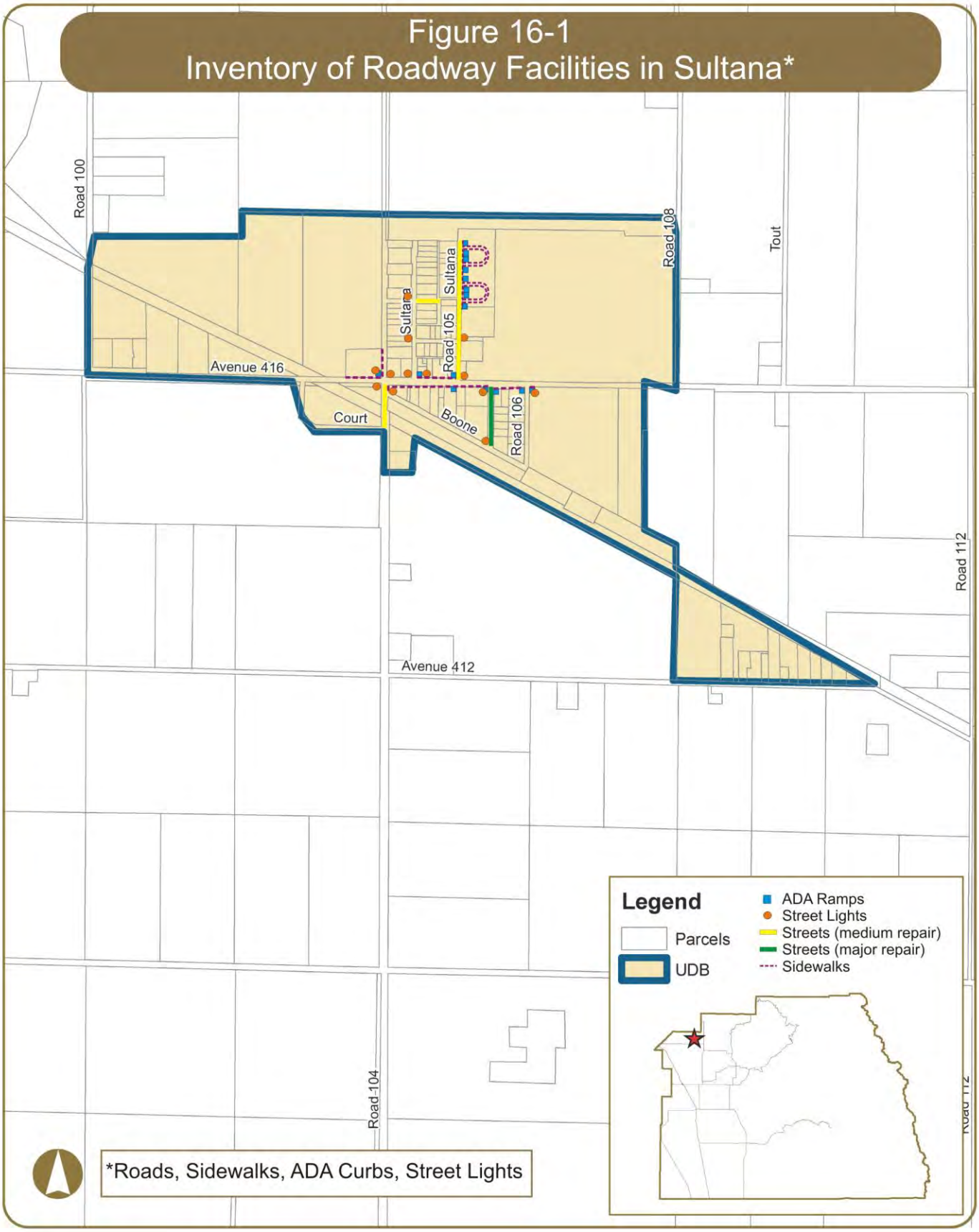


Figure 16-1
Inventory of Roadway Facilities in Sultana*
Road 100
Road 108
Tout
Sultana
Sultana
Road 105
Avenue 416
Court
Boone
Road 106
Road 112
Avenue 412
Road 104
Legend
Parcels
UDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, ADA Curbs, Street Lights

17. COMMUNITY OF TERRA BELLA

17.1 General Information

Terra Bella is a census-designated place located southern portion of Tulare County along State Route (SR) 65, approximately 7½ miles south of Porterville. It is generally bounded by Avenue 88 in the south, Avenue 100 in the north, SR 65 in the west, and Road 248 in the east and encompasses 2.7 square miles of land. Terra Bella is an industrial and agriculturally oriented service community surrounded by lands in agricultural production, vacant lands, and scattered rural residential homes. Cities and communities surrounding Terra Bella include Porterville to the north, Ducor to the south and Poplar-Cotton Center to the northwest. Regional access to and from the community of Terra Bella is provided by SR 65. The Tulare County/Kern County Line is located approximately 12 miles south of Terra Bella.

Based on the 2010 Census, the population in Terra Bella was 3,310. Similar to other communities in Tulare County, the population of Terra Bella is racially diverse with 43% White, less than 1% African American, 1% Native American, 2% Asian/Pacific Islander, 52% from other races, and 2% from 2 or more races. 87% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 824 housing units located within Terra Bella, of which 48% are owner-occupied and 52% are renter-occupied.

17.2 Domestic Water & Wastewater

Domestic water service in Terra Bella is provided by the Terra Bella Irrigation District, formed in January 1915. Table 17-1 shows the number of existing water and sewer connections, the capacity of each system, and the number of additional connections the systems can accommodate for new development (Housing Element, May 2012). Figure 17-1 graphically displays the approximate location of water wells and water lines.

According to the Municipal Service Review 2006 (MSR), the Terra Bella Irrigation District operates a water supply and distribution system under the jurisdiction of the California Department of Health Services Division of Drinking Water and Environmental Management, which is responsible for the administration and enforcement of the Safe Drinking Water Act involving those systems in California with more than 200 connections. The Terra Bella Irrigation District operates two separate water systems, one system which receives surface water from the Friant Kern Canal, which is treated before entering the distribution system. This system is the primary source for domestic water service within the urban area of the District.

Based upon information provided by District staff, there are approximately 700 connections which receive treated surface water. The District's water treatment plant was constructed in 1998, and was constructed to allow for additional capacity above and beyond the expected 1998 demands. The District has a water contract with the U.S. Bureau of Reclamation to receive 29,000 acre feet of water per year from the Friant Kern Canal (water which is used for both domestic and irrigation purposes). The District's treated domestic water system is in good operating condition, and could be expanded to support 600 to 700 additional connections, according to District staff.

The District operates a separate water system that has a primary function of providing irrigation water to the outlying rural areas of the community. This water is untreated. There are also domestic water connections to the District's rural (irrigation) water system that primarily serve rural residential homes related to agricultural. The water supplied by this system does not meet Federal drinking water standards, and is therefore considered to be non-potable. The District sends out a quarterly letter to all residents which receive untreated tap water indicating that the water does not meet Federal drinking water standards, is considered to be non-potable, and shall not be used for drinking or cooking. The potable water source for such connections is considered to be bottled water.

Sanitary sewer service is provided by the Terra Bella Sewer Maintenance District. A map of the sewer system is currently unavailable.

TABLE 17-1

Existing Water & Wastewater Connections in Terra Bella

Description of Existing Infrastructure					
Drinking Water*			Waste Water *		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
700	1,300 - 1,400	600-700	728	780	52

* Data current as of May 2012

17.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Table 17-2 identifies the location of drainage inlets and sumps in Terra Bella. Figure 17-1 also displays this information graphically.

TABLE 17-2

Existing Storm Drainage Facilities in Terra Bella

Location of Existing Storm Drainage Facilities			
No.	**East-West Roadway**	**North-South Roadway**	**Type**
1	Avenue 94	Road 238	Inlet
2	Avenue 94 alignment	Clemens Road	Inlet
3	Avenue 96	East of Road 236	Inlet
4	Avenue 96	East of Road 237	Inlet
5	Magnolia Avenue	Road 237	Inlet
6	Magnolia Avenue	Road 238	Inlet
7	North of Avenue 95	Clemens Road	Inlet
8	Pepper Avenue	Road 238	Inlet

(Source: County of Tulare Public Works, 2014)

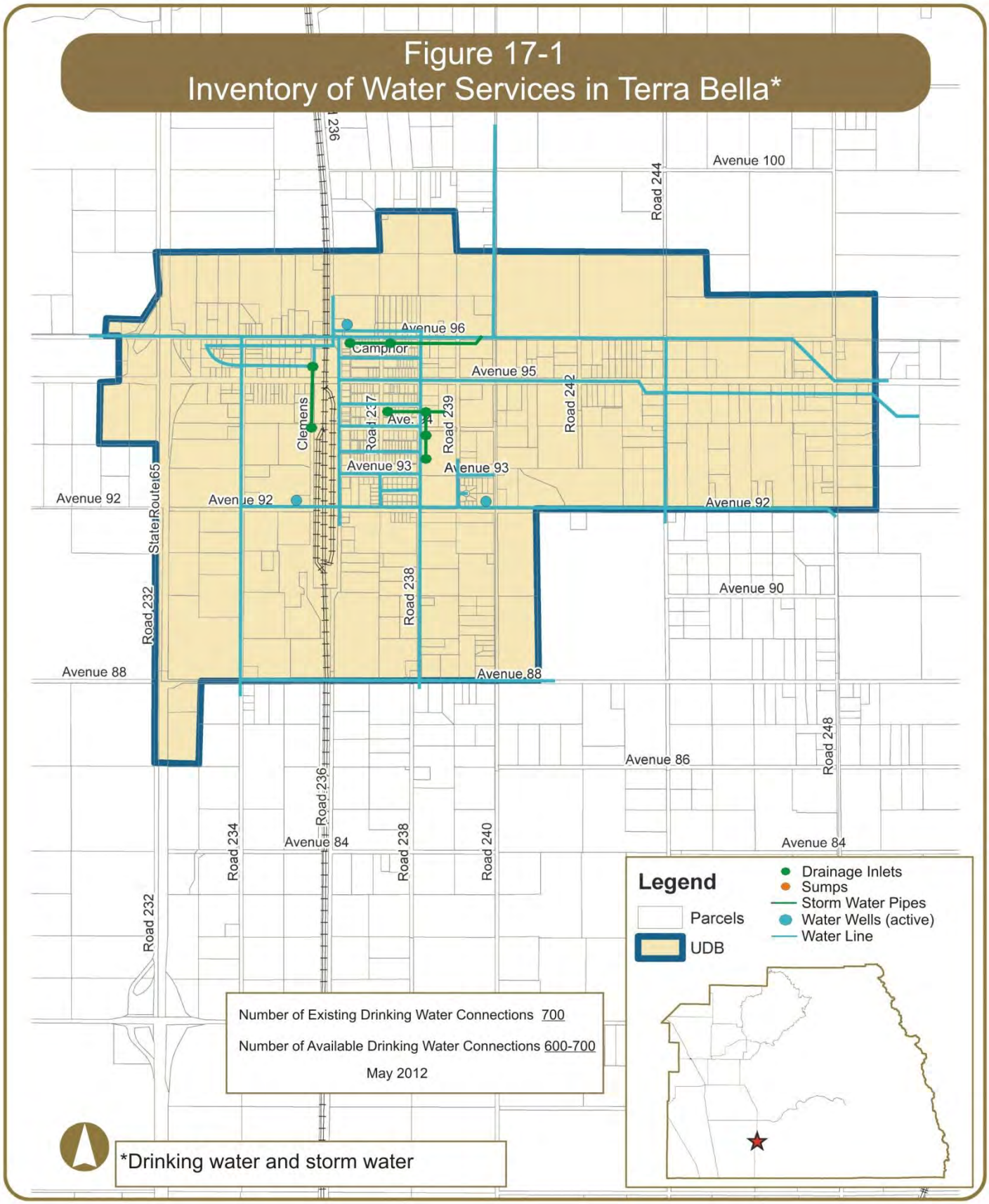


Figure 17-1
Inventory of Water Services in Terra Bella*
Avenue 100
Road 244
Avenue 96
Camphor
Avenue 95
Road 242
Clemens
Road 237
Ave. 94
Road 239
Avenue 93
Avenue 93
Avenue 92
Avenue 92
Avenue 92
State Route 65
Road 232
Road 238
Avenue 90
Avenue 88
Avenue 88
Avenue 86
Road 248
Road 236
Road 234
Avenue 84
Road 238
Road 240
Avenue 84
Road 232
Legend
Parcels
UDB
Drainage Inlets
Sumps
Storm Water Pipes
Water Wells (active)
Water Line
Number of Existing Drinking Water Connections 700
Number of Available Drinking Water Connections 600-700
May 2012
*Drinking water and storm water

17.4 Roads

There are various roadways in Terra Bella that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 17-3 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 17-2 graphically displays this information on a map.

TABLE 17-3

Roads in Need of Major and Medium Repair in Terra Bella

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	2nd Street	Pepper Avenue to Terra Bella Avenue	CHIP
2	3rd Street	Avenue 88 to Avenue 92	CHIP
3	4th Street	Terra Bella Avenue to Avenue 96	CHIP
4	5th Street	Terra Bella Avenue to south end	CHIP
5	Acacia Avenue	Road 236 to 3rd Street	CHIP
6	Avenue 88	Road 234 to west end	GRX
7	Avenue 88	Road 234 to Road 236	CHIP
8	Avenue 88	Road 240 to Road 248	CHIP
9	Avenue 92	Road 234 to Clemens Road	CHIP
10	Avenue 92	Road 236 to 3rd Street	GRX

TABLE 17-3 (Continued)
Roads in Need of Major and Medium Repair in Terra Bella

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
11	Avenue 92	Road 240 to Road 244	CHIP
12	Avenue 92	Road 244 to Road 248	GRX
13	Avenue 96	Road 236 to west end	CHIP
14	Avenue 96	Road 236 to 3rd Street	GRX
15	Avenue 96	3rd Street to 5th Street	CHIP
16	Avenue 96	Road 244 to Road 248	CHIP
17	Camphor Avenue	Road 236 to 3rd Street	CHIP
18	Clemens Road	Avenue 92 to Terra Bella Avenue	CHIP
19	Palm Drive	Road 239 to east end	CHIP
20	Road 234	Terra Bella Avenue to Avenue 96	CHIP
21	Road 236	Avenue 88 to Avenue 96	CHIP
22	Road 240	Avenue 88 to Avenue 92	CHIP
23	Road 242	Terra Bella Avenue to Avenue 96	CHIP
24	Road 244	Avenue 90 to Terra Bella Avenue	CHIP
25	Road 248	Avenue 92 to Terra Bella Avenue	CHIP
26	Road 248	Terra Bella Avenue to Avenue 96	GRX
27	Terra Bella Avenue	SR 65 to 4th Street	CHIP
28	Terra Bella Avenue	4th Street to Road 248	GRX

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

(Source: County of Tulare Public Works, 2012)

17.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012.

According to the survey, there are various ADA compliant curb ramps located within Terra Bella and are listed in Table 17-4 and displayed in Figure 17-2.

TABLE 17-4
Existing ADA Curb Ramps in Terra Bella

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
1	Avenue 92	Road 238	SE Corner
2	Avenue 92	Road 239	SW Corner
3	Avenue 93	Road 236	NE Corner
4	Avenue 94	Road 236	NE Corner
5	Avenue 94	Road 236	SE Corner
6	Avenue 94	Road 237	NW Corner
7	Avenue 94	Road 237	SW Corner
8	Avenue 96	Road 236	SW Corner
9	Avenue 96	Road 237	SE Corner
10	Camphor Avenue	Road 237	SE Corner
11	Magnolia Avenue	Road 236	NE Corner
12	Terra Bella Avenue	Road 234	SE Corner
13	Terra Bella Avenue	Clemens Road	NW Corner
14	Terra Bella Avenue	Clemens Road	SW Corner
15	Terra Bella Avenue	Road 236	NE Corner
16	Terra Bella Avenue	Road 236	SE Corner
17	Terra Bella Avenue	Road 237	NE Corner
18	Terra Bella Avenue	Road 237	NW Corner
19	Terra Bella Avenue	Road 238	NW Corner

(Source: County of Tulare Public Works, August 2013)

17.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the ADA and ABA guidelines state that for sidewalks less than 5 feet in width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 17-5 identifies the location of existing sidewalks in Terra Bella. Figure 17-2 also displays this information graphically. The sidewalks represented in Table 17-5 and Figure 17-2 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 17-5
Existing Sidewalks in Terra Bella

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
1	Avenue 92	Road 237 to Road 238	North side
2	Avenue 92	Road 238 to Road 239	South side
3	Avenue 96	Road 236 to Road 237	North side
4	Avenue 96	Road 237 to Road 238	South side
5	Camphor Avenue	Road 237 to Road 238	South side
6	Camphor Avenue	West of Road 237 to Road 238	North side
7	Palm Avenue	Road 237 to Road 238	North side
8	Palm Avenue	Road 237 to Road 238	South side
9	Road 236	Magnolia Avenue to Terra Bella Avenue	East side
10	Road 237	Terra Bella Avenue to Avenue 96	East side
11	Road 237	Terra Bella Avenue to Avenue 96	West side
12	Road 238	Avenue 92 to 325' south	East side
13	Road 238	Pepper Avenue to Avenue 94	East side
14	Road 238	Terra Bella Avenue to Avenue 96	West side
15	Terra Bella Avenue	Road 236 to Road 238	North side
16	Terra Bella Avenue	Road 236 to Road 237	South side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

17.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 17-6 identifies the location of existing street lights that are maintained by Tulare County, in Terra Bella, as well as their specifications. Figure 17-2 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type “W” represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 17-6

Existing Street Lights in Terra Bella

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Avenue 92	Road 236	NE Corner	638596E	5800	W	W	SCE
2	Avenue 92	Road 237	NW Corner	4276498E	5800	W	S	SCE
3	Avenue 92	Road 238	SE Corner	1869733E	5800	W	W	SCE
4	Avenue 93	Road 239	SE Corner	1783369E	5800	W	W	SCE
5	Avenue 93	Road 236	NE Corner	NONE	5800	W	W	SCE
6	Avenue 93	Road 237	SW Corner	417424E	5800	W	E	SCE
7	Avenue 93	Road 238	SE Corner	417421E	5800	W	W	SCE
8	Avenue 94	Road 236	NE Corner	986959E	5800	W	W	SCE
9	Avenue 94	Road 237	SW Corner	4691367E	5800	W	E	SCE
10	Avenue 94	Road 238	SE Corner	756253E	5800	W	W	SCE
11	Avenue 95	Road 234	NW Corner	2213086E	5800	W	S	SCE
12	Avenue 95	Clemens Road	NW Corner	4210445E	5800	W	S	SCE
13	Avenue 95	Road 236	NW Corner	2186665E	5800	W	E	SCE
14	Avenue 95	Road 237	NW Corner	345669E	5800	W	S	SCE
15	Avenue 95	Road 238	SE Corner	4076137E	5800	W	N	SCE
16	Avenue 95	Road 239	SE Corner	X16234E	9500	W	N	SCE
17	Avenue 95	SR 65	NE Corner	12-09	16000	S	S	SCE
18	Avenue 96	Road 234	SW Corner	802043E	5800	W	N	SCE
19	Avenue 96	Clemens Road	SW Corner	802039E	5800	W	N	SCE
20	Avenue 96	Road 236	NE Corner	2088954E	5800	W	W	SCE
21	Avenue 96	Road 237	SW Corner	802033E	5800	W	N	SCE
22	Avenue 96	Road 238	SE Corner	802030E	5800	W	N	SCE
23	Camphor Avenue	Road 236	West side	1635734E	5800	W	E	SCE
24	Camphor Avenue	Road 237	SW Corner	345667E	5800	W	E	SCE
25	Camphor Avenue	Road 238	East side	4200997E	5800	W	W	SCE
26	Camphor Avenue	Between Road 237 and Road 238	South side	401285E	5800	W	N	SCE
27	Magnolia Avenue	Road 236	SW Corner	1634983E	5800	W	E	SCE
28	Magnolia Avenue	Road 237	SW Corner	567675E	5800	W	E	SCE
29	Magnolia Avenue	Road 238	SE Corner	1783357E	5800	W	W	SCE
30	Palm Avenue	Road 238	NE Corner	821021E	5800	W	W	SCE
31	Palm Avenue	Road 237	SW Corner	4261953E	5800	W	E	SCE
32	Palm Drive	Road 239	NE Corner	937960E	5800	W	W	SCE
33	Pepper Avenue	Road 236	NE Corner	986958E	5800	W	W	SCE
34	Pepper Avenue	Road 237	NE Corner	4600103E	5800	W	E	SCE
35	Pepper Avenue	Road 238	NE Corner	894594E	5800	W	W	SCE

(Source: Tulare County Public Works, March 2013)

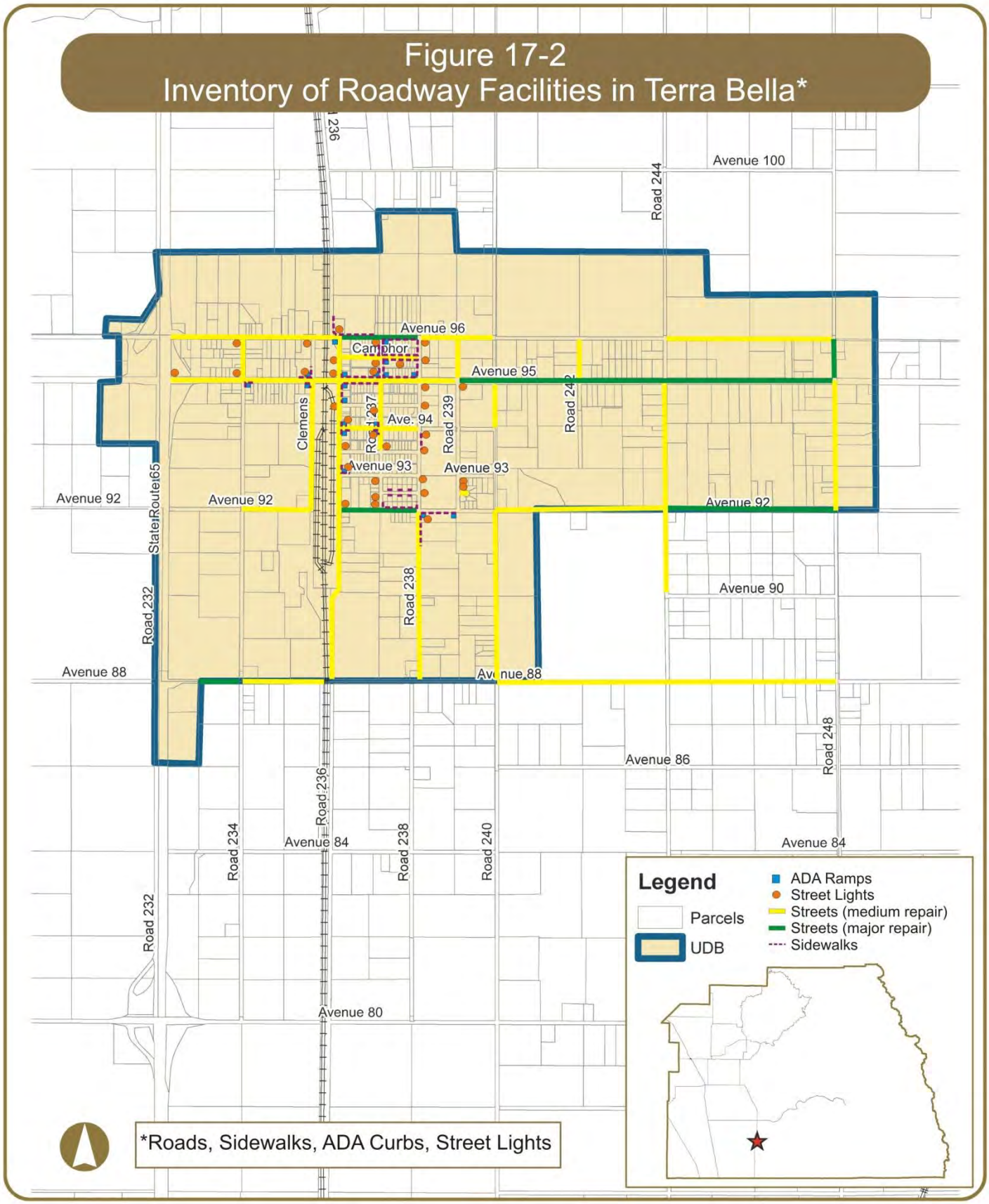


Figure 17-2
Inventory of Roadway Facilities in Terra Bella*
Avenue 100
Road 244
Avenue 96
Camphor
Avenue 95
Clemens
Road 237
Ave. 94
Road 239
Road 242
Avenue 93
Avenue 93
Avenue 92
Avenue 92
Avenue 92
State Route 65
Road 232
Road 238
Avenue 90
Avenue 88
Avenue 88
Avenue 86
Road 248
Road 236
Road 234
Avenue 84
Road 238
Road 240
Avenue 84
Road 232
Avenue 80
Legend
Parcels
UDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, ADA Curbs, Street Lights

18. COMMUNITY OF THREE RIVERS

18.1 General Information

Three Rivers is a census-designated place located in the northern portion of Tulare County. It is generally bounded by South Fork Drive in the south, Sequoia and Kings Canyon National Parks in the north, North Fork Drive in the west, and Salt Creek in the east and encompasses 44.5 square miles of land. It is directly served by State Route (SR) 198.

Based on the 2010 Census, the population in Three Rivers was 2,182. Similar to other communities in Tulare County, the population of Three Rivers is racially diverse with 91% White, less than 1% African American, 1% Native American, 1% Asian/Pacific Islander, 3% from other races, and 3% from 2 or more races. 10% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 1,312 housing units located within Three Rivers, of which 73% are owner-occupied and 27% are renter-occupied.

18.2 Domestic Water & Wastewater

Domestic water service in Three Rivers is provided by the Three Rivers Community Services District (CSD), which was formed in 1973. Three Rivers does not have sanitary sewer service and relies on individual or community septic systems. Table 18-1 shows the number of existing water connections, the capacity of the system, and the number of additional connections the system can accommodate for new development (Housing Element, May 2012). Mapping of the water system is currently unavailable.

According to the Municipal Service Review 2011 (MSR), the CSD's web page lists the following as service provided by the CSD:

- Frequent monitoring or rivers and wells
- Provide low cost drinking water testing
- No charge septic system inspections
- Responds to environmental complaints (site is tested if not monitored already)

All landowners within the area are considered customers and they are tracked according to assessors parcel number (APN). There are currently 1350 parcels being serviced by the Three Rivers CSD. The Three Rivers CSD reported no infrastructure deficiencies. The District does not plan to expand or acquire new infrastructure in the foreseeable future.

Upgrade and maintenance of equipment and supplies or capacity expansion associated with district services does not require costly capital expenditures like those associated with sewer or potable water service. Additionally, equipment and supplies used to provide services are not susceptible to sudden failure or being compromised in any other way. It is determined that the District's facilities and infrastructure are in adequate condition and that the District's current capacity is sufficient to serve the District's existing population. It is further determined that future increased demand can be accommodated in a timely and adequate manner based on the limited services the District provides.

TABLE 18-1

Existing Water & Wastewater Connections in Three Rivers

Description of Existing Infrastructure					
Drinking Water*			Waste Water **		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
90	**	**	Septic only	--	--

* Data current as of May 2012

** Three Rivers CSD does not have the information. Water service is provided by over 35 private water companies.

18.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Three Rivers does not currently have a storm drainage system.

18.4 Roads

There are various roadways in Three Rivers that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 18-2 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 18-1 graphically displays this information on a map.

TABLE 18-2
Roads in Need of Major and Medium Repair in Three Rivers

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Black Oak Drive	Quail Run Drive to north end	CHIP
2	Blossom Drive	Old Three Rivers to east end	CHIP
3	Cherokee Oaks Drive	Crystal Drive (east connection) to Meadow Drive	CHIP
4	Craig Drive	Skyline Drive to north end	CHIP
5	Crest Lane	Sierra King Lane to north end	CHIP
6	Crystal Drive	Cherokee Oaks Drive (west connection) to Cherokee Oaks Drive (east connection)	CHIP
7	Dinely Drive	SR 198 to north end	CHIP
8	Elk Drive	Cherokee Oaks Drive to south end	CHIP
9	Ferndale Drive	Grouse Drive to west end	CHIP
10	Grouse Drive	Ferndale Drive to south end	CHIP
11	Hammond Drive	Mineral King Road to Oak Grove Drive (east connection)	CHIP
12	Heidi Drive	South Fork Drive to south end	CHIP
13	Kaweah Drive	North Fork Drive to east end	CHIP
14	La Cienega Drive	Alta Acres Drive to south end	GRX
15	Manzanita Drive	Skyline Drive to north end	CHIP

TABLE 18-2 (Continued)

Roads in Need of Major and Medium Repair in Three Rivers

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
16	Meadow Drive	Quail Drive to Cherokee Oaks Drive	CHIP
17	Mineral King Road	SR 198 to Sierra King Drive	GRX
18	Mineral King Road	Sierra King Drive to 0.35 miles east of Oak Grove Drive	CHIP
19	North Fork Drive	SR 198 to 4+ miles north	CHIP
20	Oak Drive	Skyline Drive to south end	CHIP
21	Oak Grove Drive	Hammond Drive to south end	CHIP
22	Oak Grove Drive	Mineral King Road to south end	CHIP
23	Oak Ridge Drive	West end to east end	CHIP
24	Old Three Rivers Road	Blossom Drive to South Fork Drive	CHIP
25	Pierce Drive	SR 198 (south connection) to SR 198 (north connection)	CHIP
26	Quail Run Drive	South Fork Drive to east end	CHIP
27	Sierra King Drive	Mineral King Road to Crest Lane	GRX
28	Sierra King Drive	Crest Lane to Hammond Drive	CHIP
29	Skyline Drive	Oak Drive to Craig Drive	CHIP
30	Skyline Drive	Craig Drive to east end	GRX
31	South Fork Drive	Old Three Rivers Road to Quail Run Drive	CHIP
32	South Fork Drive	Blossom Drive to Heidi Drive	GRX
33	South Fork Drive	Heidi Drive to 1 mile east	CHIP
34	Terminus Court	Ferndale Drive to south end	OLAY

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

(Source: County of Tulare Public Works, 2012)

18.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are no ADA compliant curb ramps located within Three Rivers.

18.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in clear width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

There are currently no sidewalks located within Three Rivers.

18.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 18-3 identifies the location of existing street lights that are maintained by Tulare County, in Three Rivers, as well as their specifications. Figure 18-1 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type “W” represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 18-3
Existing Street Lights in Three Rivers

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	North Fork Drive	North of bridge	North side	4417189E	5800	W	S	SCE
2	North Fork Drive	SR 198	SE Corner	4334777E	5800	W	N	SCE
3	North of North Fork Drive	SR 198	South side	N/A	5800	W	N	SCE
4	North of North Fork	SR 198	North side	4629209E	5800	W	N	SCE
5	North of North Fork Drive	SR 198	North side	N/A	N/A	N/A	S	SCE
6	South of Eggers Drive	SR 198	North side	4464488E	9500	W	S	SCE
7	South of Eggers Drive	SR 198	North side	4354778E	5800	W	S	SCE

(Source: Tulare County Public Works, March 2013)

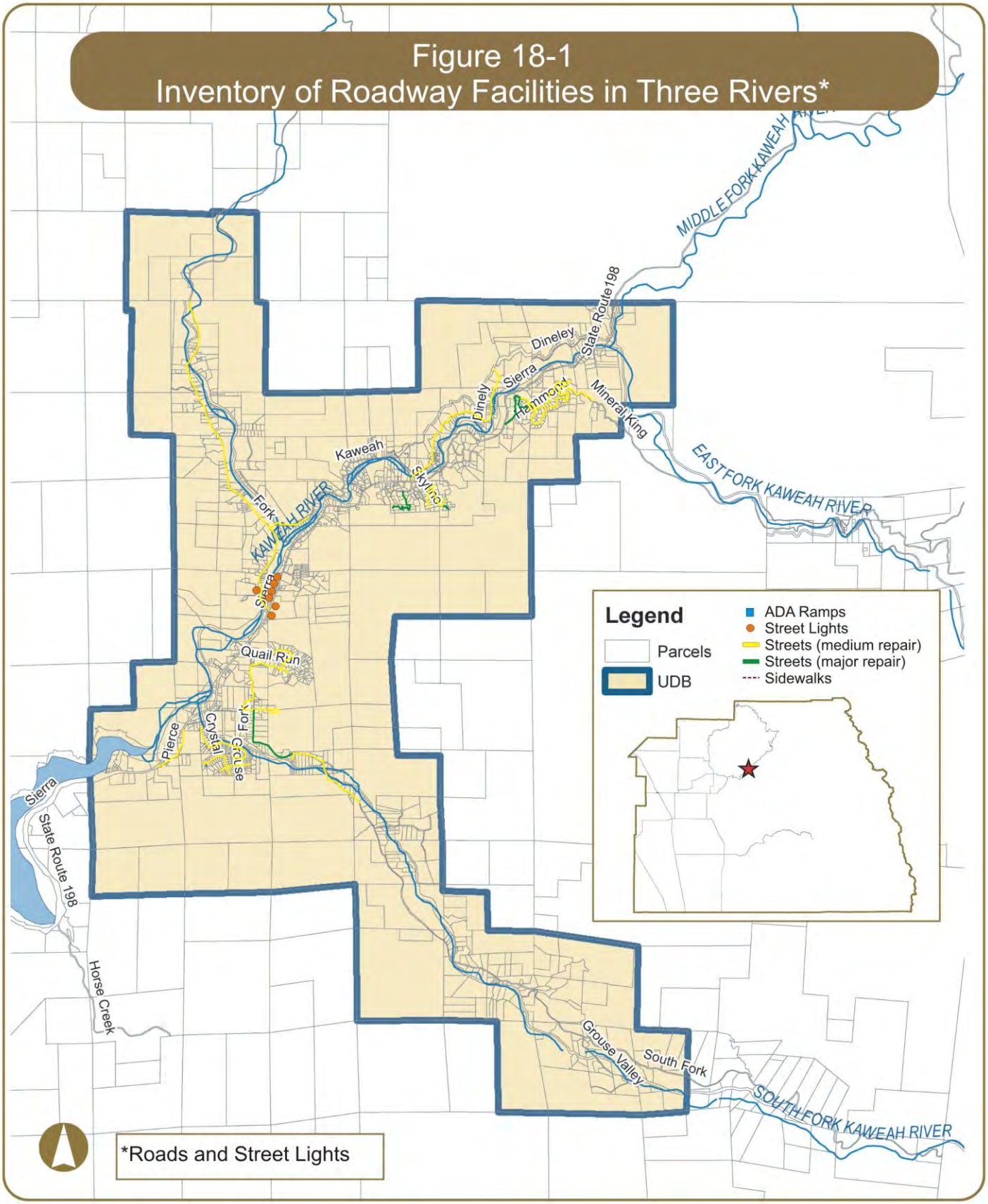


Figure 18-1
Inventory of Roadway Facilities in Three Rivers*
MIDDLE FORK KAWEAH RIVER
State Route 198
Dineley
Sierra
Hammond
Mineral King
EAST FORK KAWEAH RIVER
Kaweah
Skyline
Fork
KAWEAH RIVER
Sierra
Quail Run
Crystal
Fork
Cross
Pierce
Sierra
State Route 198
Horse Creek
Grouse Valley
South Fork
SOUTH FORK KAWEAH RIVER
Legend
Parcels
UDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads and Street Lights

19. COMMUNITY OF TIPTON

19.1 General Information

Tipton is a census-designated place located in the southwest portion of Tulare County, south of Tulare along State Route (SR) 99. It is generally bounded by Poplar Avenue in the south, Avenue 152 in the north, Road 112 in the west, and Callison Road in the east and encompasses one (1) square mile of land. Tipton is located approximately 8 miles south of Tulare. The community is square in shape, and is bisected in a north-south direction by SR 99 and the Union Pacific Railroad tracks, which divides the community into two approximately equal sized areas. Tipton is an agriculturally oriented service community surrounded on all sides by lands in agricultural production, scattered rural residential uses, and vacant land. Cities and communities surrounding Tipton include Tulare to the north, Pixley to the south, and the communities of Woodville and Poplar to the east.

Based on the 2010 Census, the population in Tipton was 2,543. Similar to other communities in Tulare County, the population of Tipton is racially diverse with 60% White, less than 1% African American, 1% Native American, less than 1% Asian/Pacific Islander, 36% from other races, and 2% from 2 or more races. 84% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 645 housing units located within Tipton, of which 48% are owner-occupied and 52% are renter-occupied.

19.2 Domestic Water & Wastewater

Domestic water and sewer service in Tipton is provided by the Tipton Community Services District (CSD), which was formed in 1959. Table 19-1 shows the number of existing water and sewer connections, the capacity of each system, and the number of additional connections the systems can accommodate for new development (Housing Element, May 2012). Figure 19-1 graphically displays the approximate location of water wells and water lines. Figure 19-2 graphically displays the approximate location of the sewer system and wastewater treatment plant.

According to the Municipal Service Review 2006 (MSR), Tipton's water supply is derived from two operational underground wells that provide an ample, excellent water supply requiring no chlorination or treatment. The two wells have a total maximum production efficiency of approximately 1,500 gallons per minute (GPM). The Tipton CSD also has two wells that are currently inactive; one is currently nonoperational due to oil contamination and the other has been abandoned as a result of nitrate contamination.

The Tipton CSD recently started requiring water meters to be installed for all new development projects although the CSD currently continues to charge a flat rate for water service. Billing on a flat rate schedule for water service does not promote water conservation, which is becoming a critical issue within Tulare County, as the water table in the region is overdrawn due to extended drought periods and increased pumping for domestic use.

The CSD's wells produced 188.727 million gallons in 2003, with a maximum monthly production of 28.855 million gallons occurring in August, corresponding to a maximum day demand of 0.931 million gallons per day (MGD). It is recommended that Local Agency Formation Commission (LAFCO) complete a comprehensive review of any water system planning reports prior to any sphere of influence (SOI) updates to ensure that proper facilities planning has taken place for any proposed SOI expansion area.

Assuming 560 equivalent dwelling units (EDUs) in order to meet Tulare County Improvement Standards, the Tipton CSD water system would need to be capable of delivering a combined flow rate (from all source and storage facilities) of 2,200 GPM (1,500 GPM fire flow and 700 GPM domestic demand) for a period of two hours while maintaining a minimum pressure of 25 pounds per square inch (PSI) to each lot served. The CSD's water system is capable of delivering a source flow 1,500 GPM, indicating that the system falls short of meeting the Tulare County Improvement Standards. The CSD Engineer indicated that a new well is going out for bid, and will be online in the near future. An additional well will likely bring the water system into compliance with the Tulare County Improvement Standards.

A capacity calculation performed in accordance with General Order 103, published by the California Public Utilities Commission, indicates that the CSD's water system is operating at or near its capacity. The CSD does not currently have a water system master plan. The Engineer indicated that there is no need for a water master plan.

The sanitary sewer system for the Tipton community currently supports 554 total connections (58 commercial connections and 496 residential connections). The CSD operates a Wastewater Treatment Facility (WWTF) that provides secondary treatment of wastewater and is located west of the community. The WWTF is operated under the provisions of Order No. 85-170 issued by the California Regional Water Quality Control Board (RWQCB), which prescribes that the monthly average daily discharge shall not exceed 0.40 MGD. Treated effluent from two one-acre evaporation/percolation ponds is used to flood irrigate 40 acres of land owned and controlled by the CSD.

Based upon information contained in the Wastewater User Charge Survey Report FY 2004-05 (CalEPA – State Water Resources Control Board, May 2005), the average dry weather flow at the WWTF is approximately 0.190 MGD resulting in an excess capacity of approximately 210,000 GPD, which could support an estimated additional 600 equivalent dwelling units. It is anticipated that the CSD's WWTF will be operating at or near its permitted capacity within a 20-year planning period (approximately year 2025). The CSD has not received any grants for the construction of wastewater facility improvements. It is recommended that the CSD research State and Federal grants and/or loans that may be available to help finance improvements to the WWTF, including the installation of a flow meter. Clean Water Grants, State Revolving Fund Loans, and Small Community Grants are examples.

The CSD does not currently have a sewer system master plan. The Engineer indicated that there is no need for a sewer master plan.

TABLE 19-1
Existing Water & Wastewater Connections in Tipton

Description of Existing Infrastructure					
Drinking Water*			Waste Water *		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
554	554	0	554	1,154	600

* Data current as of May 2012

19.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Table 19-2 identifies the location of drainage inlets and sumps in Tipton. Figure 19-1 also displays this information graphically.

TABLE 19-2
Existing Storm Drainage Facilities in Tipton

Location of Existing Storm Drainage Facilities			
No.	East-West Roadway	North-South Roadway	Type
1	Avenue 152	Road 112	Sump
2	Jayna Avenue	West of Thompson Road	Sump
3	Jayne Avenue	Berry Road	Sump
4	Klindera Avenue	Berry Road	Inlet
5	Klindera Avenue	La Fonda Road	Inlet

TABLE 19-2 (Continued)
Existing Storm Drainage Facilities in Tipton

Location of Existing Storm Drainage Facilities			
No.	**East-West Roadway**	**North-South Roadway**	**Type**
6	Lerda Avenue	West of Thompson Road	Sump
7	North of Lerda Avenue	Callison Road	Sump
8	North of Spencer Road	West of Thompson Road	Inlet
9	South of Avenue 152	Smith Road	Sump
10	South of Klindera Avenue	West of Thompson Road	Inlet
11	Spencer Road	Graham Road	Sump
12	SR 99 NB Ramps	Thompson Road	Sump
13	SR 99 SB Ramps	Burnett Road	Sump
14	Woods Avenue	Graham Road	Inlet
15	Woods Avenue	West of Thompson Road	Inlet

(Source: County of Tulare Public Works, 2014)

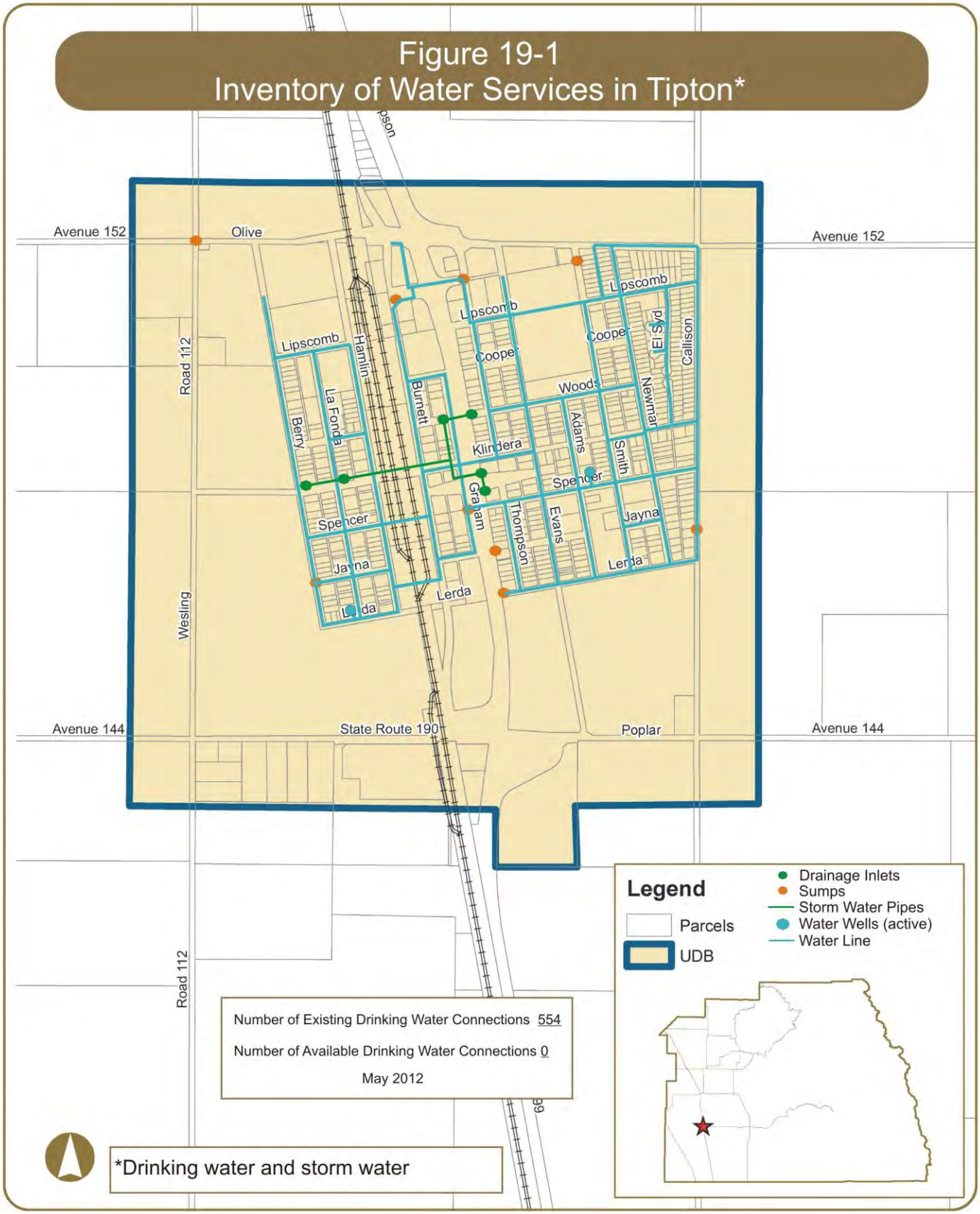


Figure 19-1
Inventory of Water Services in Tipton*
Avenue 152
Olive
Avenue 152
Road 112
Lipscomb
Hamlin
Lipscomb
Lipscomb
Cooper
Cooper
Woods
El Syd
Callison
Newman
Berry
La Fonda
Burnett
Klindera
Adams
Smith
Spencer
Graham
Thompson
Evans
Jayna
Spencer
Jayna
Lerda
Lerda
Lerda
Wesling
Avenue 144
State Route 190
Poplar
Avenue 144
Road 112
Legend
Parcels
UDB
Drainage Inlets
Sumps
Storm Water Pipes
Water Wells (active)
Water Line
Number of Existing Drinking Water Connections 554
Number of Available Drinking Water Connections 0
May 2012
*Drinking water and storm water

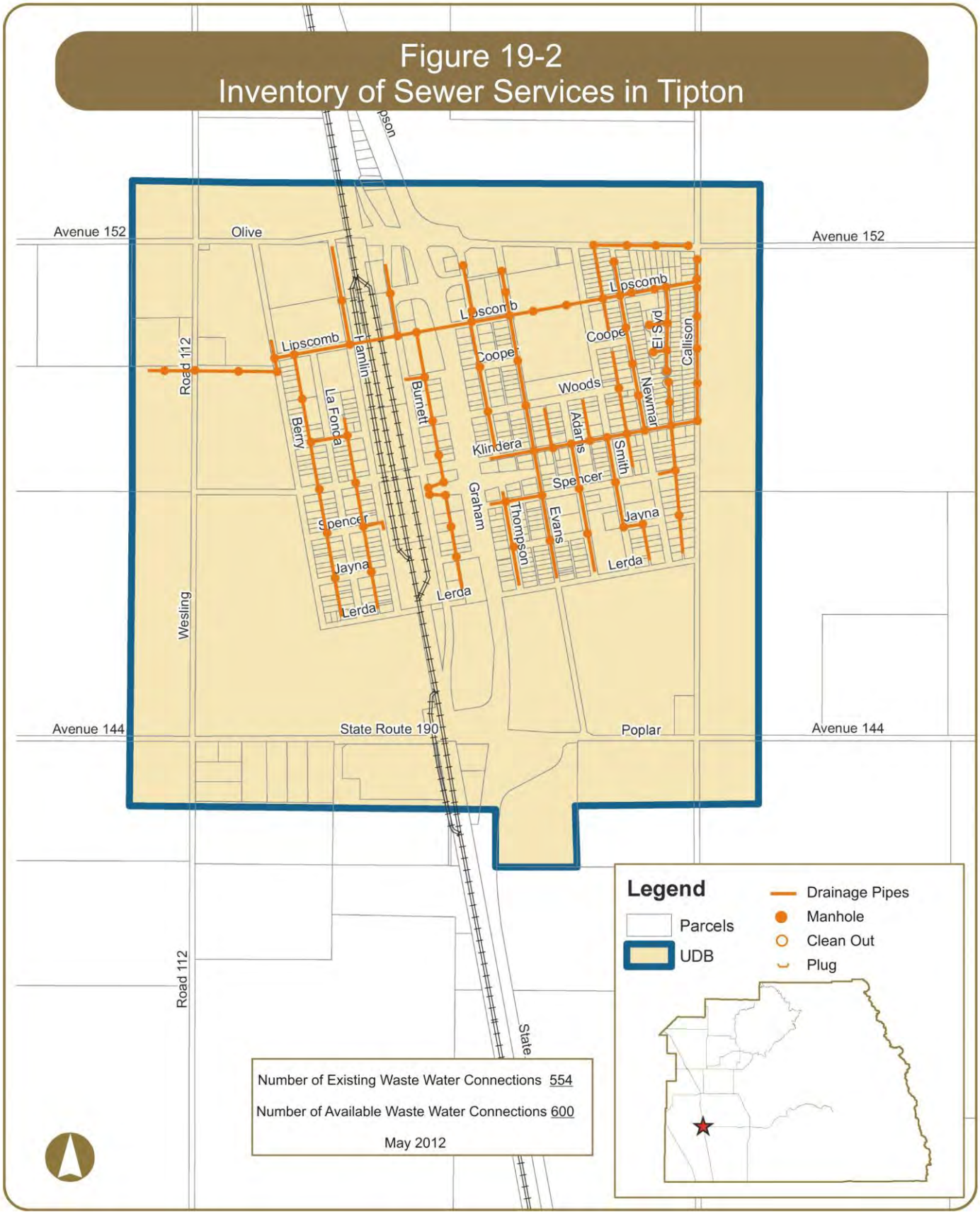


Figure 19-2
Inventory of Sewer Services in Tipton
Avenue 152
Olive
Avenue 152
Lipscomb
Lipscomb
Lipscomb
Road 112
Hamlin
Burnett
Cooper
Cooper
Woods
Elm
Callison
Newman
Berry
La Fonda
Adams
Smith
Klindera
Spencer
Graham
Thompson
Evans
Jayna
Spencer
Jayna
Lerda
Lerda
Lerda
Wesling
Avenue 144
State Route 190
Poplar
Avenue 144
Road 112
State
Legend
Parcels
UDB
Drainage Pipes
Manhole
Clean Out
Plug
Number of Existing Waste Water Connections 554
Number of Available Waste Water Connections 600
May 2012

19.4 Roads

There are various roadways in Tipton that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 19-3 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 19-3 graphically displays this information on a map.

TABLE 19-3

Roads in Need of Major and Medium Repair in Tipton

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Adams Road	Klindera Avenue to Woods Avenue	CHIP
2	Avenue 152	Road 112 to Hamlin Road	OLAY
3	Avenue 152	Hamlin Road to Callison Road	CHIP
4	Berry Road	Lerda Avenue to Klindera Avenue	GRX
5	Berry Road	Klindera Avenue to Avenue 152	CHIP
6	Burnett Road	Avenue 152 to north end	OLAY
7	Burnett Road	SH 190 to Avenue 152	CHIP
8	Callison Road	SH 190 to Avenue 152	CHIP
9	Cooper Avenue	Burnett Road to Graham Road	GRX
10	Cooper Avenue	Thompson Road to Evans Road	CHIP

TABLE 19-3 (Continued)
Roads in Need of Major and Medium Repair in Tipton

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
11	Cooper Avenue	Smith Road to Newman Road	CHIP
12	Cooper Court	El Syd Street to west end	CHIP
13	El Syd Street	Lipscomb Avenue to south end	CHIP
14	Evans Road	SH 190 to Lerda Avenue	OLAY
15	Evans Road	Lipscomb Avenue to Avenue 152	CHIP
16	Graham Road	Klindera Avenue to south end	CHIP
17	Graham Road	Klindera Avenue to Cooper Avenue	GRX
18	Hamlin Road	Lerda Avenue to Klindera Avenue	CHIP
19	Jayna Avenue	Thompson Road to Adams Road	CHIP
20	Jayne Avenue	Berry Road to Hamlin Road	CHIP
21	Jayne Avenue	Burnett Road to Graham Road	GRX
22	Klindera Avenue	Burnett Road to Graham Road	CHIP
23	Klindera Avenue	Smith Road to Callison Road	CHIP
24	La Fond Road	Lerda Avenue to Spencer Road	GRX
25	Lerda Avenue	Berry Road to Hamlin Road	CHIP
26	Lerda Avenue	Burnett Road to east end	CHIP
27	Lipscomb Avenue	Berry Road to Hamlin Road	GRX
28	Newman Road	Lerda Avenue to Spencer Road	CHIP
29	Poplar Avenue	Burnett Road to SH 190	CHIP
30	Smith Road	Lerda Avenue to Klindera Avenue	CHIP
31	Spencer Road	Adams Road to west end	GRX
32	Thompson Road	Lerda Avenue to Spencer Road	GRX
33	Thompson Road	Klindera Avenue to SR 99 NB Ramps	GRX
34	Thompson Road	SR 99 NB Ramps to Avenue 152	OLAY
35	Tipton Overpass	Burnett Road to Evans Road	OLAY
36	Woods Avenue	Berry Road to Hamlin Road	CHIP
37	Woods Avenue	Burnett Road to Graham Road	CHIP
38	Woods Court	El Syd Street to west end	CHIP

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

(Source: County of Tulare Public Works, 2012)

19.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant

curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are various ADA compliant curb ramps located within Tipton and are listed in Table 19-4 and displayed in Figure 19-3.

TABLE 19-4
Existing ADA Curb Ramps in Tipton

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
1	Avenue 152	Evans Road	SE Corner
2	Avenue 152	Newman Road	SE Corner
3	Avenue 152	Callison Road	SW Corner
4	Cooper Court	El Syd Street	NW Corner
5	Cooper Court	El Syd Street	SW Corner
6	Klindera Avenue	Smith Road	SW Corner
7	Klindera Avenue	Newman Road	NE Corner
8	Klindera Avenue	El Syd Street	NW Corner
9	Klindera Avenue	El Syd Street	NE Corner
10	Klindera Avenue	Callison Road	NW Corner
11	Lipscomb Avenue	Newman Road	SW Corner
12	Lipscomb Avenue	Newman Road	NE Corner
13	Lipscomb Avenue	Newman Road	SE Corner
14	Lipscomb Avenue	El Syd Street	SW Corner
15	Lipscomb Avenue	El Syd Street	SE Corner
16	Lipscomb Avenue	Callison Road	NW Corner
17	Spencer Road	Newman Road	SW Corner
18	Woods Avenue	Evans Road	SW Corner
19	Woods Avenue	Smith Road	SW Corner
20	Woods Avenue	Smith Road	SE Corner
21	Woods Avenue	Newman Road	NW Corner
22	Woods Avenue	Newman Road	SW Corner
23	Woods Court	El Syd Street	NW Corner
24	Woods Court	El Syd Street	SW Corner

(Source: County of Tulare Public Works, August 2013)

19.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 19-5 identifies the location of existing sidewalks in Tipton. Figure 19-3 also displays this information graphically. The sidewalks represented in Table 19-5 and Figure 19-3 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 19-5
Existing Sidewalks in Tipton

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
1	Adams Road	Jayna Avenue to Spencer Road	East side
2	Avenue 152	Evans Road to west of Smith Road	South side
3	Avenue 152	Newman Road to Callison Road	South side
4	Burnett Road	North of Jayna Avenue to Tipton Overpass	East side
5	Callison Road	Lipscomb Avenue to Avenue 152	West side
6	Cooper Court	El Syd Street to west end	North side
7	Cooper Court	El Syd Street to west end	South side
8	El Syd Street	Lipscomb Avenue to south end	East side
9	El Syd Street	Lipscomb Avenue to south end	West side
10	El Syd Street	Klindera Avenue to north end	East side
11	El Syd Street	Klindera Avenue to north end	West side
12	Graham Road	North of Klindera Avenue to Woods Avenue	West side
13	Jayna Avenue	Smith Road to alley (east)	South side
14	Klindera Avenue	Newman Road to Callison Road	North side
15	Lipscomb Avenue	Newman Road to Callison Road	North side

TABLE 19-5 (Continued)
Existing Sidewalks in Tipton

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
16	Lipscomb Avenue	Newman Road to Callison Road	South side
17	Newman Road	North of Klindera Avenue to south of Lipscomb Avenue	West side
18	Newman Road	Klindera Avenue to Avenue 152	East side
19	Smith Road	Spencer Road to Klindera Avenue	West side
20	Smith Road	North of Klindera Avenue to Woods Avenue	East side
21	Smith Road	North of Klindera Avenue to Woods Avenue	West side
22	Spencer Road	Adams Road to Newman Road	South side
23	Tipton Overpass	Burnett Road to Evans Road	North side
24	Tipton Overpass	Burnett Road to Evans Road	South side
25	Woods Avenue	Thompson Road to Evans Road	South side
26	Woods Avenue	Smith Road to Newman Road	South side
27	Woods Court	El Syd Street to west end	North side
28	Woods Court	El Syd Street to west end	South side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

19.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 19-6 identifies the location of existing street lights that are maintained by Tulare County, in Tipton, as well as their specifications. Figure 19-3 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type “W” represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 19-6
Existing Street Lights in Tipton

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Avenue 152	Newman Road	SE Corner	1254225E	9500	W	N	SCE
2	Avenue 152	Burnett Road	SE Corner	1299641E	9500	W	N	SCE
3	Avenue 152	Thompson Road	SE Corner	4091499E	9500	W	N	SCE
4	Avenue 152	Callison Road	NW Corner	744530E	9500	W	S	SCE
5	Cooper Avenue	Thompson Road	SE Corner	936427E	5800	W	W	SCE
6	Cooper Avenue	Evans Road	SW Corner	696257E	5800	W	NE	SCE
7	Cooper Avenue	Newman Road	SE Corner	2162864E	5800	2	W	SCE
8	Cooper Court	El Syd Street	SW Corner	N/A	5800	C	E	SCE
9	Jayna Avenue	Thompson Road	SW Corner	2348718E	5800	W	E	SCE
10	Jayna Avenue	Evans Road	SW Corner	4044291E	5800	W	E	SCE
11	Jayne Avenue	La Fond Road	NE Corner	1406506E	5800	W	W	SCE
12	Jayne Avenue	Burnett Road	NE Corner	2261673E	5800	W	W	SCE
13	Klindera Avenue	Newman Road	SE Corner	601338E	5800	W	N	SCE
14	Klindera Avenue	La Fond Road	SE Corner	255118E	5800	W	N	SCE
15	Klindera Avenue	Thompson Road	SE Corner	1189571E	5800	W	N	SCE
16	Klindera Avenue	Evans Road	SW Corner	4226187E	5800	W	E	SCE
17	Klindera Avenue	Adams Road	SE Corner	601336E	5800	W	N	SCE
18	Klindera Avenue	Burnett Road	SE Corner	4075610E	5800	W	W	SCE
19	Klindera Avenue	El Syd Street	NW Corner	N/A	5800	C	E	SCE
20	Lerda Avenue	Thompson Road	SW Corner	715547E	5800	W	E	SCE
21	Lerda Avenue	Hamlin Road	NW Corner	397402E	5800	W	E	SCE
22	Lipscomb Avenue	Newman Road	SE Corner	2261670E	5800	W	N	SCE
23	Lipscomb Avenue	Between Thompson	South side	936087E	5800	W	N	SCE
24	Lipscomb Avenue	El Syd Street	SE Corner	4411606E	5800	C	N	SCE
25	Spencer Road	Thompson Road	SE Corner	973806E	5800	W	W	SCE
26	Spencer Road	Berry Road	NE Corner	1406508E	5800	W	S	SCE
27	Spencer Road	Hamlin Road	NW Corner	1406502E	5800	W	E	SCE
28	Spencer Road	Evans Road	SE Corner	936423E	5800	W	N/W	SCE
29	Spencer Road	Adams Road	SW Corner	936422E	5800	W	E	SCE
30	Spencer Road	Smith Road	SW Corner	936442E	5800	W	N	SCE
31	Spencer Road	Callison Road	SW Corner	1406515E	5800	W	N	SCE
32	Tipton Overpass	Burnett Road	NE Corner	2261673E	16000	W	S	SCE
33	Tipton Overpass	Evans Road	SW Corner	2261672E	16000	W	N	SCE
34	Tipton Overpass	SR 99	North side	2269907E	9500	W	S	SCE
35	Woods Avenue	Berry Road	SE Corner	1406503E	5800	W	W	SCE
36	Woods Avenue	Hamlin Road	SW Corner	1406504E	5800	W	N/E	SCE
37	Woods Avenue	Burnett Road	NE Corner	275935E	5800	W	W	SCE
38	Woods Avenue	Graham Road	NW Corner	527997E	5800	W	E	SCE
39	Woods Avenue	Thompson Road	NE Corner	936426E	5800	W	W	SCE
40	Woods Avenue	Evans Road	NW Corner	936425E	5800	W	E	SCE
41	Woods Avenue	Adams Road	NE Corner	97447E	5800	W	S	SCE
42	Woods Avenue	Smith Road	NW Corner	4316569E	5800	W	S	SCE
43	Woods Court	El Syd Street	SW Corner	4520207E	5800	C	E	SCE

(Source: Tulare County Public Works, March 2013)

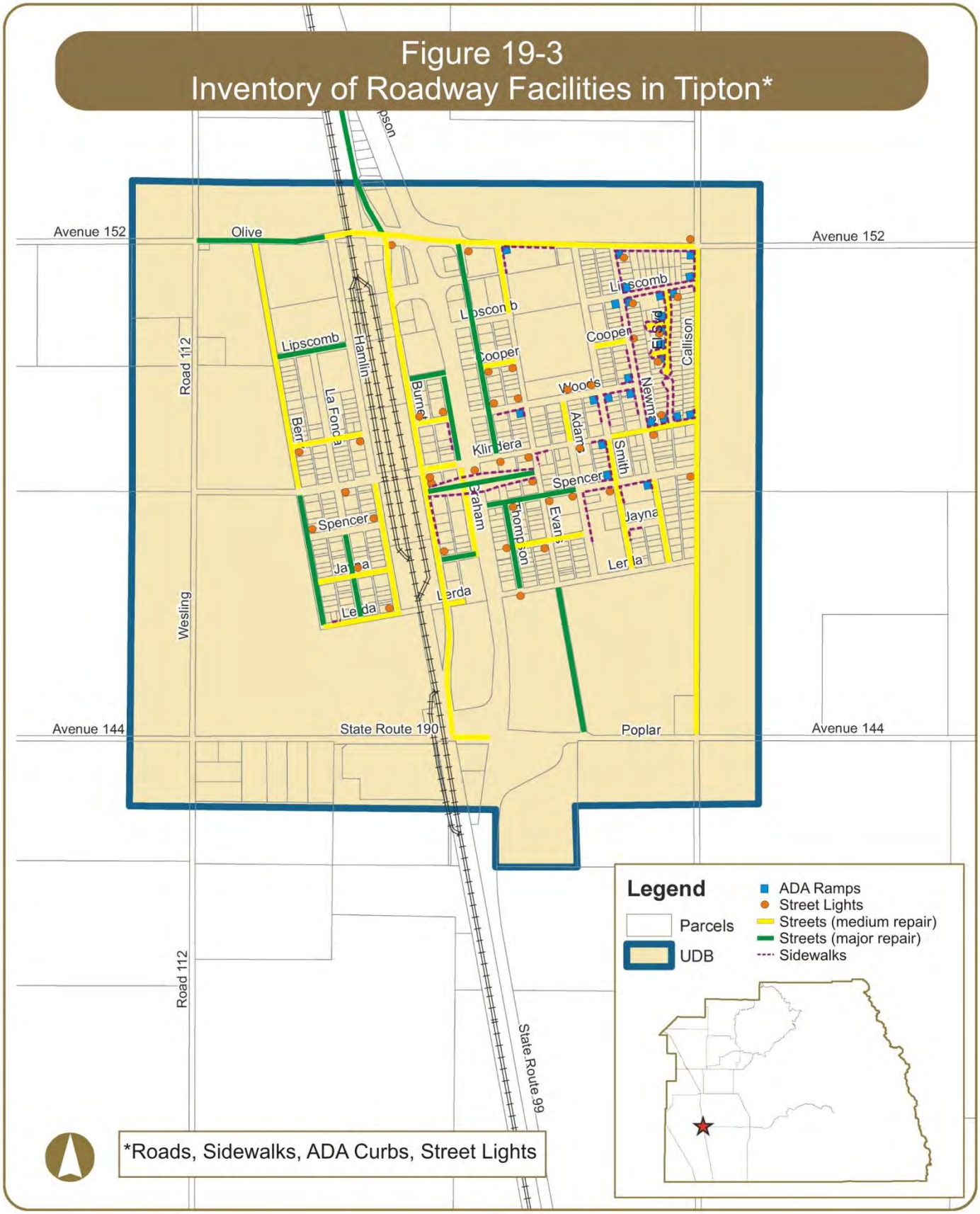


Figure 19-3
Inventory of Roadway Facilities in Tipton*
Avenue 152
Olive
Avenue 152
Lipscomb
Lipscomb
Lipscomb
Cooper
Cooper
Woods
Callison
Hamlin
Burnet
Road 112
La Fonda
Berr
Klindera
Adams
Smith
Spencer
Spencer
Graham
Thompson
Evans
Jayna
Jayna
Lerda
Lerda
Lerda
Wesling
Avenue 144
State Route 190
Poplar
Avenue 144
Road 112
State Route 99
Legend
Parcels
UDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, ADA Curbs, Street Lights

20. COMMUNITY OF TRAVER

20.1 General Information

Traver is a census-designated place located in the northwest portion of Tulare County. It is generally bounded by Avenue 360 in the south, Avenue 368 in the north, State Route (SR) 99 in the west, and Road 44 in the east and encompasses 0.8 square miles of land. It is directly served by SR 99.

Based on the 2010 Census, the population in Traver was 713. Similar to other communities in Tulare County, the population of Traver is racially diverse with 42% White, less than 1% African American, 3% Native American, 1% Asian/Pacific Islander, 50% from other races, and 3% from 2 or more races. 77% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 184 housing units located within Traver, of which 58% are owner-occupied and 42% are renter-occupied.

20.2 Domestic Water & Wastewater

Domestic water and sewer service in Traver is provided by Tulare County. Table 20-1 shows the number of existing water and sewer connections, the capacity of each system, and the number of additional connections the systems can accommodate for new development (Tulare County, January 2014). Mapping of the sewer and water systems is currently unavailable.

TABLE 20-1

Existing Water & Wastewater Connections in Traver

Description of Existing Infrastructure					
Drinking Water*			Waste Water *		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
180	180	0	189	239	50

* Data current as of January 2014

1.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Traver does not currently have a storm drain system. However, a Master Plan was prepared in June 2011. Table 20-2 identifies the location of proposed drainage inlets and sumps in Traver (preferred alternative). Figure 20-1 also displays this information graphically.

TABLE 20-2

Proposed Storm Drainage Facilities in Traver

Location of Proposed Storm Drainage Facilities			
No.	**East-West Roadway**	**North-South Roadway**	**Type**
1	Between Kitchner Drive and Avenue 360	Burke Drive	Inlet
2	Bullard Drive	Church Drive	Inlet
3	Bullard Drive	Church Drive	Inlet
4	Bullard Drive	Between Bowhay Drive and Baker Drive	Inlet
5	Jacobs Drive	Burke Drive	Inlet
6	Kitchner Drive	Zante Drive	Inlet
7	Kitchner Drive	Between Zante Drive and Church Drive	Inlet
8	Merritt Drive	Burke Drive	Inlet
9	Merritt Drive	Burke Drive	Inlet
10	Merritt Drive	East of Bowhay Drive	Inlet
11	South of Kitchner Drive	Burke Drive	Inlet

(Source: County of Tulare Public Works, 2014)

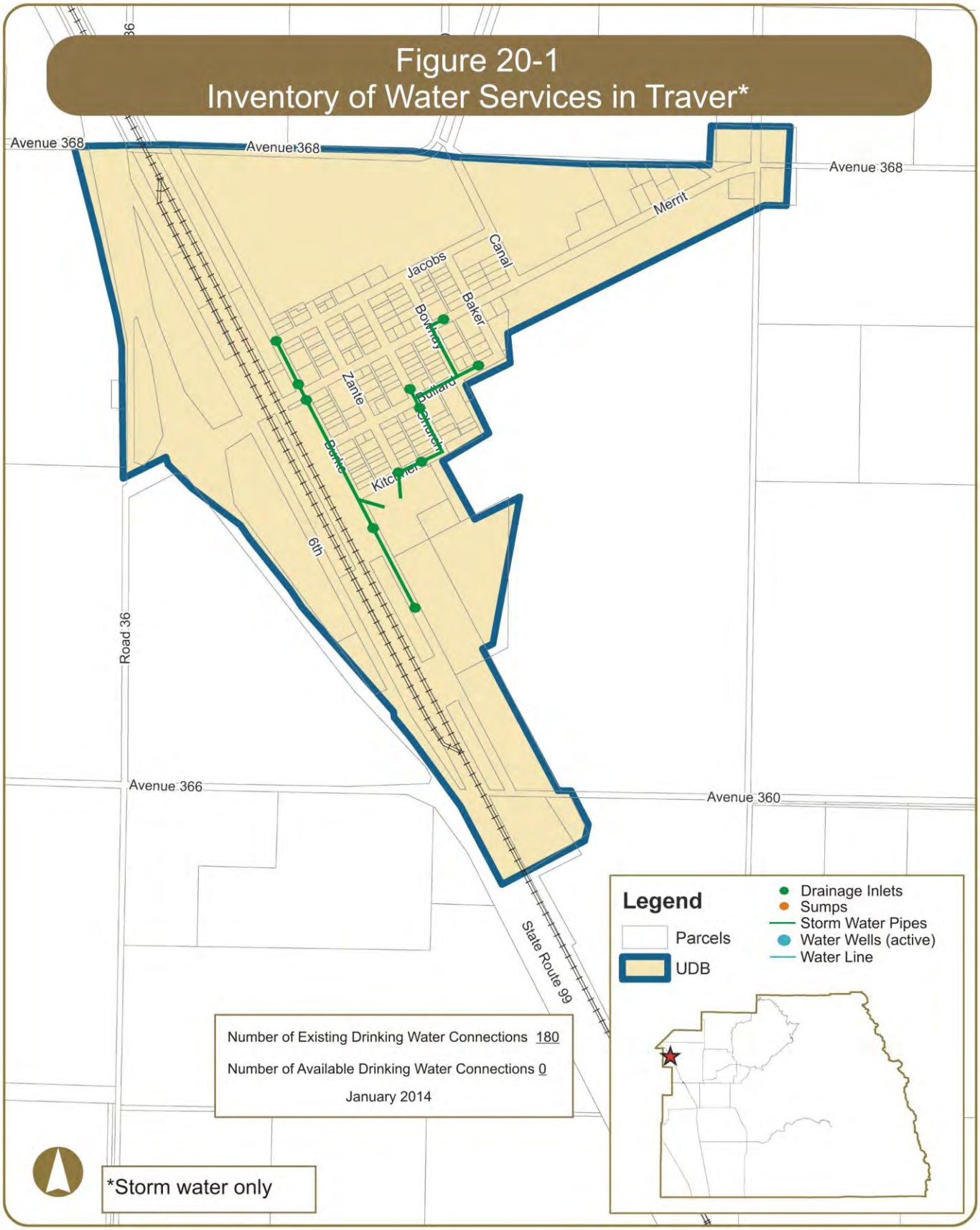


Figure 20-1
Inventory of Water Services in Traver*
Avenue 368
Avenue 368
Avenue 368
Merrit
Canal
Jacobs
Baker
Bowley
Zante
Bullard
Church
Burke
Kitchner
6th
Road 36
Avenue 366
Avenue 360
State Route 99
Legend
Parcels
UDB
Drainage Inlets
Sumps
Storm Water Pipes
Water Wells (active)
Water Line
Number of Existing Drinking Water Connections 180
Number of Available Drinking Water Connections 0
January 2014
*Storm water only

20.4 Roads

There are various roadways in Traver that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 20-3 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 20-2 graphically displays this information on a map.

TABLE 20-3

Roads in Need of Major and Medium Repair in Traver

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	6th Street	SR 99 to Avenue 368	CHIP
2	Avenue 368	Merritt Drive to Road 44	CHIP
3	Baker Drive	Bullard Drive to Merrit Drive	GRX
4	Baker Drive	Merritt Drive to Jacobs Drive	CHIP
5	Bullard Drive	Burke Drive to Baker Drive	CHIP
6	Burke Drive	Jacobs Drive to Avenue 368	CHIP
7	Church Drive	Kitchner Drive to Jacobs Drive	CHIP
8	Merritt Drive	SR 99 SB Ramps to 6th Street	OLAY
9	Zante Drive	Kitchner Drive to Merritt Drive	CHIP
10	Zante Drive	Merritt Drive to Jacobs Drive	GRX

(Source: County of Tulare Public Works, 2012)

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

20.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are several ADA compliant curb ramps located within Traver and are listed in Table 20-4 and displayed in Figure 20-2.

TABLE 20-4
Existing ADA Curb Ramps in Traver

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
1	Jacobs Drive	Canal Drive	NE Corner
2	Merritt Drive	Willis Court	NE Corner
3	Merritt Drive	Willis Court	NW Corner

(Source: County of Tulare Public Works, August 2013)

20.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in clear width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 20-5 identifies the location of existing sidewalks in Traver. Figure 20-2 also displays this information graphically. The sidewalks represented in Table 20-5 and Figure 20-2 do not distinguish between ADA compliant

sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 20-5
Existing Sidewalks in Traver

Location of Existing Sidewalks			
No.	Roadway	Limits	Location
1	Canal Drive	Jacobs Drive to Avenue 368	East side
2	Merritt Drive	West of Willis Court to Willis Court	North side
3	Willis Court	Merritt Drive to north end	East side
4	Willis Court	Merritt Drive to north end	West side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

20.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 20-6 identifies the location of existing street lights that are maintained by Tulare County, in Traver, as well as their specifications. Figure 20-2 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type “W” represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 20-6
Existing Street Lights in Traver

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Bullard Drive	Burke Drive	NE Corner	792	5800	W	W	PG&E
2	Bullard Drive	Church Drive	NE Corner	793	5800	W	W	PG&E
3	Bullard Drive	Baker Drive	NW Corner	802	5800	W	E	PG&E
4	Jacobs Drive	Zante Drive	SE Corner	799	5800	W	N	PG&E
5	Kitchner Drive	Church Drive	NE Corner	800	5800	W	W	PG&E
6	Merritt Drive	Burke Drive	SE Corner	794	5800	W	N	PG&E
7	Merritt Drive	Zante Drive	NW Corner	795	5800	W	S	PG&E
8	Merritt Drive	Church Drive	NE Corner	796	5800	W	S	PG&E
9	Merritt Drive	Bowhay Drive	NW Corner	797	5800	W	S	PG&E
10	Merritt Drive	Baker Drive	NW Corner	798	5800	W	S	PG&E

TABLE 20-6 (Continued)
Existing Street Lights in Traver

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
11	Merritt Drive	Canal Drive	NE Corner	801	5800	W	S	PG&E
12	Merritt Drive	SR 99 NB Ramps	NE Corner	N/A	N/A	N/A	W	PG&E
13	Merritt Drive	SR 99 NB Ramps	NW Corner	N/A	N/A	N/A	S	PG&E
14	Merritt Drive	SR 99 NB Ramps	SE Corner	965	5800	W	N	PG&E

(Source: Tulare County Public Works, March 2013)

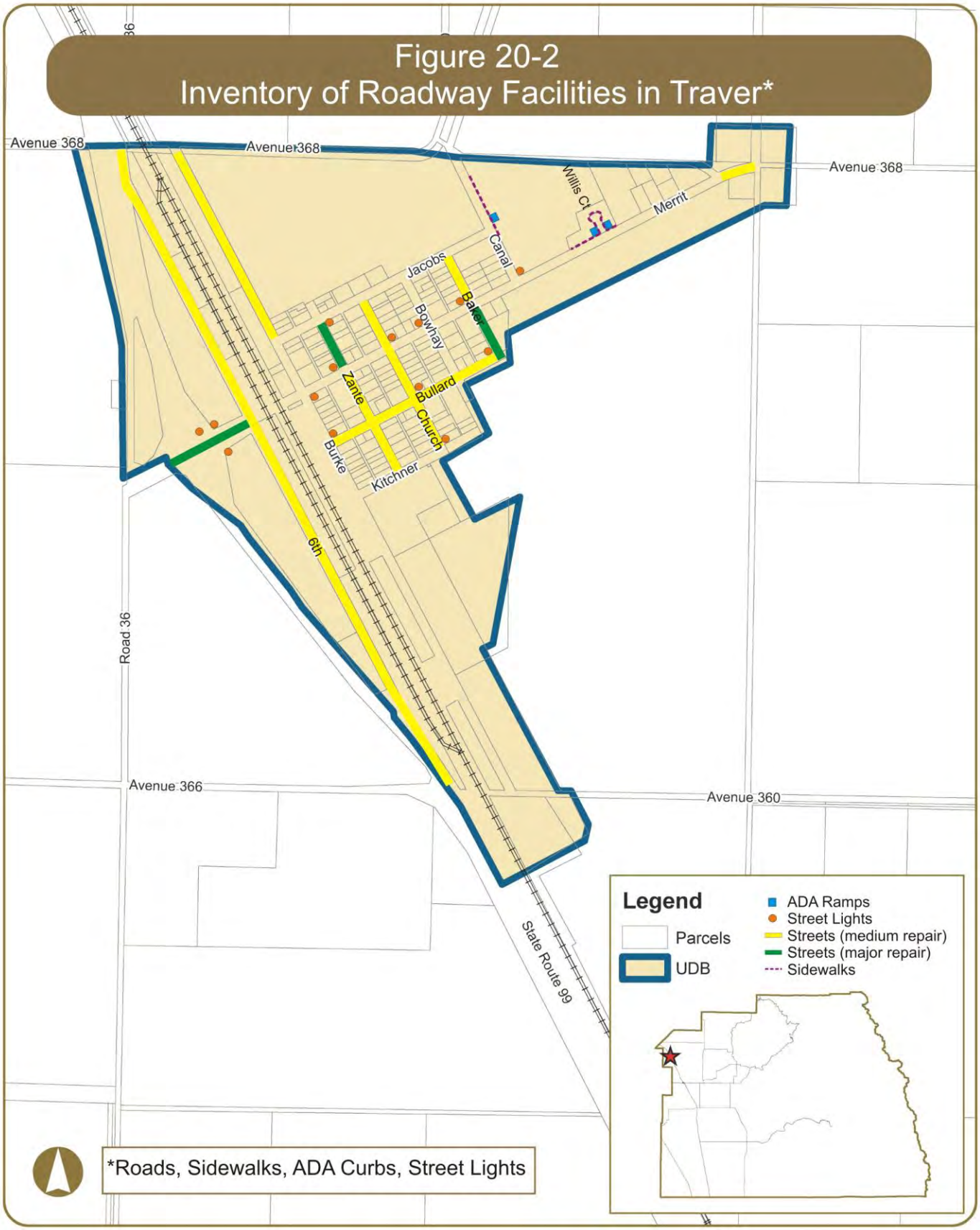


Figure 20-2
Inventory of Roadway Facilities in Traver*
Avenue 368
Avenue 368
Avenue 368
Willis Ct
Merrit
Canal
Jacobs
Baker
Bowhay
Zante
Bullard
Church
Burke
Kitchner
6th
Road 36
Avenue 366
Avenue 360
State Route 99
Legend
Parcels
UDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, ADA Curbs, Street Lights

21. COMMUNITY OF WOODVILLE

21.1 General Information

Woodville is a census-designated place located in the southwest portion of Tulare County, and is situated southeast of the Road 152/Avenue 168 intersection. It is generally bounded by Avenue 160 in the south, Avenue 172 in the north, Road 152 in the west, and Road 180 in the east and encompasses 4.4 square miles of land. Woodville is located approximately eight miles northeast of the State Route (SR) 99/Highway 190 interchange. Woodville is an agriculturally oriented service community surrounded on all sides by lands in agricultural production, scattered rural residential uses and vacant land. Cities and communities surrounding Woodville include Porterville to the east, Lindsay to the northeast, Tulare to the northwest, Tipton to the southwest, and Poplar-Cotton Center to the southeast.

Based on the 2010 Census, the population in Woodville was 1,740. Similar to other communities in Tulare County, the population of Woodville is racially diverse with 77% White, less than 1% African American, 2% Native American, less than 1% Asian/Pacific Islander, 19% from other races, and 2% from 2 or more races. 89% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 425 housing units located within Woodville, of which 55% are owner-occupied and 45% are renter-occupied.

21.2 Domestic Water & Wastewater

Domestic water and sewer service in Woodville is provided by the Woodville Public Utilities District (PUD), formed in November 1948. Table 21-1 shows the number of existing water and sewer connections, the capacity of each system, and the number of additional connections the systems can accommodate for new development (Housing Element, May 2012). Figure 21-1 graphically displays the approximate location of water wells and water lines. Figure 21-2 graphically displays the approximate location of the sewer system and wastewater treatment plant.

According to the Municipal Service Review 2006 (MSR), the Woodville PUD operates a water supply and distribution system under the jurisdiction of the California Department of Health Services Division of Drinking Water and Environmental Management, which is responsible for the administration and enforcement of the Safe Drinking Water Act involving those systems in California with more than 200 connections. Woodville PUD staff has indicated that there are approximately 480 connections to the District's water system, which consists of two active wells with a total maximum production efficiency of 1,500 gallons per minute (GPM), and hydro-pneumatic pressure tanks. The PUD's water supply is chlorinated, but has no permanently installed treatment. Based upon the PUD's 2004 Consumer Confidence Report, there is no evidence suggesting that the water supply does not meet Federal drinking water standards.

Assuming 500 equivalent dwelling units (EDUs), in order to meet Tulare County Improvement Standards the Woodville PUD water system would need to be capable of delivering a combined flow rate (from all source and storage facilities) of 1,160 GPM (500 GPM fire flow, and 660 GPM domestic demand) for a

period of two hours while maintaining a minimum pressure of 25 pounds per square inch (PSI) to each lot served; The PUD's water system is capable of delivering a combined source flow of 1,500 GPM, indicating that the PUD's water system meets the requirements of the Tulare County Improvement Standards. Prior to granting any sphere of influence (SOI) amendments that would increase demand for water services provided by the PUD, the PUD's engineer should provide evidence that the increase in demand would not result in substandard pressures, or inadequate supply capacity for the remainder of the system.

Based upon a calculation performed in accordance with General Order 103, published by the California Public Utilities Commission, it is estimated that the PUD's water system is capable of supporting approximately 350 additional equivalent dwelling units. It should be noted that there could be special circumstances (i.e. distribution system pressure constraints) that could significantly affect this result, and a complete assessment should be completed by the District Engineer prior to the approval of additional connections.

The Woodville PUD is also responsible for providing sanitary sewer service to residents within its Boundary. Woodville PUD staff has indicated that there are approximately 480 connections to their sewer system. The PUD owns and operates a Wastewater Treatment Facility (WWTF) southwest of the community, which is operated under the provisions of Waste Discharge Requirements Order No. 86-108, issued by the Regional Water Quality Control Board (RWQCB). The PUD's WWTF is currently operating in full compliance with the requirements of Order No. 86-108.

Treatment and disposal of wastewater bio-solids are regulated by a broad and complicated body of regulations developed by the Environmental Protection Agency (EPA), and are commonly referred to as the 503B rule. According to the Engineer for the Woodville PUD, the District was not in compliance in 2006 with the 503B rule pertaining to sludge handling. The PUD had plans to construct sludge drying beds in 2007 and 2008 in order to achieve compliance with the 503B rule.

Order No. 86-108 prescribes that the monthly average daily dry weather discharge flow shall not exceed 0.33 million gallons per day (MGD). Available data indicates that current average dry weather flow at the WWTF is 0.12 MGD, indicating that the WWTF is currently operating at about 36% of its capacity. Using the ratio of the current number of connections to the current flow, and assuming 90% of permitted flow to be "at capacity", it is estimated that the PUD's WWTF could support a total of 1,160 connections (in terms of equivalent dwelling units), or a total population of about 4,100. The PUD should begin planning for expansions to its WWTF when actual flows reach 75% of the plant capacity. This will allow the PUD time to secure funding for and implement capital improvements to its WWTF before reaching its capacity.

TABLE 21-1

Existing Water & Wastewater Connections in Woodville

Description of Existing Infrastructure					
Drinking Water*			Waste Water *		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
480	830	350	480	1,160	680

* Data current as of May 2012

21.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Table 21-2 identifies the location of drainage inlets and sumps in Woodville. Figure 21-1 also displays this information graphically.

TABLE 21-2

Existing Storm Drainage Facilities in Woodville

Location of Existing Storm Drainage Facilities			
No.	**East-West Roadway**	**North-South Roadway**	**Type**
1	South of Oak Avenue	Road 164	Inlet

(Source: County of Tulare Public Works, 2014)

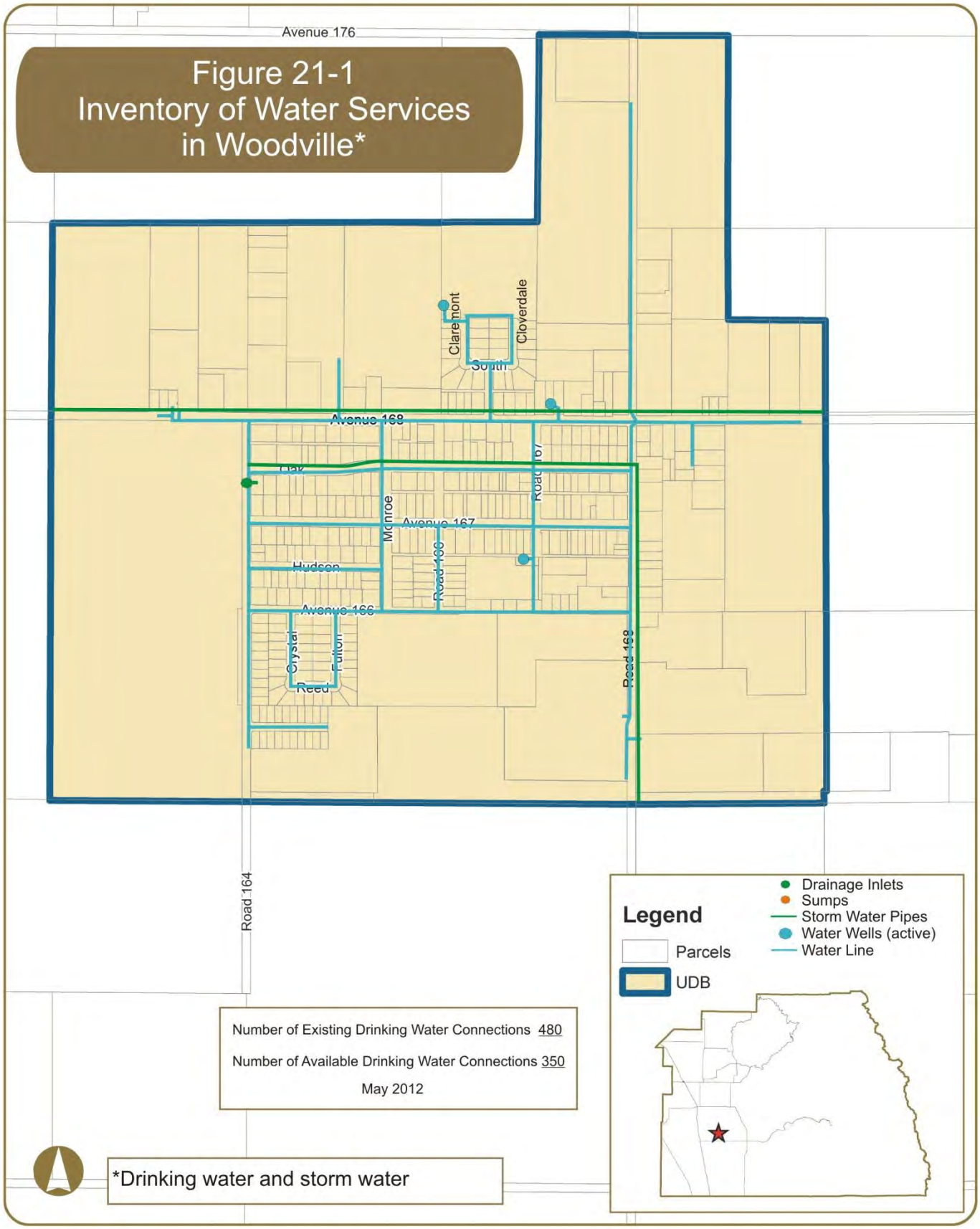


Figure 21-1
Inventory of Water Services in Woodville*
Avenue 176
Claremont
Cloverdale
South
Avenue 168
Oak
Road 167
Monroe
Avenue 167
Hudson
Road 166
Avenue 166
Crystal
Fulton
Reed
Road 168
Road 164
Legend
Parcels
UDB
Drainage Inlets
Sumps
Storm Water Pipes
Water Wells (active)
Water Line
Number of Existing Drinking Water Connections 480
Number of Available Drinking Water Connections 350
May 2012
*Drinking water and storm water

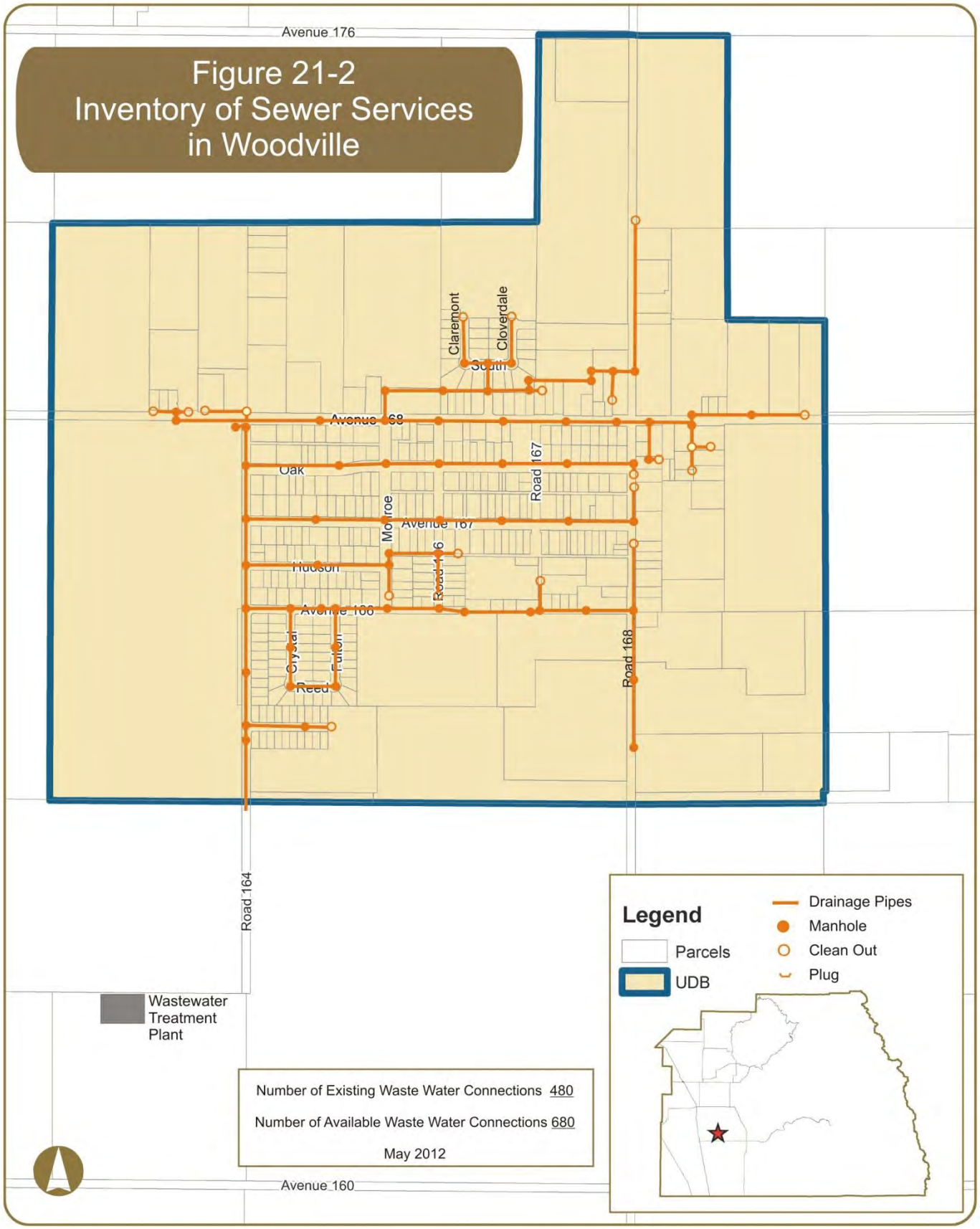


Figure 21-2
Inventory of Sewer Services in Woodville
Avenue 176
Claremont
Cloverdale
South
Avenue 168
Oak
Road 167
Monroe
Avenue 167
Hudson
Road 166
Avenue 166
Crystal
Fulton
Reed
Road 168
Road 164
Avenue 160
Wastewater Treatment Plant
Number of Existing Waste Water Connections 480
Number of Available Waste Water Connections 680
May 2012
Legend
Parcels
UDB
Drainage Pipes
Manhole
Clean Out
Plug

21.4 Roads

There are various roadways in Woodville that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 21-3 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 21-3 graphically displays this information on a map.

TABLE 21-3

Roads in Need of Major and Medium Repair in Woodville

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Avenue 168	Road 164 to Road 168	CHIP
2	Claremont Road	South Avenue to north end	CHIP
3	Cloverdale Road	Avenue 168 to South Avenue	CHIP
4	Cloverdale Road	South Avenue to north end	CHIP
5	Crystal Street	Reed Avenue to Avenue 166	CHIP
6	Fulton Street	Reed Avenue to Avenue 166	CHIP
7	Reed Avenue	Crystal Street to Fulton Street	OLAY
8	Road 168	Avenue 164 to Avenue 167	CHIP
9	Road 168	Avenue 167 to Oak Avenue	OLAY
10	Road 168	Oak Avenue to Avenue 168	CHIP
11	South Avenue	Claremont Road to Cloverdale Road	CHIP
12	Tom Lewis Avenue	Road 166 to east end	CHIP

(Source: County of Tulare Public Works, 2012)

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

21.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are several ADA compliant curb ramps located within Woodville and are listed in Table 21-4 and displayed in Figure 21-3.

TABLE 21-4
Existing ADA Curb Ramps in Woodville

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
1	Avenue 168	Road 167	SE Corner
2	Avenue 168	Road 168	SW Corner
3	Camara Avenue	Road 164	NE Corner
4	Camara Avenue	Road 164	SE Corner
5	Oak Avenue	Road 167	NE Corner
6	Oak Avenue	Road 168	NW Corner

(Source: County of Tulare Public Works, August 2013)

21.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing

conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 21-5 identifies the location of existing sidewalks in Woodville. Figure 21-3 also displays this information graphically. The sidewalks represented in Table 21-5 and Figure 21-3 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 21-5
Existing Sidewalks in Woodville

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
1	Avenue 168	Road 167 to Road 168	South side
2	Camara Avenue	Road 164 to east end	North side
3	Camara Avenue	Road 164 to east end	South side
4	Oak Avenue	Road 167 to Road 168	North side
5	Road 167	Avenue 168 to Oak Avenue	East side
6	Road 168	Avenue 168 through Woodville Elementary School	West side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

21.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 21-6 identifies the location of existing street lights that are maintained by Tulare County, in Woodville, as well as their specifications. Figure 21-3 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type “W” represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 21-6
Existing Street Lights in Woodville

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Avenue 166 alignment	Road 168	East side	281340E	5800	W	W	SCE
2	Avenue 167	Monroe Road	SE Corner	2042033E	5800	W	N	SCE
3	Avenue 167	Road 166	NW Corner	573287E	5800	W	S	SCE
4	Avenue 167	Road 167	NW Corner	1178684E	5800	W	S	SCE
5	Avenue 167	Road 168	East side	1178690E	5800	W	W	SCE
6	Avenue 167	Road 164	NE Corner	410598E	5800	W	W	SCE
7	Avenue 168	Monroe Road	NE Corner	1178688E	5800	W	S	SCE
8	Avenue 168	Road 166	NE Corner	1294508E	5800	W	S	SCE
9	Avenue 168	Cloverdale Road	NE Corner	30247E	5800	W	S	SCE
10	Avenue 168	Road 167	North side	281584E	5800	W	S	SCE
11	Avenue 168	Road 168	NW Corner	281346E	5800	W	E	SCE
12	Avenue 168	East of Road 168	North side	282782E	5800	W	S	SCE
13	Hudson Avenue	Road 164	NE Corner	1572132E	5800	W	W	SCE
14	Hudson Avenue	Monroe Road	NE Corner	1572124E	5800	W	W	SCE
15	Oak Avenue	Road 168	SW Corner	1783169E	5800	W	W	SCE
16	Oak Avenue	Monroe Road	NE Corner	1178687E	5800	W	S	SCE
17	Oak Avenue	Road 166	NW Corner	302483E	5800	W	S	SCE
18	Oak Avenue	Road 167	SW Corner	2331609E	5800	W	N	SCE
19	South Avenue	Cloverdale Road	North side	1134503E	5800	W	S	SCE
20	Tom Lewis Avenue	Monroe Road	NE Corner	2042032E	5800	W	W	SCE
21	Tom Lewis Avenue	Road 166	NE Corner	NO#	5800	W	S	SCE
22	Tom Lewis Avenue	Road 164	SE Corner	2041541E	5800	W	W	SCE
23	Tom Lewis Avenue	Crystal Street	NW Corner	2138558E	5800	W	S	SCE
24	Tom Lewis Avenue	Fulton Street	NE Corner	2138556E	5800	W	S	SCE

(Source: Tulare County Public Works, March 2013)

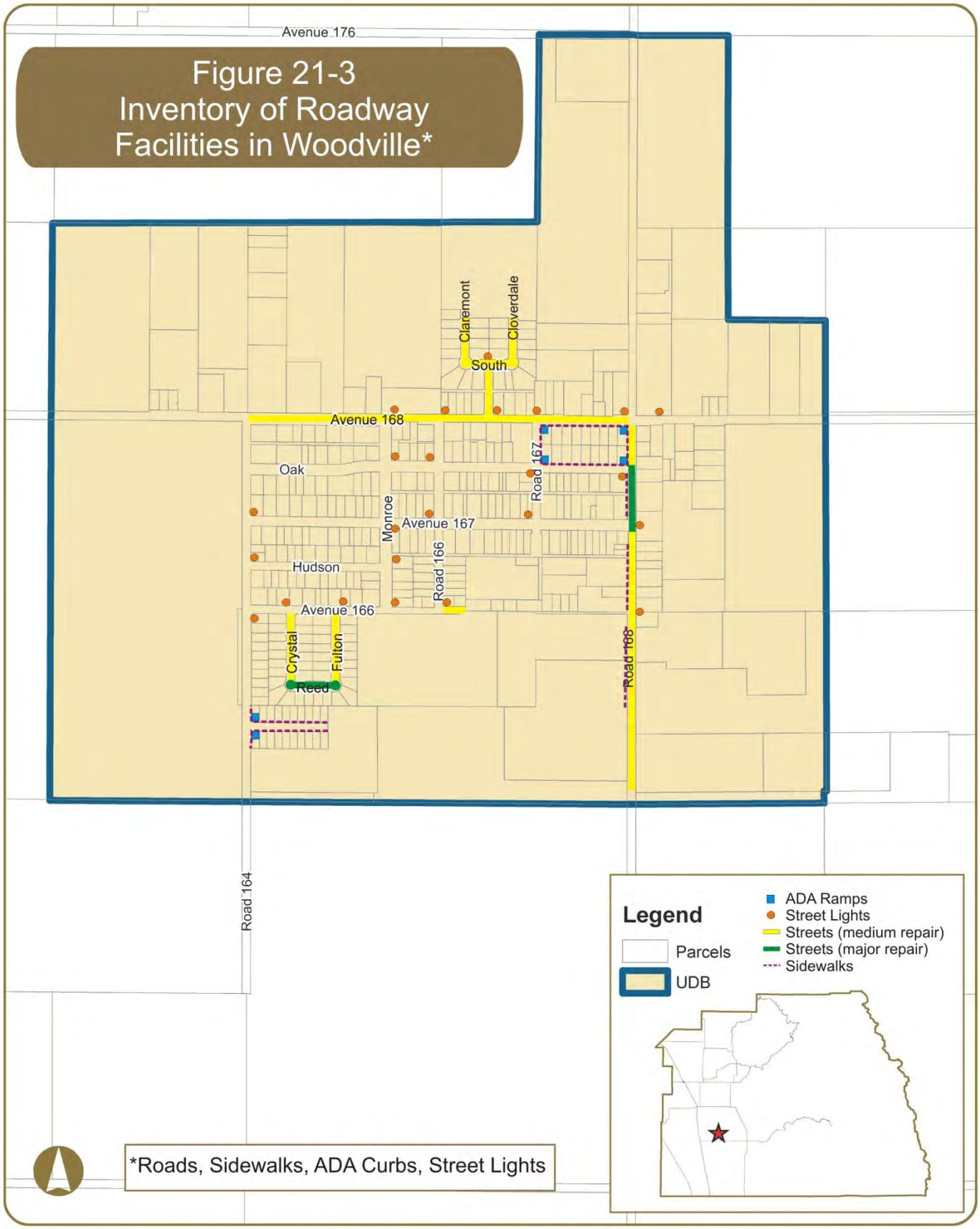


Figure 21-3
Inventory of Roadway Facilities in Woodville*
Avenue 176
Claremont
Cloverdale
South
Avenue 168
Oak
Road 167
Monroe
Avenue 167
Hudson
Road 166
Avenue 166
Crystal
Fulton
Reed
Road 168
Road 164
Legend
Parcels
UDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, ADA Curbs, Street Lights

22. HAMLET OF ALLENSWORTH

22.1 General Information

Allensworth is a census-designated place located in the southwest portion of Tulare County. It is generally bounded by Avenue 24 in the south, Attocks Avenue in the north, Road 76 in the west, and State Route (SR) 43 in the east and encompasses 3.1 square miles of land.

Based on the 2010 Census, the population in Allensworth was 471. Similar to other communities in Tulare County, the population of Allensworth is racially diverse with 34% White, 5% African American, 0% Native American, 2% Asian/Pacific Islander, 59% from other races, and 1% from 2 or more races. 93% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 142 housing units located within Allensworth, of which 49% are owner-occupied and 51% are renter-occupied.

22.2 Domestic Water & Wastewater

Domestic water service in Allensworth is provided by the Allensworth Community Service District (CSD), which was formed in 1967. Allensworth does not have sanitary sewer service and relies on individual or community septic systems. Table 22-1 shows the number of existing water connections, the capacity of the system, and the number of additional connections the system can accommodate for new development (Municipal Service Review, October 2011). Mapping of the water system is currently unavailable.

According to the Municipal Service Review 2011 (MSR), the CSD community water system consists of 2 wells drilled 3 miles east of the community in order to avoid naturally occurring excessive levels of Arsenic in the aquifer underlying the community. The wells are a few hundred feet apart on an east-west line and alternately supply a common 6" line to a 42,000 gallon storage tank. Two centrifugal pumps draw water from the tank to a 5,000 gallon pressure tank and then on to distribution. The wells have a single check valve to prevent back flow to the well from storage. This is an automated system that is triggered by water levels in the storage tank. Wells No. 1 was drilled in 1984 to a depth of 250' and is equipped with a 10 horsepower (hp) submersible pump installed in 1995. Well No. 2 was drilled in 1999 to a depth of 320' and has a 20 hp submersible pump. According to the District's latest Sanitary Survey Report (2008), both wells are properly sealed and secured. The water system contains no treatment method.

There have been upgrades to the distribution system; six 6" PVC mains and six 6" laterals were installed using a 2007 Community Development Block Grant loan in the amount of $24,000. The District is required to conduct bacteriological contaminant testing of water samples on a monthly basis (monthly testing involves several water samples). According to the District's Environmental Health file, from September 2007 to November of 2008 only a single sample tested positive for bacteriological contaminants. Likewise, a single sample returned with positive results in both 2009 and 2010. Notice of violation was submitted by Tulare Environmental Health for total Coliform on January 2011. Results of repeat samples or proof of customers notification of the 2011 violation were not found in the District's Environmental Health file. Notice of violation was also provided in October 2008 for failing to submit Bacteriological sample test results

(testing occurs each month). No violations of excessive Nitrate levels were found in the District's Environmental Health file.

Records indicate that the CSD's water system is continuously in violation of the maximum levels set for Arsenic. Most recently (December 2010), an Environmental Health compliance order was provided to the District for violation of maximum Arsenic levels. The order directs the District to notify all district customers of the violation on a quarterly basis, submit proof of customers notification on a quarterly basis, and submit sample test results to the Tulare Environmental Health Department on a quarterly basis. This order must be followed for as long as the system remains in violation. The order further directs the District to consider various avenues to address the problem and to prepare an action plan, complete with timeline, and submit the plan to the Environmental Health.

On December 29, 2010, the CSD Board adopted Resolution 2010-1109, which imposes a moratorium on new water connections and on the drilling of new wells within district boundaries. According to the resolution, the moratorium was prompted by the high cost associated with pumping groundwater from lower depths as a result of decreased groundwater levels coupled with the District's financial inability to drill new wells and therefore meet existing rate payer demand.

It is determined that the CSD's system is highly vulnerable to Arsenic contamination, as evidenced by the fact that system wells were drilled at their current location (3 miles outside the District's bounds) specifically to avoid naturally occurring excessive levels of Arsenic as well as the numerous notices of violation for excessive Arsenic levels submitted by Tulare Environmental Health. It is further determined that the present groundwater supplies available to the District are inadequate. Unless the incredibly high cost of securing new well sites is passed on to a customer pool that can ill-afford higher rates, decreased groundwater levels coupled with the District's poor financial condition make it highly probable that, absent state or federal grants/loans, the system will experience complete failure in the near future.

As mentioned above, the December 2010 Environmental Health compliance order directs the District to prepare a plan, complete with timeline, to address the Arsenic contamination issue. It is determined that the scope of solutions contained in the action plan also encompass the groundwater level challenge facing the District and the low-income condition of its customer pool.

TABLE 22-1

Existing Water & Wastewater Connections in Allensworth

Description of Existing Infrastructure					
Drinking Water*			Waste Water		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
116	116	0	Septic Only	--	--

* Data current as of October 2011

22.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Allensworth does not currently have a storm drainage system.

22.4 Roads

There are several roadways in Allensworth that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware

- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 22-2 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 22-1 graphically displays this information on a map.

TABLE 22-2

Roads in Need of Major and Medium Repair in Allensworth

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Avenue 39	Road 81 to Road 84	GRX
2	Road 84	Avenue 36 to Avenue 39	GRX

OLAY – overlay resurfacing operation	ACST – asphalt reconstruction
CHIP – chip seal	RCST – cold mix reconstruction
GRX – grind and remix	

(Source: County of Tulare Public Works, 2012)

22.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are no ADA compliant curb ramps located within Allensworth.

22.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in clear width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

There are currently no sidewalks located within Allensworth.

22.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 22-3 identifies the location of existing street lights that are maintained by Tulare County, in Allensworth, as well as their specifications. Figure 22-1 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type "W" represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 22-3
Existing Street Lights in Allensworth

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Avenue 36	Young Road	SW Corner	1343	5800	W	E	SCE
2	Avenue 36	East of Young Road	South Side	1416	5800	W	N	SCE
3	Avenue 36	Road 84	SW Corner	1342	5800	W	E	SCE
4	Avenue 39	Road 84	NW Corner	1401	5800	W	E	PG&E
5	Avenue 39	East of Young Road	South Side	1412	5800	W	N	SCE
6	Avenue 39	Young Road	SW Corner	1413	5800	W	E	SCE
7	Grant Drive	North-west of Road 84	SW Corner	1410	5800	W	E	SCE
8	Grant Drive	Road 84	West Side	1411	5800	W	E	SCE
9	South of Avenue 36	Young Road	East Side	1515	5800	W	W	SCE
10	South of Avenue 39	Young Road	West side	1414	5800	W	E	SCE
11	South of Avenue 39	Road 84	West side	1489	5800	W	E	SCE

(Source: Tulare County Public Works, March 2013)

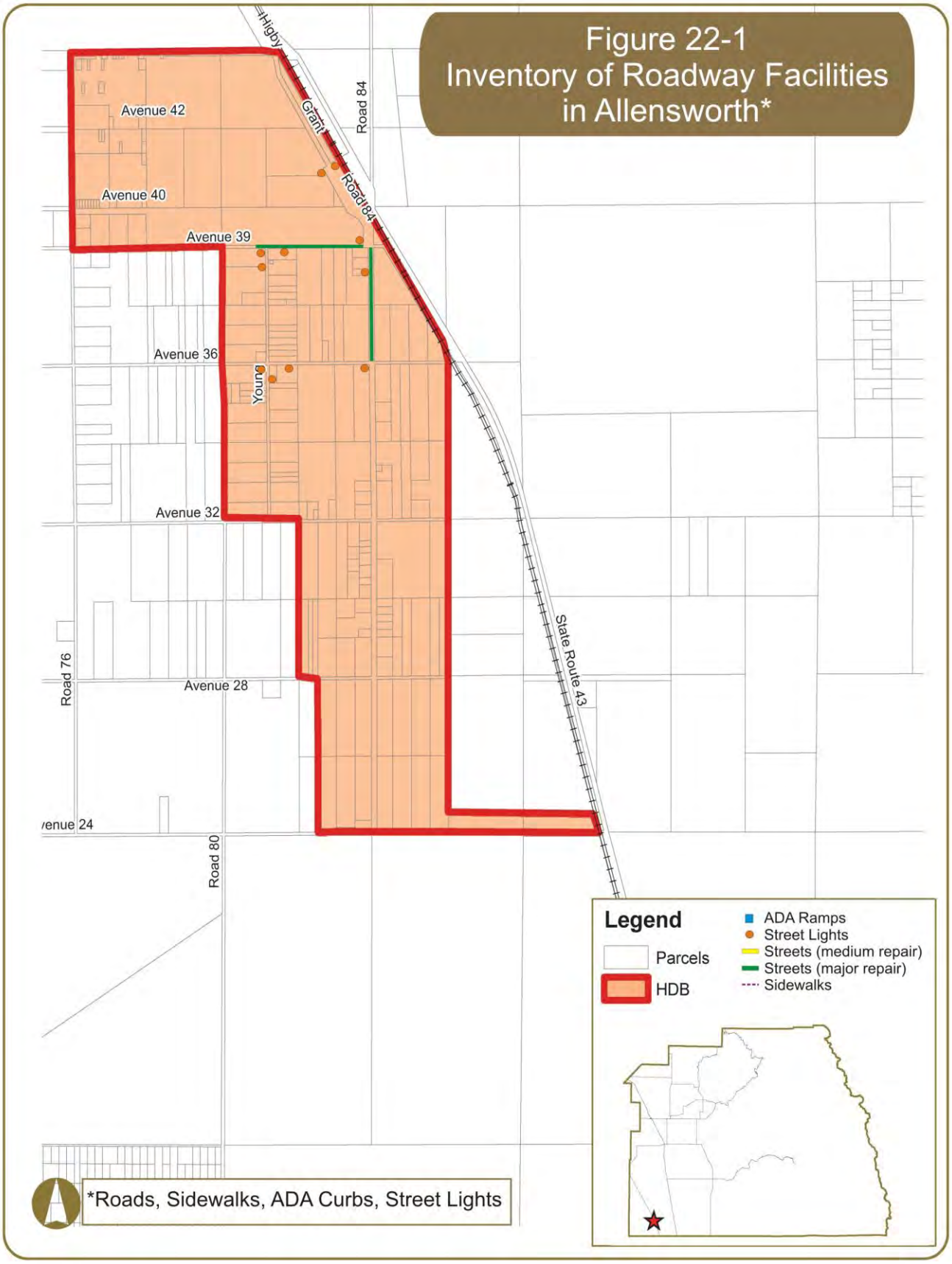


Figure 22-1
Inventory of Roadway Facilities in Allensworth*
Higby
Grant
Road 84
Road 84
Avenue 42
Avenue 40
Avenue 39
Avenue 36
Young
Avenue 32
Avenue 28
Road 76
State Route 43
Road 80
Legend
Parcels
HDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, ADA Curbs, Street Lights

23. HAMLET OF DELFT COLONY

23.1 General Information

Delft Colony is a census-designated place located in the northwest portion of Tulare County. It is generally bounded by south of Payne Avenue in the south, Avenue 400 in the north, Road 56 in the west and encompasses 0.07 square miles of land. It is not directly served by any State Route.

Based on the 2010 Census, the population in Delft Colony was 454. Similar to other communities in Tulare County, the population of Delft Colony is racially diverse with 47% White, 3% African American, 0% Native American, 0% Asian/Pacific Islander, 49% from other races, and 1% from 2 or more races. 94% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 124 housing units located within Delft Colony, of which 50% are owner-occupied and 50% are renter-occupied.

23.2 Domestic Water & Wastewater

Domestic water and sewer service in Delft Colony is provided by Tulare County. Table 23-1 shows the number of existing water and sewer connections, the capacity of each system, and the number of additional connections the systems can accommodate for new development (Tulare County, January 2014). Mapping of the sewer and water systems is currently unavailable.

TABLE 23-1

Existing Water & Wastewater Connections in Delft Colony

Description of Existing Infrastructure					
Drinking Water*			Waste Water *		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
112	112	0	112	142	30

* Data current as of January 2014

23.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Delft Colony does not currently have a storm drainage system.

23.4 Roads

There are several roadways in Delft Colony that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 23-2 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 23-1 graphically displays this information on a map.

TABLE 23-2

Roads in Need of Major and Medium Repair in Delft Colony

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Avenue 397	Road 56 to Road 57	CHIP
2	Avenue 397	Road 57 to Road 58	CHIP
3	Payne Ave	Road 57 to Road 58	CHIP
4	Road 56	Avenue 397 to Lawrence Avenue	CHIP

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

(Source: County of Tulare Public Works, 2012)

23.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are no ADA compliant curb ramps located within Delft Colony.

23.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in clear width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would

create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 23-3 identifies the location of existing sidewalks in Delft Colony. Figure 23-1 also displays this information graphically. The sidewalks represented in Table 23-3 and Figure 23-1 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 23-3
Existing Sidewalks in Delft Colony

Location of Existing Sidewalks			
No.	**Roadway**	**Limits**	**Location**
1	Lawrence	Road 56 to Road 57	North side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

23.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 23-4 identifies the location of existing street lights that are maintained by Tulare County, in Delft Colony, as well as their specifications. Figure 23-1 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type “W” represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 23-4
Existing Street Lights in Delft Colony

Specifications of Existing Street Lights								
No.	**East-West Roadway**	**North-South Roadway**	**Location**	**Pole**	**Lumens**	**Pole Type**	**Arm Direction**	**Utility**
1	Avenue 397	Road 56	NE Corner	1508	9500	W	W	PG&E
2	Avenue 397	Road 57	NE Corner	1507	5800	W	N	PG&E
3	Lawerence Avenue	Road 56	NE Corner	N/A	9500	W	S	SCE
4	Lawerence Avenue	Road 57	NW Corner	1505	5800	W	S	PG&E

(Source: Tulare County Public Works, March 2013)

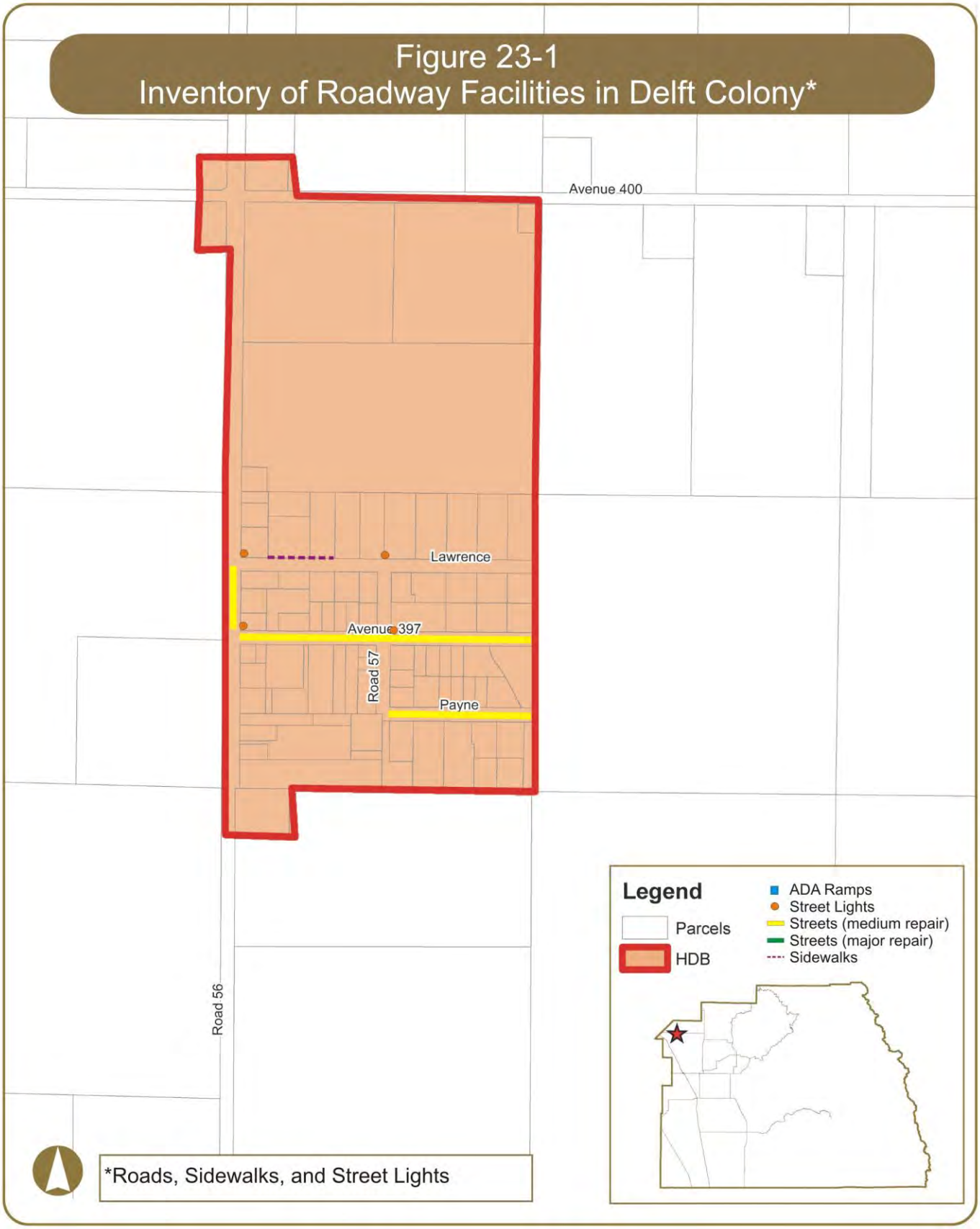


Figure 23-1
Inventory of Roadway Facilities in Delft Colony*
Avenue 400
Lawrence
Avenue 397
Road 57
Payne
Road 56
Legend
Parcels
HDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, and Street Lights

24. HAMLET OF EAST TULARE VILLA

24.1 General Information

East Tulare Villa is a census-designated place located in the western portion of Tulare County. It is generally bounded by Bardsley Avenue in the south, State Route (SR) 137 in the north, Munson Road in the west, and Road 132 in the east and encompasses 0.5 square miles of land. It is directly served by SR 137.

Based on the 2010 Census, the population in East Tulare Villa was 778. Similar to other communities in Tulare County, the population of East Tulare Villa is racially diverse with 63% White, 1% African American, 1% Native American, 1% Asian/Pacific Islander, 29% from other races, and 5% from 2 or more races. 55% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 218 housing units located within East Tulare Villa, of which 60% are owner-occupied and 40% are renter-occupied.

24.2 Domestic Water & Wastewater

Domestic water service in East Tulare Villa is provided by Tulare County. East Tulare Villa does not have sanitary sewer service and relies on individual or community septic systems. Information related to the number of water connections, as well as mapping of the water system, is currently unavailable.

24.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

East Tulare Villa does not currently have a storm drainage system.

24.4 Roads

There are various roadways in East Tulare Villa that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 24-1 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 24-1 graphically displays this information on a map.

TABLE 24-1

Roads in Need of Major and Medium Repair in East Tulare Villa

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Allen Road	Bardsley Avenue to Avenue 226	CHIP
2	Allen Road	Avenue 228 to Gregory Avenue	CHIP
3	Avenue 226	Road 129 (End) to Munson Road	CHIP
4	Avenue 226	Munson Road to Allen Road	CHIP
5	Avenue 226	Allen Road to Road 130 (End)	CHIP

TABLE 24-1 (Continued)
Roads in Need of Major and Medium Repair in East Tulare Villa

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
6	Avenue 230	Allen Road to Brian Road	CHIP
7	Brian Road	Gregory Road to Avenue 230	CHIP
8	Gregory Avenue	Allen Road to Brian Road	CHIP
9	Munson Road	Bardsley Avenue to Avenue 226	CHIP

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

(Source: County of Tulare Public Works, 2012)

24.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are no ADA compliant curb ramps located within East Tulare Villa.

24.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in clear width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced

to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 24-2 identifies the location of existing sidewalks in East Tulare Villa. Figure 24-1 also displays this information graphically. The sidewalks represented in Table 24-2 and Figure 24-1 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 24-2
Existing Sidewalks in East Tulare Villa

Location of Existing Sidewalks			
No.	Roadway	Limits	Location
1	Bardsley Avenue	West of Munson Road to Road 132	South side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

24.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 24-3 identifies the location of existing street lights that are maintained by Tulare County, in East Tulare Villa, as well as their specifications. Figure 24-1 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type "W" represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 24-3
Existing Street Lights in East Tulare Villa

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Avenue 226	Road 130	SE Corner	N/A	N/A	N/A	W	N/A
2	Avenue 228	Brian Road	NW Corner	N/A	5800	W	S	SCE
3	Avenue 228	Road 130	NW Corner	N/A	N/A	N/A	S	N/A
4	Bardsley Avenue	Road 130	NW Corner	N/A	N/A	N/A	S	N/A
5	Gregory Avenue	Brian Road	SW Corner	1982247 E	5800	W	N	SCE

(Source: Tulare County Public Works, March 2013)

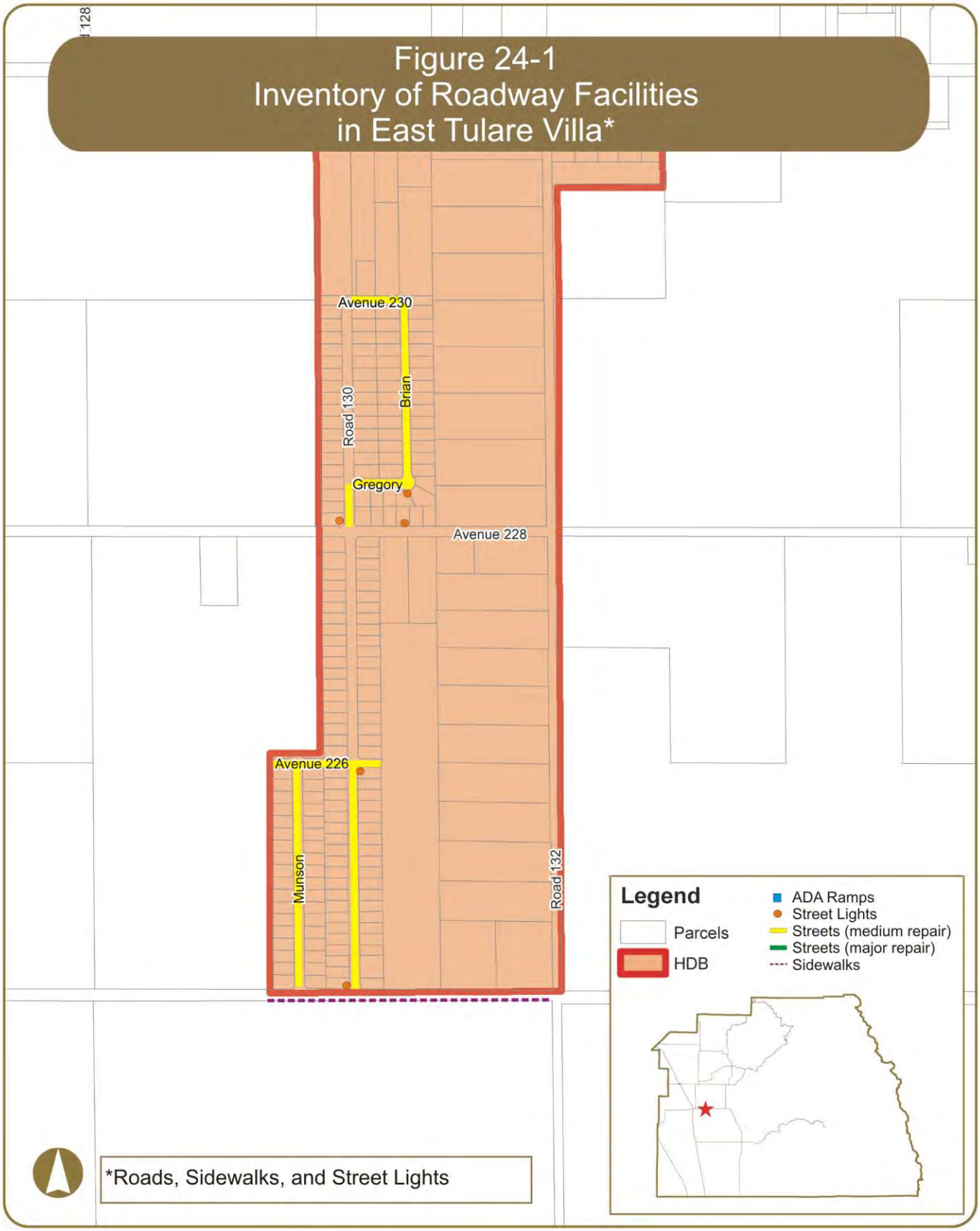


Figure 24-1
Inventory of Roadway Facilities
in East Tulare Villa*
Avenue 230
Road 130
Brian
Gregory
Avenue 228
Avenue 226
Munson
Road 132
Legend
Parcels
HDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, and Street Lights

25. HAMLET OF LINDCOVE

25.1 General Information

Lindcove is a census-designated place located in the northern portion of Tulare County. It is generally bounded by Avenue 312 in the south, Boston Avenue in the north, Road 226 in the west, and Road 228 in the east and encompasses 0.7 square miles of land. It is not directly served by any State Route.

Based on the 2010 Census, the population in Lindcove was 406. Similar to other communities in Tulare County, the population of Lindcove is racially diverse with 70% White, 1% African American, 4% Native American, 0% Asian/Pacific Islander, 24% from other races, and 2% from 2 or more races. 49% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 140 housing units located within Lindcove, of which 66% are owner-occupied and 34% are renter-occupied.

25.2 Domestic Water & Wastewater

Lindcove does not currently have any domestic water service. Lindcove also lacks a sanitary sewer system and is served by individual or community septic systems.

25.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Lindcove does not currently have a storm drainage system.

25.4 Roads

There are several roadways in Lindcove that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 25-1 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 25-1 graphically displays this information on a map.

TABLE 25-1

Roads in Need of Major and Medium Repair in Lindcove

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Avenue 312	Blair Road to Griswold Road	GRX
2	Road 228	Avenue 312 to Carson Avenue	CHIP

OLAY – overlay resurfacing operation	ACST – asphalt reconstruction
CHIP – chip seal	RCST – cold mix reconstruction
GRX – grind and remix	

(Source: County of Tulare Public Works, 2012)

25.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are no ADA compliant curb ramps located within Lindcove.

25.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

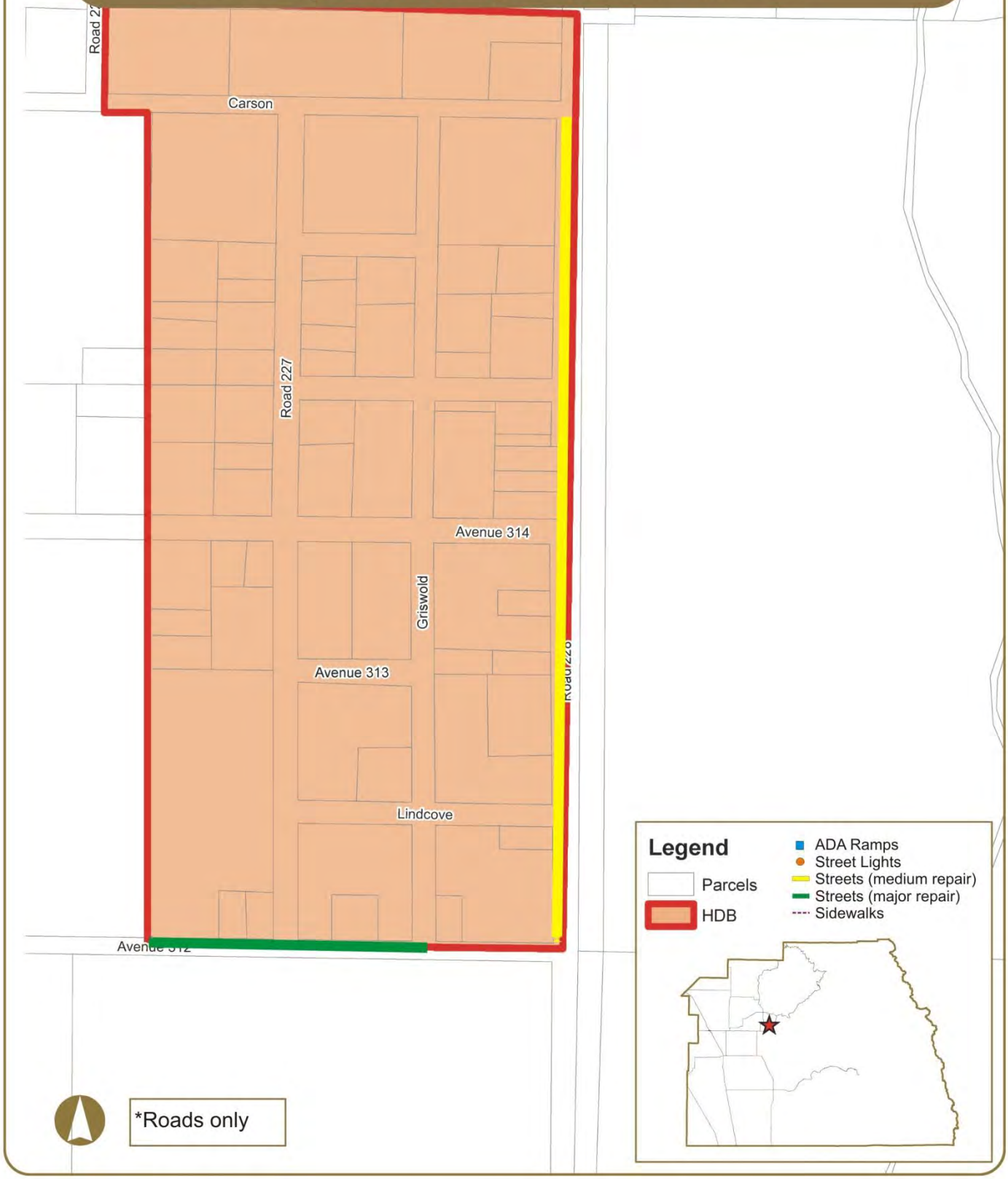
The County and VRPA Technologies surveyed existing sidewalks within the Community. There are currently no sidewalks located within Lindcove.

25.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

There are currently no street lights located within Lindcove.

Figure 25-1
Inventory of Roadway Facilities in Lindcove*



26. HAMLET OF MONSON

26.1 General Information

Monson is a census-designated place located in the northwest portion of Tulare County. It is generally bounded by Avenue 384 in the south, Avenue 388 in the north, Sand Creek in the west, and Road 108 in the east and encompasses 0.5 square miles of land. It is not directly served by any State Route.

Based on the 2010 Census, the population in Monson was 188. Similar to other communities in Tulare County, the population of Monson is racially diverse with 64% White, 1% African American, 3% Native American, 2% Asian/Pacific Islander, 30% from other races, and 0% from 2 or more races. 78% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 52 housing units located within Monson, of which 55% are owner-occupied and 45% are renter-occupied.

26.2 Domestic Water & Wastewater

Monson does not currently have any domestic water service. Monson also lacks a sanitary sewer system and is served by individual or community septic systems.

26.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Monson does not currently have a storm drainage system.

26.4 Roads

There are various roadways in Monson that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 26-1 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 26-1 graphically displays this information on a map.

TABLE 26-1

Roads in Need of Major and Medium Repair in Monson

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Avenue 388	Monson Drive to Road 108	CHIP
2	Monson Drive	Simpson Drive to Road 104	CHIP
3	Monson Drive	Avenue 384 to Simpson Drive	GRX
4	Road 104	Avenue 388 to Monson Drive	CHIP
5	Simpson Drive	Avenue 384 to Monson Drive	CHIP

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

(Source: County of Tulare Public Works, 2012)

26.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are no ADA compliant curb ramps located within Monson.

26.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. There are currently no sidewalks located within Monson.

26.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 26-2 identifies the location of existing street lights that are maintained by Tulare County, in Monson, as well as their specifications. Figure 26-1 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole

numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type "W" represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 26-2
Existing Street Lights in Monson

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Avenue 384	Monson Drive	NE Corner	5	9500	W	S	PG&E
2	Road 104	Monson Drive	NW Corner	2454	9500	W	E	PG&E

(Source: Tulare County Public Works, March 2013)

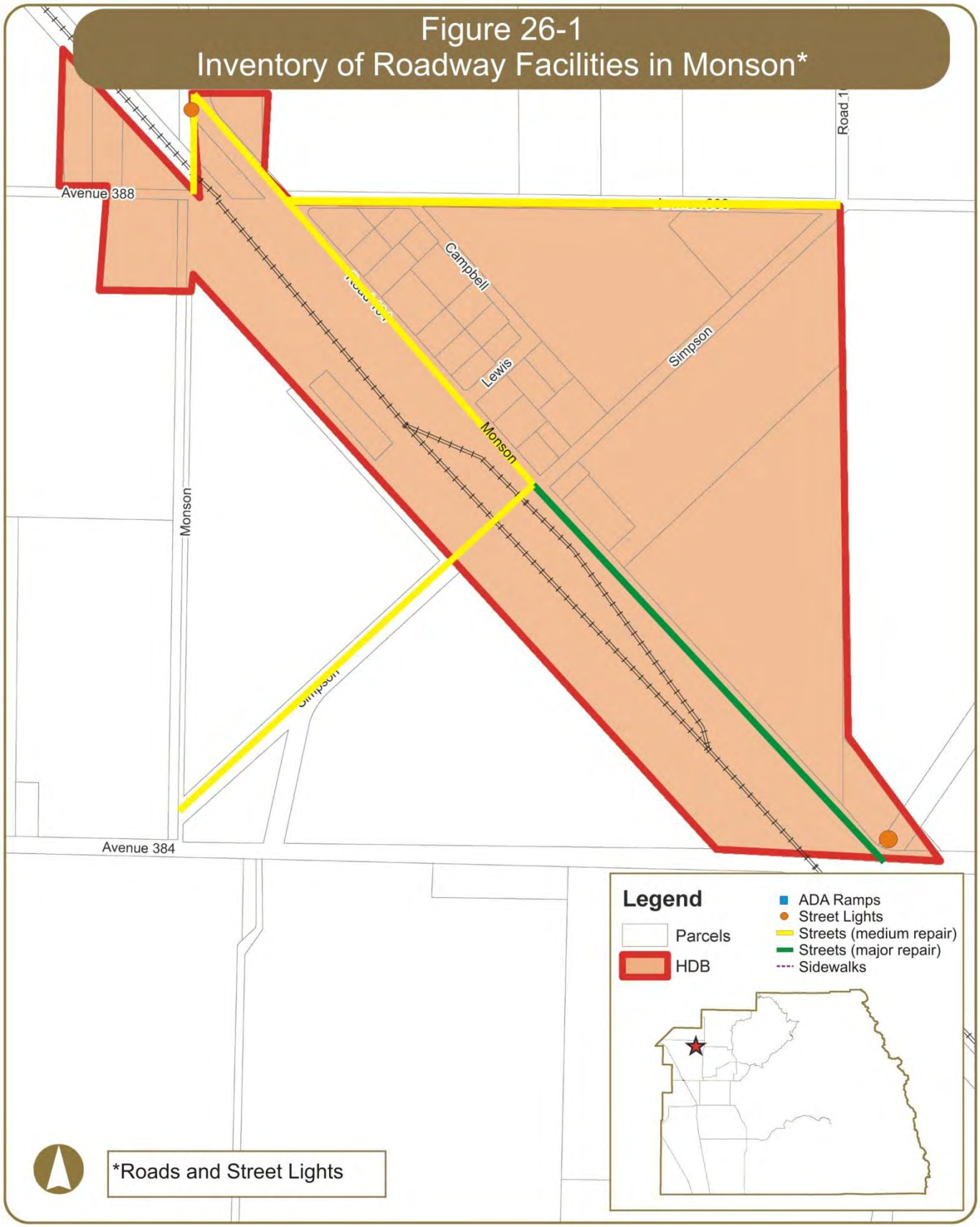


Figure 26-1
Inventory of Roadway Facilities in Monson*
Avenue 388
Road 1
Campbell
Lewis
Simpson
Monson
Monson
Simpson
Avenue 384
Legend
Parcels
HDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads and Street Lights

27. HAMLET OF SEVILLE

27.1 General Information

Seville is a census-designated place located in the northwest portion of Tulare County. It is generally bounded by Inyo Avenue in the south, Avenue 384 in the north, Road 152 in the west, and east of Road 156 in the east and encompasses 0.6 square miles of land. It is directly served by State Route (SR) 201.

Based on the 2010 Census, the population in Seville was 480. Similar to other communities in Tulare County, the population of Seville is racially diverse with 42% White, 0% African American, 1% Native American, 0% Asian/Pacific Islander, 54% from other races, and 3% from 2 or more races. 95% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 115 housing units located within Seville, of which 51% are owner-occupied and 49% are renter-occupied.

27.2 Domestic Water & Wastewater

Domestic water and sewer service in Seville is provided by Tulare County. Table 27-1 shows the number of existing water and sewer connections, the capacity of each system, and the number of additional connections the systems can accommodate for new development (Tulare County, January 2014). Mapping of the sewer and water systems is currently unavailable.

TABLE 27-1

Existing Water & Wastewater Connections in Seville

Description of Existing Infrastructure					
Drinking Water*			Waste Water *		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
114	114	0	99	103	4

* Data current as of January 2014

27.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Seville does not currently have a storm drainage system.

27.4 Roads

There are various roadways in Seville that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 27-2 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 27-1 graphically displays this information on a map.

TABLE 27-2
Roads in Need of Major and Medium Repair in Seville

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Avenue 383	Road 153 to Road 155	CHIP
2	Inyo Avenue	Road 153 to Road 156	CHIP
3	Kern Road	Seville Avenue to Avenue 384	CHIP
4	Road 153	Inyo Avenue to Avenue 381	GRX
5	Road 153	Visalia Avenue to Seville Avenue	GRX
6	Road 153	Seville Avenue to Avenue 384	CHIP
7	Road 155	Inyo Avenue to Seville Avenue	CHIP
8	Seville Avenue	Road 153 to Kern Road	CHIP
9	Visalia Avenue	Road 153 to Road 156 (End)	GRX

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

(Source: County of Tulare Public Works, 2012)

27.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there is one ADA compliant curb ramps located within Seville and are listed in Table 27-3 and displayed in Figure 27-1.

TABLE 27-3
Existing ADA Curb Ramps in Seville

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
1	Avenue 383	Road 156	NW Corner

(Source: County of Tulare Public Works, August 2013)

27.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in clear width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

There are currently no sidewalks located within Seville.

27.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 27-4 identifies the location of existing street lights that are maintained by Tulare County, in Seville, as well as their specifications. Figure 27-1 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type “W” represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 27-4

Existing Street Lights in Seville

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Avenue 383	Road 156	NE Corner	2	5800	W	W	PG&E
2	Seville	Road 156	NE Corner	N/A	5800	W	W	PG&E
3	SR 201	Road 156	NE Corner	11	9500	W	S	PG&E

(Source: Tulare County Public Works, March 2013)

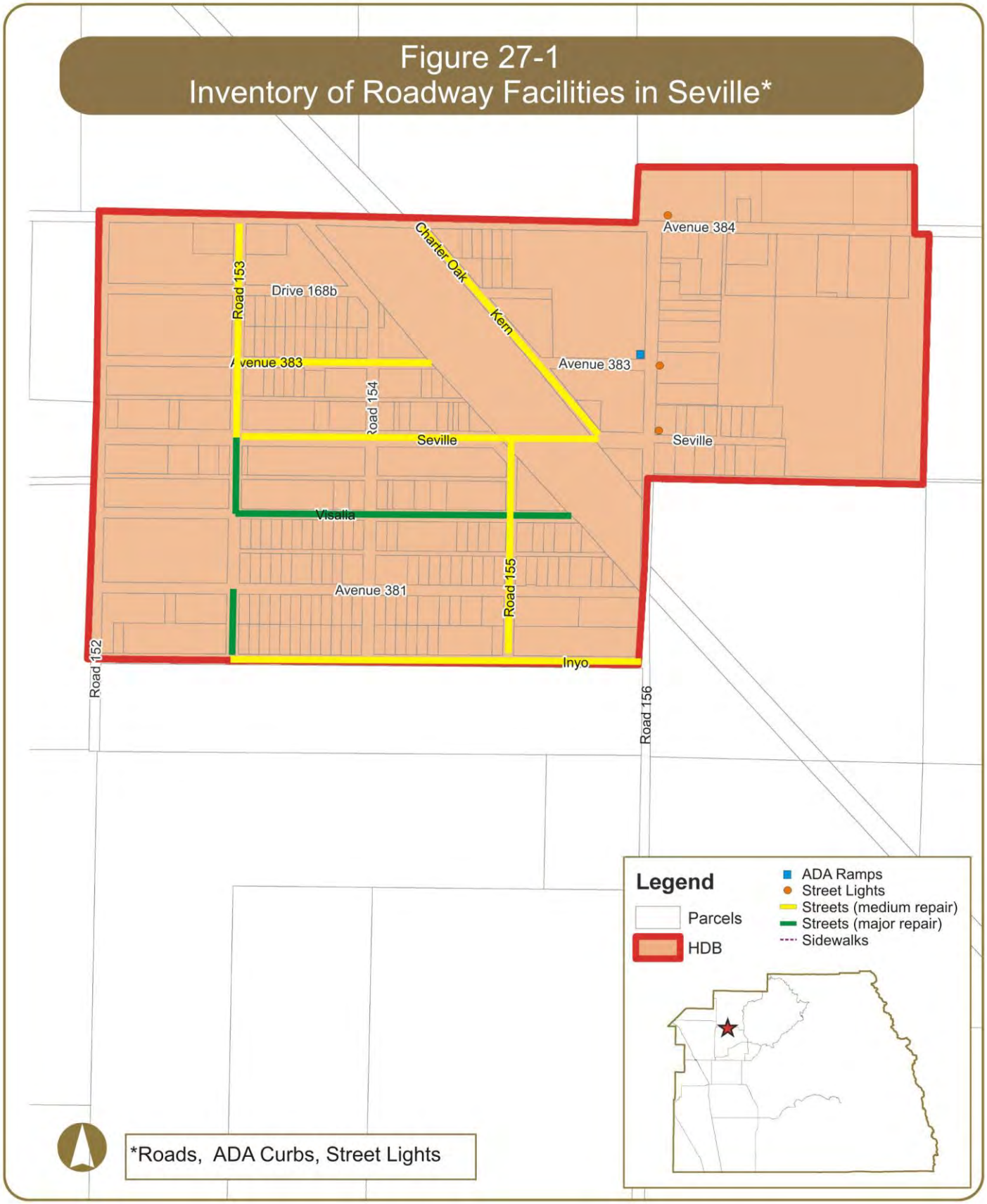


Figure 27-1
Inventory of Roadway Facilities in Seville*
Avenue 384
Charter Oak
Kern
Road 153
Drive 168b
Avenue 383
Avenue 383
Road 154
Seville
Seville
Visalia
Avenue 381
Road 155
Inyo
Road 152
Road 156
Legend
Parcels
HDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, ADA Curbs, Street Lights

28. HAMLET OF TEVISTON

28.1 General Information

Teviston is a census-designated place located in the southwest portion of Tulare County, southwest of Porterville. It is generally bounded by south of Avenue 72 in the south, Avenue 84 in the north, Road 126 in the west, and Road 136 in the east and encompasses 2.2 square miles of land. Teviston is an agriculturally oriented service community surrounded on the north, west and south by lands in agricultural production and on the east by scattered rural residential, agricultural, and vacant land.

Based on the 2010 Census, the population in Teviston was 1,214. Similar to other communities in Tulare County, the population of Teviston is racially diverse with 37% White, 4% African American, 1% Native American, 1% Asian/Pacific Islander, 53% from other races, and 5% from 2 or more races. 86% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 352 housing units located within Teviston, of which 44% are owner-occupied and 56% are renter-occupied.

28.2 Domestic Water & Wastewater

Domestic water service in Teviston is provided by the Teviston Community Services District (CSD), which was formed in November 1956. Teviston lacks a sanitary sewer system and is served by individual or community septic systems. Table 28-1 shows the number of existing water connections, the capacity of the system, and the number of additional connections the system can accommodate for new development (Housing Element, May 2012). Mapping of the water system is currently unavailable.

According to the Municipal Service Review 2006 (MSR), Teviston's water supply is derived from two existing deep underground wells that provide an ample clean water supply requiring no chlorination or treatment. The two wells have a total maximum production efficiency of approximately 900 gallons per minute (GPM).

The Teviston CSD water system supports 105 total connections including 99 residential connections, 4 church connections, 1 school connection, and 1 connection to the community center. In 1998, the District completed several improvements to its water system including replacing old deteriorating water lines, construction of new water lines, installation of fire hydrants throughout the system, installation of meters for all connections, and improvements to the north well site.

The *Preliminary Engineering Report Water System Rehabilitation Project* (Roberts Engineering, November 1995) estimates that the two wells have adequate water supply to support a population of approximately 460 residents, or approximately 125 equivalent dwelling units (EDUs) at a dwelling unit occupancy rate of 3.7 persons per household. It is recommended that the District plan for future water system improvements as the current system reaches its capacity, perhaps through a meter plan, or updated water system study. Potential funding sources should also be identified during the planning process.

Assuming 105 EDUs, in order to meet Tulare County Improvement Standards the Teviston CSD water system would need to be capable of delivering a combined flow rate (from all source and storage facilities) of 857 GPM (500 GPM fire flow and 357 GPM domestic demand) for a period of two hours while maintaining a minimum pressure of 25 pounds per square inch (PSI) to each lot served. The District's water system is capable of delivering a source flow of 900 GPM, and includes pneumatic pressure tanks for storage, indicating that the system currently meets the requirements of the Tulare County Improvement Standards.

TABLE 28-1
Existing Water & Wastewater Connections in Teviston

Description of Existing Infrastructure					
Drinking Water*			Waste Water		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
105	125	20	Septic only	--	--

* Data current as of May 2012

28.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Teviston does not currently have a storm drainage system.

28.4 Roads

There are various roadways in Teviston that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road

pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 28-2 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 28-1 graphically displays this information on a map.

TABLE 28-2

Roads in Need of Major and Medium Repair in Teviston

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Avenue 72	Road 128 to Bishop Drive	CHIP
2	Avenue 72	Road 130 to Road 136	CHIP
3	Avenue 76	Road 132 to Road 134	CHIP
4	Avenue 76	Road 134 to Road 136	RCST
5	Avenue 78	Road 126 to Road 128	CHIP
6	Avenue 80	Road 126 to Bishop Drive	GRX
7	Avenue 80	SR 99 to Road 131	GRX
8	Avenue 80	Road 131 to Road 132	CHIP
9	Avenue 80	Road 132 to Road 136	GRX
10	Avenue 84	Road 128 to Road 132	GRX
11	Avenue 84	Road 132 to Road 136	CHIP
12	Bishop Drive	Avenue 72 to Avenue 80	CHIP
13	Elm Street	SR 99 to Avenue 84	CHIP
14	Road 126	Avenue 78 to Avenue 80	CHIP
15	Road 128	Avenue 72 to Avenue 78	CHIP

TABLE 28-2 (Continued)
Roads in Need of Major and Medium Repair in Teviston

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
16	Road 130	Avenue 72 to Avenue 76	CHIP
17	Road 131	Williams Avenue to Avenue 80	GRX
18	Road 132	Avenue 72 to Williams Avenue	CHIP
19	Road 132	Avenue 80 to Avenue 84	CHIP
20	Road 134	Avenue 72 to Avenue 76	CHIP
21	Road 134	Avenue 80 to Avenue 84 (End)	CHIP
22	Road 136	Avenue 72 to Avenue 84	CHIP
23	SR 99	Avenue 76 to Elm Street	GRX

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

(Source: County of Tulare Public Works, 2012)

28.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are no ADA compliant curb ramps located within Teviston.

28.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk

width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in clear width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

There are currently no sidewalks located within Teviston.

28.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 28-3 identifies the location of existing street lights that are maintained by Tulare County, in Teviston, as well as their specifications. Figure 28-1 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type "W" represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 28-3
Existing Street Lights in Teviston

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Avenue 76	Road 132	NW Corner	1316608E	5800	W	S	SCE
2	Avenue 80	Road 126	SE Corner	854236E	5800	W	N	SCE
3	Avenue 80	Road 131	North Side	Removed	5800	W	S	SCE
4	Avenue 80	Road 132	NW Corner	4477708E	5800	W	S	SCE
5	Avenue 80	Between Road 130 and Road 131	North Side	854393E	5800	W	S	SCE
6	Avenue 80	Between Road 130 and Road 131	North Side	1316587E	5800	W	S	SCE
7	Avenue 84	Road 132	NW Corner	686466E	5800	W	S	SCE
8	Bishop Drive	Avenue 76	SE Corner	1349358E	5800	W	N/A	SCE
9	Bishop Drive	Avenue 80	Pedestrian Overcrossing (NE Corner)	C/T	9500	S	E	SCE
10	Bishop Drive	Avenue 80	Pedestrian Overcrossing (NE Corner)	C/T	5800	S	S	SCE
11	SR 99	Avenue 80	Pedestrian Overcrossing (NE Corner)	N/A	9500	S	W	SCE
12	SR 99	Avenue 80	Pedestrian Overcrossing (NE Corner)	N/A	16000	S	W	SCE
13	Williams	Road 132	SW Corner	1706286E	5800	W	N/A	SCE

(Source: Tulare County Public Works, March 2013)

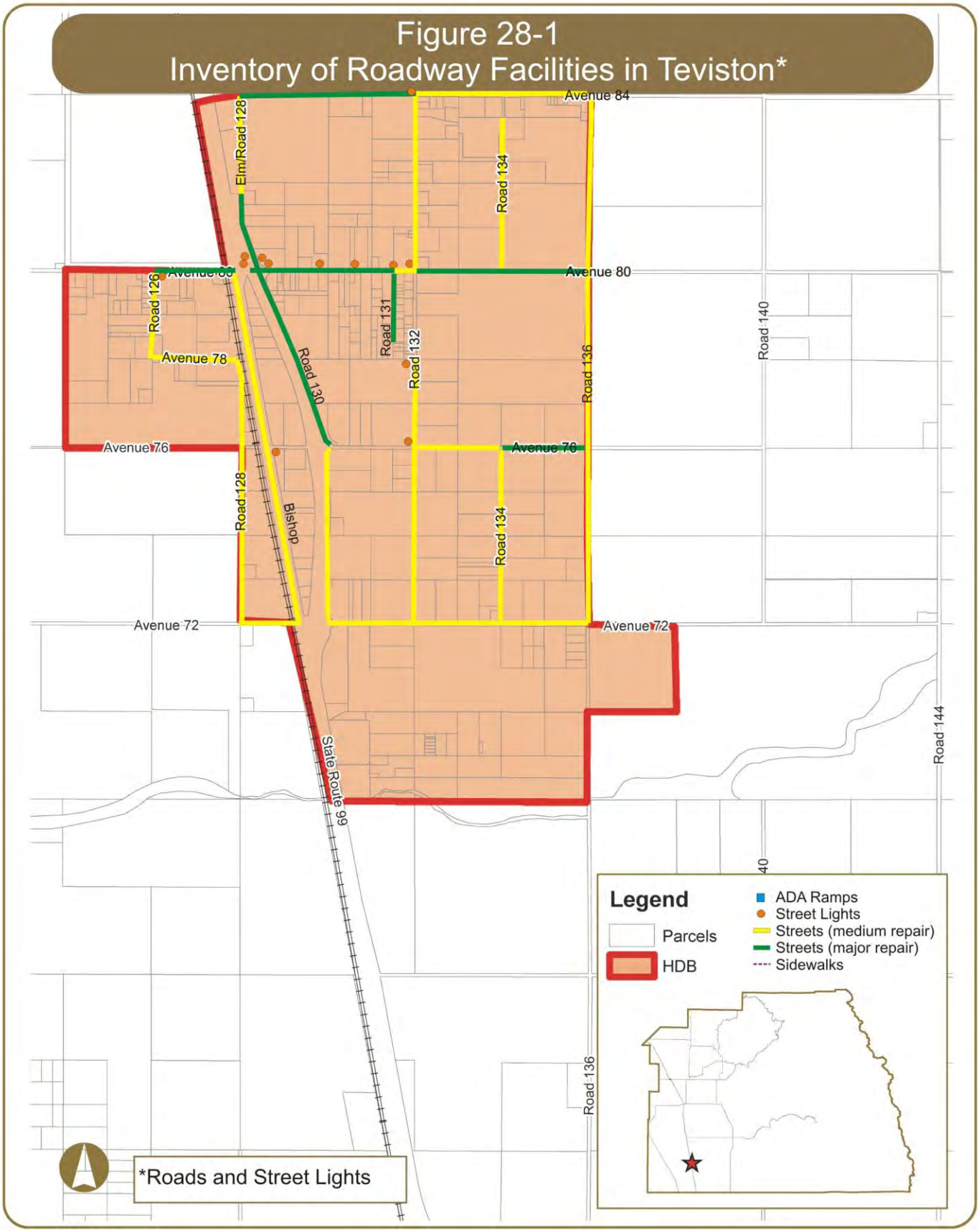


Figure 28-1
Inventory of Roadway Facilities in Teviston*
Avenue 84
Elm/Road 128
Road 134
Avenue 80
Road 126
Avenue 78
Road 131
Road 132
Road 130
Road 136
Road 140
Avenue 76
Avenue 76
Road 128
Bishop
Road 134
Avenue 72
Avenue 72
State Route 99
Road 144
Road 136
Legend
Parcels
HDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads and Street Lights

29. HAMLET OF TONYVILLE

29.1 General Information

Tonyville is a census-designated place located in the western portion of Tulare County. It is generally bounded by Avenue 252 in the south, Avenue 254 in the north, and Road 216 in the west and encompasses 0.05 square miles of land. It is not directly served by any State Route.

Based on the 2010 Census, the population in Tonyville was 316. Similar to other communities in Tulare County, the population of Tonyville is racially diverse with 56% White, 0% African American, 0% Native American, 4% Asian/Pacific Islander, 36% from other races, and 4% from 2 or more races. 91% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 68 housing units located within Tonyville, of which 37% are owner-occupied and 63% are renter-occupied.

29.2 Domestic Water & Wastewater

Domestic water service in Tonyville is provided by the Lindsay-Strathmore Irrigation District (LSID) and sanitary sewer service is provided by Tulare County. Table 29-1 shows the number of existing sewer connections, the capacity of the system, and the number of additional connections the system can accommodate for new development (Housing Element, May 2012). The capacity and number of connections for the water system is unavailable. Figure 29-1 graphically displays the approximate location of water wells and water lines. A map of the sewer system is currently unavailable.

TABLE 29-1

Existing Water & Wastewater Connections in Tonyville

Description of Existing Infrastructure					
Drinking Water			Waste Water *		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
N/A	N/A	N/A	79	170	91

* Data current as of May 2012

29.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a

shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Tonyville does not currently have a storm drainage system.

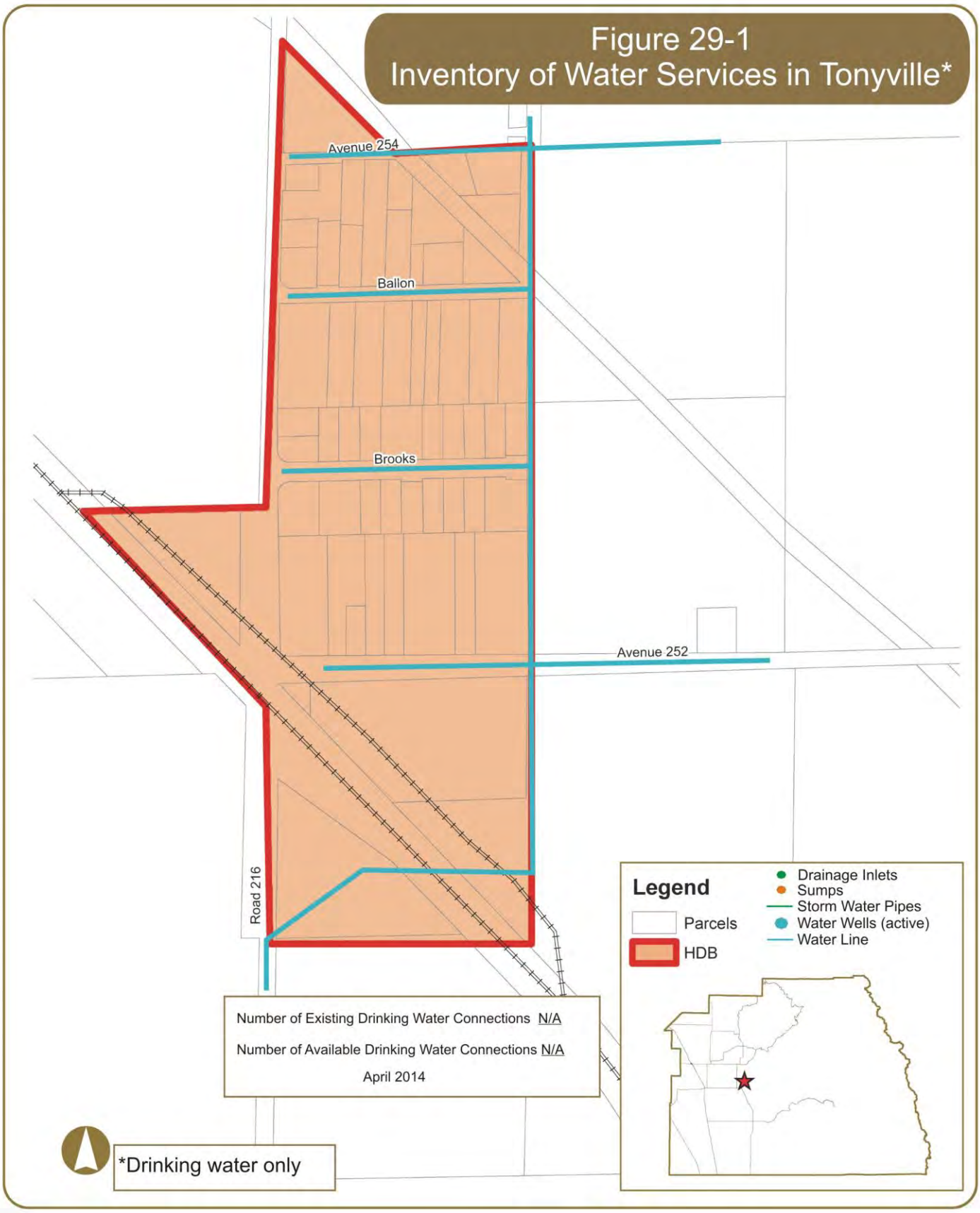


Figure 29-1
Inventory of Water Services in Tonyville*
Avenue 254
Ballon
Brooks
Avenue 252
Road 216
Legend
Parcels
HDB
Drainage Inlets
Sumps
Storm Water Pipes
Water Wells (active)
Water Line
Number of Existing Drinking Water Connections N/A
Number of Available Drinking Water Connections N/A
April 2014
*Drinking water only

29.4 Roads

There are several roadways in Tonyville that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 29-2 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 29-2 graphically displays this information on a map.

TABLE 29-2

Roads in Need of Medium Repair in Tonyville

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Avenue 254	Parkside Avenue to Road 217 (End)	CHIP
2	Parkside Avenue	Brooks Avenue to Avenue 254	CHIP

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

(Source: County of Tulare Public Works, 2012)

29.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are no ADA compliant curb ramps located within Tonyville.

29.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

There are currently no sidewalks located within Tonyville.

29.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 29-3 identifies the location of existing street lights that are maintained by Tulare County, in Tonyville, as well as their specifications. Figure 29-2 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure

the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type "W" represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 29-3
Existing Street Lights in Tonyville

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Avenue 252	Road 216	NE Corner	2272808E	5800	W	W	SCE
2	Avenue 254	Road 216	NE Corner	N/A	5800	W	W	SCE
3	Ballon Avenue	Road 216	NE Corner	562195E	5800	W	W	SCE
4	Ballon Avenue	Road 217	East dead end (N side)	5720287E	5800	W	S	SCE
5	Brooks Avenue	Road 216	NE Corner	2272807E	5800	W	W	SCE
6	Brooks Avenue	Between Road 216 and Road 217	North side	1428827E	5800	W	S	SCE
7	Brooks Avenue	Road 217	East dead end (N side)	722203E	5800	W	S	SCE

(Source: Tulare County Public Works, March 2013)

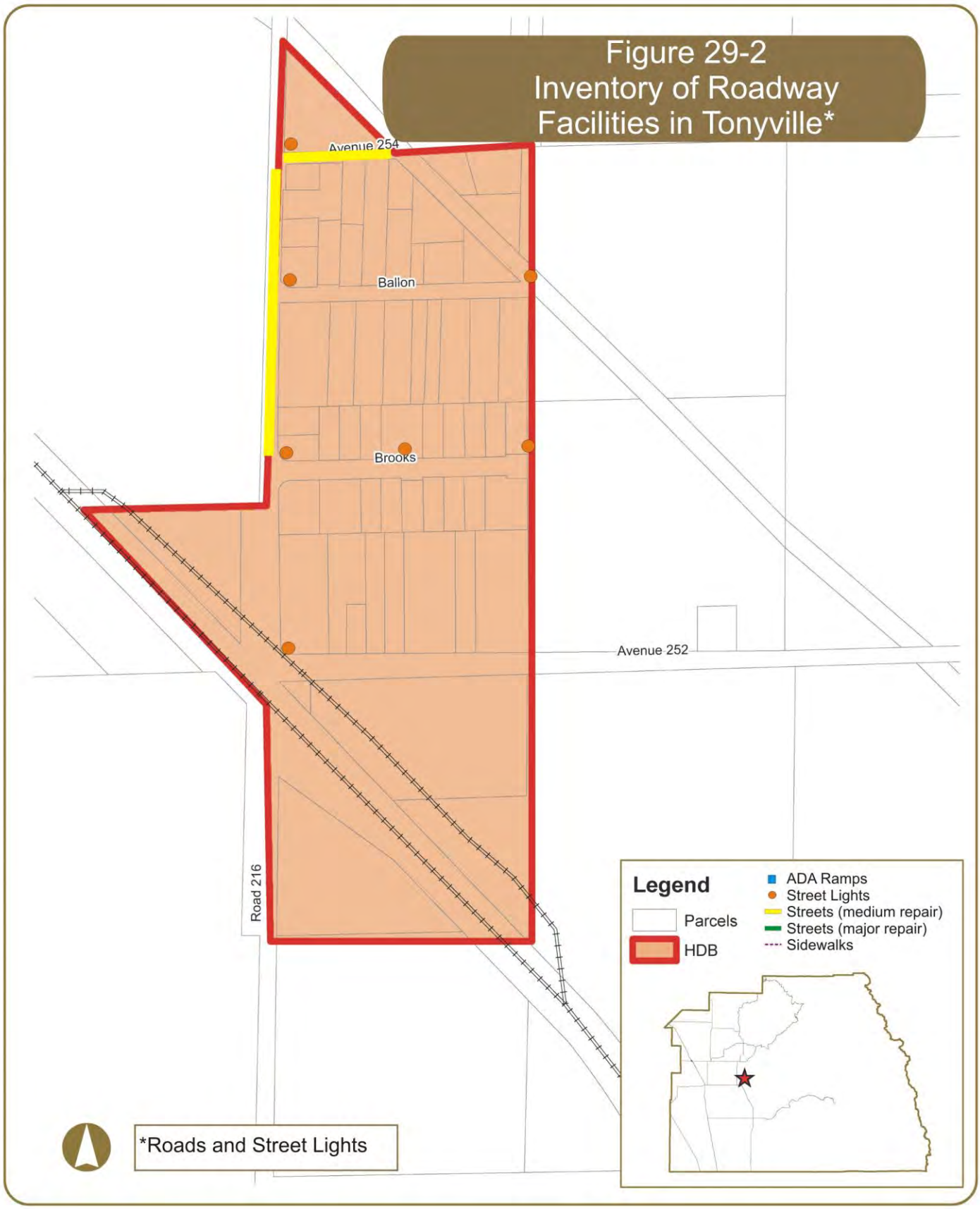


Figure 29-2
Inventory of Roadway Facilities in Tonyville*
Avenue 254
Ballon
Brooks
Avenue 252
Road 216
Legend
Parcels
HDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads and Street Lights

30. HAMLET OF WAUKENA

30.1 General Information

Waukena is a census-designated place located in the western portion of Tulare County. It is generally bounded by Road 24 in the west, Curti Road in the east, and north and south of Avenue 192 and encompasses 0.9 square miles of land. It is directly served by State Route (SR) 137.

Based on the 2010 Census, the population in Waukena was 108. Similar to other communities in Tulare County, the population of Waukena is racially diverse with 80% White, 0% African American, 3% Native American, 0% Asian/Pacific Islander, 18% from other races, and 0% from 2 or more races. 42% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 45 housing units located within Waukena, of which 41% are owner-occupied and 59% are renter-occupied.

30.2 Domestic Water & Wastewater

Domestic water service in Waukena is provided by Tulare County. Waukena does not have sanitary sewer service and relies on individual or community septic systems. Information related to the number of water connections, as well as mapping of the water system, is currently unavailable.

30.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Waukena does not currently have a storm drainage system.

30.4 Roads

There are several roadways in Waukena that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 30-1 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 30-1 graphically displays this information on a map.

TABLE 30-1

Roads in Need of Major and Medium Repair in Waukena

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Balaam Drive	Dawkins Drive to Avenue 192	GRX
2	Dawkins Drive	Stanley Drive to Balaam Drive	CHIP
3	Road 28	Avenue 192 to Stevenson Drive	GRX

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

(Source: County of Tulare Public Works, 2012)

30.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there is one ADA compliant curb ramp located within Waukena and is listed in Table 30-2 and displayed in Figure 30-1.

TABLE 30-2
Existing ADA Curb Ramps in Waukena

Location of Existing ADA Ramps			
No.	**East-West Roadway**	**North-South Roadway**	**Location**
1	South of Stanley Drive	Harmon Road	West Side

(Source: County of Tulare Public Works, August 2013)

30.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in clear width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The County and VRPA Technologies surveyed existing sidewalks within the Community. Table 30-3 identifies the location of existing sidewalks in Waukena. Figure 30-1 also displays this information graphically. The sidewalks represented in Table 30-3 and Figure 30-1 do not distinguish between ADA compliant sidewalks and noncompliant sidewalks. The majority of sidewalks represented below were

constructed prior to current ADA guidelines and would be considered non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

TABLE 30-3
Existing Sidewalks in Waukena

Location of Existing Sidewalks			
No.	Roadway	Limits	Location
1	Harmon Road	Stanley Drive to 300' south	West side
2	Stanley Drive	Dawkins Drive to Harmon Road	South side

(Source: County of Tulare Public Works and VRPA Technologies, February 2014)

30.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 30-4 identifies the location of existing street lights that are maintained by Tulare County, in Waukena, as well as their specifications. Figure 30-1 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type “W” represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 30-4
Existing Street Lights in Waukena

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	Dawkins Drive	Balaam Drive	SW Corner	1486	9500	W	N	PG&E

(Source: Tulare County Public Works, March 2013)

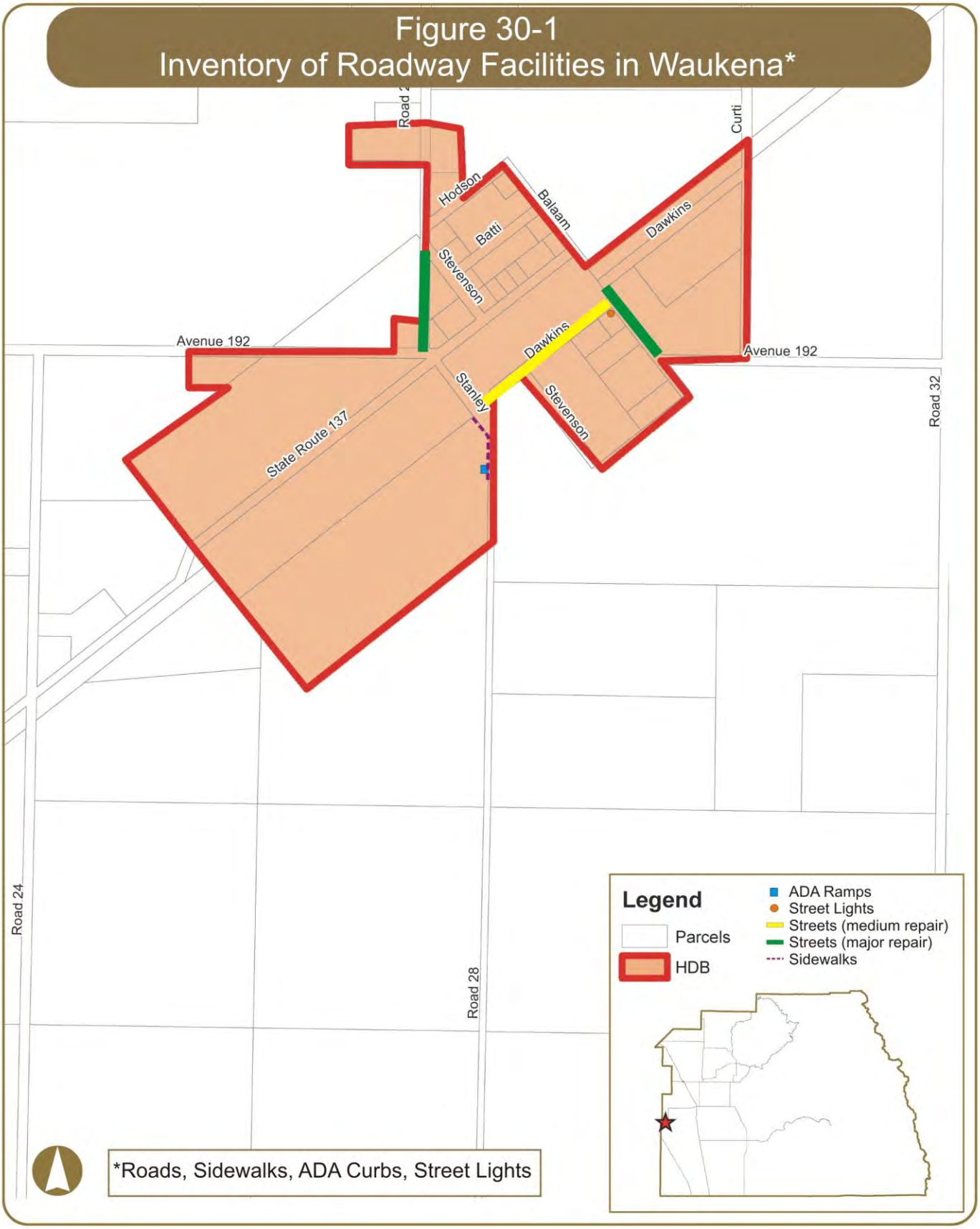


Figure 30-1
Inventory of Roadway Facilities in Waukena*
Road 2
Curti
Hodson
Balaam
Dawkins
Batti
Stevenson
Avenue 192
Dawkins
Avenue 192
Stanley
Stevenson
Road 32
State Route 137
Road 24
Road 28
Legend
Parcels
HDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads, Sidewalks, ADA Curbs, Street Lights

31. HAMLET OF WEST GOSHEN

31.1 General Information

West Goshen is a census-designated place located in the northwest portion of Tulare County. It is generally bounded by Avenue 304 in the south, railroad tracks in the north, 1st Avenue in the west, and west of Markham Road in the east and encompasses 1.2 square miles of land. It is not directly served by any State Route.

Based on the 2010 Census, the population in West Goshen was 511. Similar to other communities in Tulare County, the population of West Goshen is racially diverse with 54% White, less than 1% African American, 2% Native American, 1% Asian/Pacific Islander, 38% from other races, and 4% from 2 or more races. 70% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 1243 housing units located within West Goshen, of which 52% are owner-occupied and 48% are renter-occupied.

31.2 Domestic Water & Wastewater

Domestic water service in West Goshen is soon to be provided by the California Water Service Company (Cal Water). West Goshen does not have sanitary sewer service and relies on individual or community septic systems. Table 31-1 shows the number of existing water connections, the capacity of the system, and the number of additional connections the system can accommodate for new development (Tulare County, January 2014). Mapping of the water system is currently unavailable.

TABLE 31-1

Existing Water & Wastewater Connections in West Goshen

Description of Existing Infrastructure					
Drinking Water*			Waste Water *		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
88	70	0	Septic only	--	--

* Data current as of January 2014

31.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a

shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

West Goshen does not currently have a storm drainage system.

31.4 Roads

There are several roadways in West Goshen that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 31-2 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 31-1 graphically displays this information on a map.

TABLE 31-2
Roads in Need of Major and Medium Repair in West Goshen

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Avenue 308	Road 48 to Road 52	GRX
2	Road 48	Avenue 308 to Avenue 309	GRX
3	Road 52	Avenue 308 to Avenue 309	CHIP

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

(Source: County of Tulare Public Works, 2012)

31.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are no ADA compliant curb ramps located within West Goshen.

31.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in clear width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing

conditions.

There are currently no sidewalks located within West Goshen.

31.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

There are currently no street lights located within West Goshen.

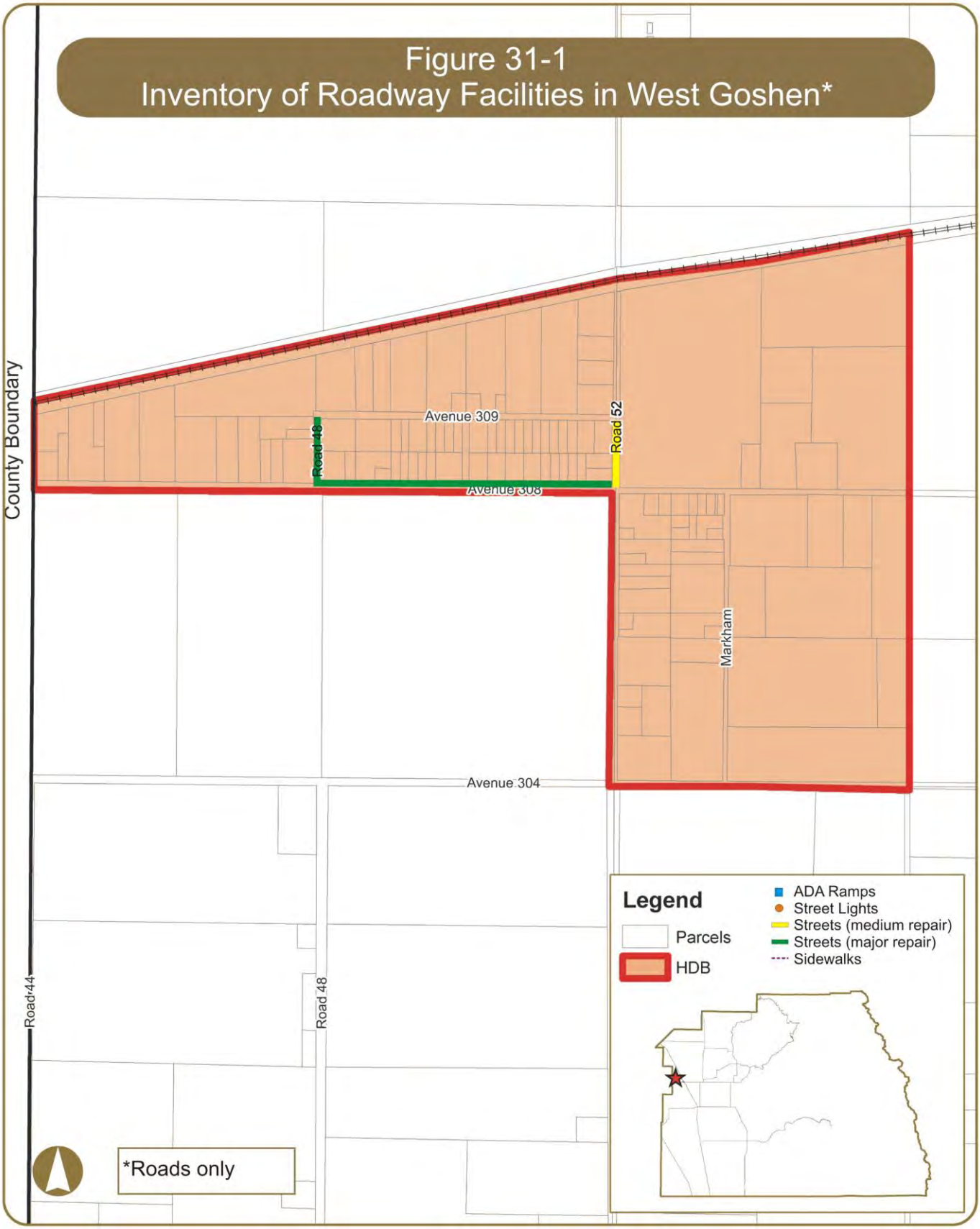


Figure 31-1
Inventory of Roadway Facilities in West Goshen*
County Boundary
Avenue 309
Road 46
Road 52
Avenue 308
Markham
Avenue 304
Road 44
Road 48
Legend
Parcels
HDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads only

32. HAMLET OF YETTEM

32.1 General Information

Yettem is a census-designated place located in the northwest portion of Tulare County. It is generally bounded by Road 140 in the west, Road 144 in the east, and north and south of Avenue 384 and encompasses 0.2 square miles of land. It is not directly served by any State Route.

Based on the 2010 Census, the population in Yettem was 211. Similar to other communities in Tulare County, the population of Yettem is racially diverse with 23% White, 2% African American, 0% Native American, 0% Asian/Pacific Islander, 70% from other races, and 5% from 2 or more races. 94% of the population is Hispanic or Latino of any race.

According to the 2010 Census, there are approximately 62 housing units located within Yettem, of which 26% are owner-occupied and 74% are renter-occupied.

32.2 Domestic Water & Wastewater

Domestic water and sewer service in Yettem is provided by Tulare County. Table 32-1 shows the number of existing water and sewer connections, the capacity of each system, and the number of additional connections the systems can accommodate for new development (Tulare County, January 2014 and Housing Element, May 2012). Mapping of the sewer and water systems is currently unavailable.

TABLE 32-1

Existing Water & Wastewater Connections in Yettem

Description of Existing Infrastructure					
Drinking Water*			Waste Water **		
No. of Existing Connections	Capacity	Available	No. of Existing Connections	Capacity	Available
69	596	527	69	193	124

* Data current as of January 2014

** Data current as of May 2012

32.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

Yettem does not currently have a storm drainage system.

32.4 Roads

There are several roadways in Yettem that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

Table 32-2 lists the roadways in need of repair, the limits, and type of maintenance strategy proposed. Figure 32-1 graphically displays this information on a map.

TABLE 32-2

Roads in Need of Major and Medium Repair in Yettem

Road Maintenance Strategies			
No.	**Roadway**	**Limits**	**Repair Code**
1	Road 140	Avenue 380 to SR 201	RCST
2	Road 140	SR 201 to Avenue 392	GRX

OLAY – overlay resurfacing operation
CHIP – chip seal
GRX – grind and remix
ACST – asphalt reconstruction
RCST – cold mix reconstruction

(Source: County of Tulare Public Works, 2012)

32.5 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are no ADA compliant curb ramps located within Yettem.

32.6 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in clear width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

There are currently no sidewalks located within Yettem.

32.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

Table 32-3 identifies the location of existing street lights that are maintained by Tulare County, in Yettem, as well as their specifications. Figure 32-1 also displays this information graphically. The below table specifies the locations, the pole number, lumens, pole type, arm direction and utility provider. Pole numbers can be arbitrary and are used to match the pole specifications with its location. Lumens measure the amount of light emitted from the bulb (the more lumens the brighter the light). The pole type "W" represents a wood post for which the light is commonly shared with a Utility provider. Similarly, "M" represents metal and "C" represents concrete.

TABLE 32-3

Existing Street Lights in Yettem

Specifications of Existing Street Lights								
No.	East-West Roadway	North-South Roadway	Location	Pole	Lumens	Pole Type	Arm Direction	Utility
1	SR 201	Road 140	North Side	1460	9500	W	S	PG&E
2	SR 201	Road 142	North Side	N/A	9500	W	S	PG&E
3	SR 201	Road 144	NW Corner	1459	9500	W	S	PG&E

(Source: Tulare County Public Works, March 2013)

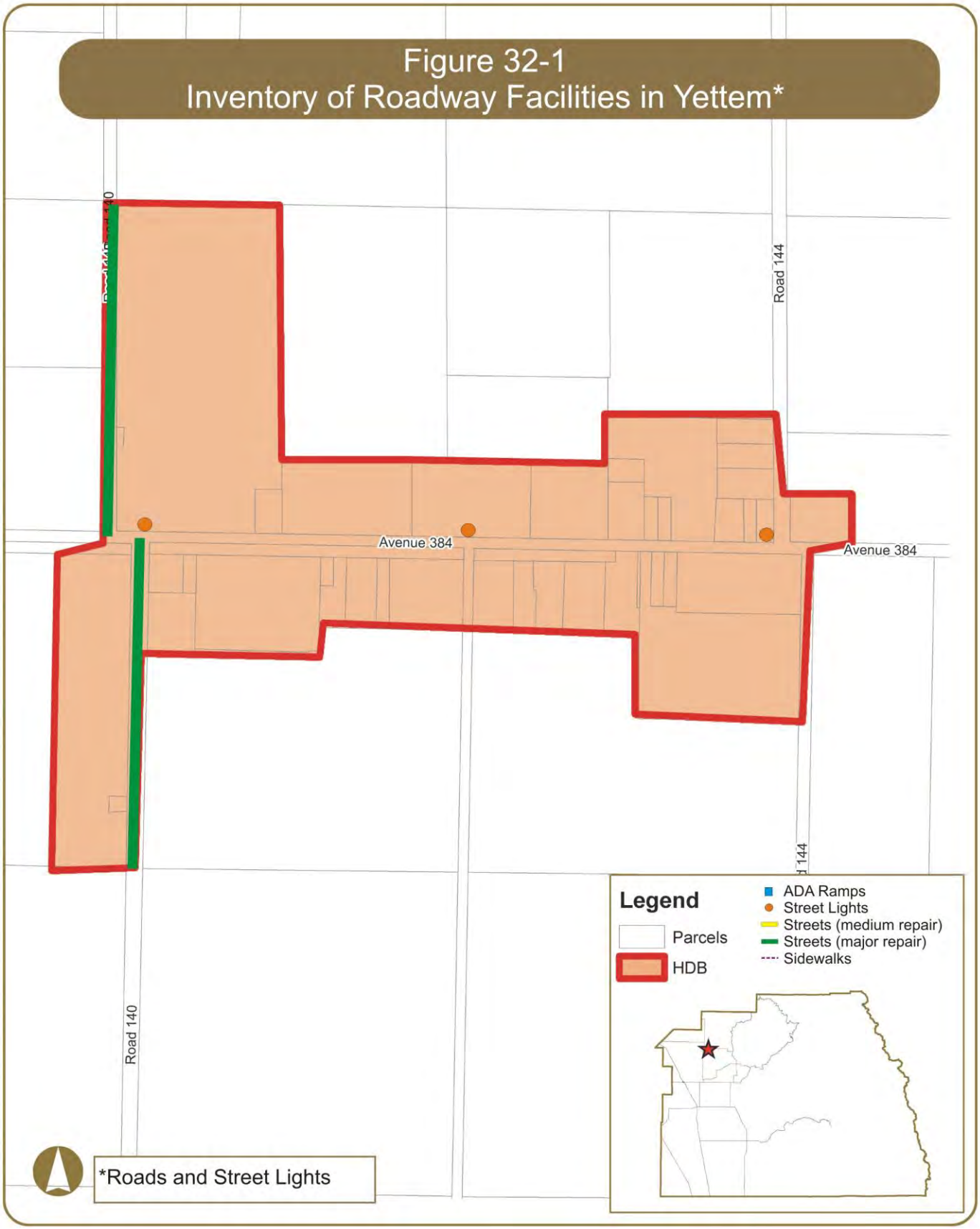


Figure 32-1
Inventory of Roadway Facilities in Yettem*
Road 144
Avenue 384
Avenue 384
Road 140
Legend
Parcels
HDB
ADA Ramps
Street Lights
Streets (medium repair)
Streets (major repair)
Sidewalks
*Roads and Street Lights

33. Matheny Tract

33.1 General Information

Matheny Tract is located one mile south of the City of Tulare generally located south of Avenue 216 (Paige Avenue), east of Road 96 (Pratt Street) and west of I Drive and State Route 99. Matheny Tract is located just west of industrial land uses and a Union Pacific Railroad line running through Tulare County. Physically, the Community of Matheny Tract is divided by agricultural fields that separate approximately 256 households in North Matheny from 80 households in South Matheny. The Matheny Tract Community is predominantly surrounded by agricultural land.

Along the eastern boundary, running parallel to South "I" Drive is an irrigation ditch, above ground power lines and the Union Pacific Railroad tracks. Also visible to the east is the City of Tulare corporation yard. Above ground power lines run parallel to Pratt Road that acts as the western boundary. The City of Tulare's Wastewater Treatment and Reclamation facility is located about ¾ miles northwest of Matheny Tract. In addition, an industrial area is located immediately northeast of the Community.

There is a canal within Tulare Irrigation District (TID) service area that bisects North and South Matheny. The Oakland Colony Ditch runs in a north south direction through North Matheny along the Canal Street corridor and extends in an east-west direction between North and South Matheny. There are two east-west crossings of the Oakland Colony Ditch - one along Wade Avenue and the other along Addie Avenue - in North Matheny.

Matheny Tract is an unincorporated Community located south of the City of Tulare with a population of approximately 1,212 and 320 households. The total land area is 0.043 square miles (2,820.5 people per square mile) and the elevation is 269 feet above sea level. Matheny Tract is also designated as a disadvantaged Community, which is, "a census designated place that has household median incomes that are less than 80% of the statewide household median income.

The Census reported that the racial makeup of Matheny in 2010 was 651 (53.7%) White, 44 (3.6%) African American, 24 (2.0%) Native American, 4 (0.3%) Asian, 0 (0.0%) Pacific Islander, 436 (36.0%) from other races, and 53 (4.4%) from two or more races. Hispanic or Latino of any race was 890 persons (73.4%). The average household size was 3.79.

(For more detailed information regarding Matheny Tract and source material for this chapter see Draft Matheny Tract Transportation and Infrastructure Plan, Omni Means September 2014)

Figure 33-1
Aerial Photo of Matheny Tract

(Source: Matheny Tract Transportation and Infrastructure Plan, Omni Means September 2014)

Age attributes in Matheny show that the population in 2010 included 459 people (37.9%) under the age of 18, 120 people (9.9%) aged 18 to 24, 330 people (27.2%) aged 25 to 44, 204 people (16.8%) aged 45 to 64, and 99 people (8.2%) who were 65 years of age or older. The median age was 26.9 years.

Household characteristics estimated in 2010 by the Census indicate that there were 344 housing units, of which 155 (48.4%) were owner occupied, and 165 (51.6%) were occupied by renters. The homeowner vacancy rate was 0.6%; the rental vacancy rate was 4.5%. 525 people (43.3% of the population) lived in owner occupied housing units and 687 people (56.7%) lived in rental housing units.

Matheny Tract is identified as a disadvantaged Community that lies adjacent to and outside of Tulare's city limit and 2035 urban development boundary (UDB). It is, however, included within the City of Tulare's sphere of influence (SOI). A SOI is typically the planning boundary outside of an agency's legal boundary (such as the city limit line) that designates the agency's probable future boundary and service area. The establishment of an SOI area does not authorize development or expansion. Alternatively, an SOI area allows an agency to perform studies and initiate long-term planning through a comprehensive master planning process to ensure proper and orderly future growth.

As a result of long-term planning, domestic water services in Matheny Tract is anticipated being connected to the City of Tulare's water system after historically using a system of groundwater wells. Approximately 10 years ago, water pressure began to decline, while arsenic levels rose, making the water unsafe for human consumption. Arsenic levels of 15.7 micrograms per liter, which exceeds the State minimum of 10

micrograms per liter, have been reported in Matheny Tract. The City of Tulare and Self-Help Enterprises, a local non-profit housing group, obtained State funding to improve the Matheny Tract's water infrastructure and connect it to the City of Tulare's water infrastructure. This system is anticipated to be fully connected in 2014.

The County of Tulare is currently working on a project, funded by a Proposition 84 planning grant, to connect the Matheny Tract to the City's wastewater system. This is also a result of the long-term planning process and comprehensive master planning that has been occurring for several decades involving the City of Tulare, the County of Tulare, Matheny Tract residents, and public and private non-profit advocacy groups.

33.2 Domestic Water & Wastewater

The Pratt Mutual Water Company (PMWC) water system was originally installed in the early 1960s. The system is currently operated under the California State Department of Health Services (DHS) Water Permit No. 03 – 88 – 019, dated August 11, 1988. The water system is classified as a Community water system. PMWC operates and maintains the Matheny Tract Community Water System. The system presently serves approximately 276 unmetered services according to the Draft Mitigated Negative Declaration for the Pratt Mutual Water Company Water System Improvement Project and Consolidation with the City of Tulare (City of Tulare Planning Department – 2014).

The water supply for PMWC is provided by three shallow wells that have been in service for several decades. Well No's 1 and 2 were drilled in 1961 to depths of 325 feet and 250 feet respectively. Well #3 was drilled in 1976 to a depth of 400 feet. All well sites have hydro – pneumatic tanks and feed directly into the distribution system. Water is chlorinated at the active well sites. There is no emergency backup power supply at any of the well sites.

PMWC has received multiple Notices of Violation from the California DHS for system violations and failure to comply with reporting requirements. In 1999 and 2000, multiple violations were issued to PMWC for exceeding the Maximum Contaminant Levels (MCL) for total coli form and nitrate. PMWC was required to add chlorination facilities to each of the active wells as a result of the violations.

In 2002, Well #2 was condemned by DHS due to high nitrate levels. Well #2 is the shallowest well and may be influenced by septic systems and agricultural operations in the area. The two wells that remain in service have nitrate levels below the MCL.

In recent years, the groundwater elevation has dropped causing water shortages. On multiple occasions, the Community was temporarily without water service. Consequently, pumps in the active wells were lowered to accommodate the lower groundwater elevation. In December of 2003, PMWC requested a moratorium from further development in the Community to restrict any additional demands on the system. Draft Mitigated Negative Declaration for the Pratt Mutual Water Company Water System Improvement Project and Consolidation with the City of Tulare (City of Tulare Planning Department – 2014)

PMWC has also experienced an increasing number of problems with the distribution system. The occurrence of water main leakage and breakages requiring repair have increased during the last several

years. The distribution system continues to have multiple problems including needed repairs, aged and under‐ sized water mains, sub‐standard fire hydrants, and an inadequate number of isolation valves.

The water system has increasingly experienced problems associated with water quality and supply over the last few years. The PMWC has been issued violations for being out of compliance with state and federal drinking water standards and permit requirements. The arsenic levels in the source water needs to be reduced. The DHS requirements effective in January of 2006 require arsenic levels to be less than 10 ug/L based on water quality testing records.

The PMWC water system must be improved to provide water that is in compliance with drinking water standards with sufficient capacity to serve the Community. There are two primary health concerns that need to be addressed:

1. Arsenic concentrations in excess of the MCL.
2. Unreliable water supply that does not provide adequate flow and system pressure.

Reliable water supply needs to be established for the Community. The Community has experienced periods of water outages due to a declining water table, which has resulted in lowering of the pumps. The system capacity was reduced when Well #2 was shut down and now depends on two of the original three wells to meet water demands. As a result, the existing wells are less capable of providing adequate system pressures. When Well #2 was shutdown the southern portion of the water system was left vulnerable to a breakage in the 6‐inch water main, which is the only source of water. In addition, no backup power or water supply is available for the two operating wells.

Many problems in the PMWC water system need to be addressed, including water quality, supply and distribution. The system is currently out of compliance with the new limits on arsenic. PMWC needs a reliable water supply that meets the drinking water standards.

The City of Tulare and Self‐Help Enterprises, a local non‐profit housing group, obtained State funding to improve the Matheny Tract's water infrastructure so it can be connected to the City of Tulare's water infrastructure. This system is anticipated to be connected in 2014.

33.3 Domestic Wastewater

Matheny Tract is currently unsewered and operates on a system of individual septic systems. The Community was developed and most homes were built in the 1930s and 1940s. Existing on‐site septic systems are generally old and require maintenance. There are two main parts of a septic system: the tank and the drainfield. The septic tank allows solid materials to settle and for bacteria to break them down. Liquid, or effluent, are passed on to the drainfield, where waste materials are broken down by bacteria in the soil.

As septic systems become antiquated, as many are in Matheny Tract, maintenance and repairs of the service line is costly. Proper maintenance for septic systems, such as regular septic tank pumping and inspections along with proper use of disposal (i.e., what is and what is not put down the drain), prolongs the life of the septic system. However, the cost of pumping septic tanks to maintain functionality presents a

financial burden to the low‐income residents of Matheny Tract where pumping costs can be upwards of $300 per occurrence. The City of Tulare wastewater treatment plant is located less than a mile from Matheny Tract, and a Tulare sewer collection line of sufficient size to serve the Community was recently installed in Pratt Street.

In 2012 Tulare County RMA applied for a grant to connect Matheny Tract residents to the City of Tulare Wastewater Treatment Plant. According to Self Help Enterprises, the grant has been awarded (for planning activities); it is supplemented by a grant from the Strategic Growth Council. Between the two, everything needed from initial outreach through CEQA and final design/construction documents will be funded.

33.4 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

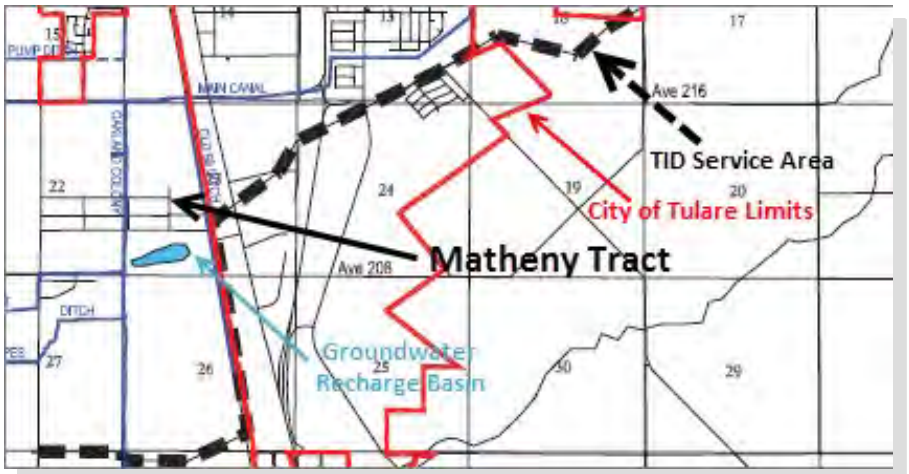
Matheny Tract currently has a limited storm water system, which is served by Tulare Irrigation District (TID). The purpose of TID is to obtain and deliver surface water supplies for the purpose of agricultural irrigation in the District and for groundwater recharge efforts within the basin underlying the District. The District must also operate and maintain 330 miles of canal and approximately 30 miles of pipeline along with 1,110 acres of groundwater recharge/regulation basins.

In Matheny Tract (northern portion), the Oakland Colony Ditch bisects the Community running in a north-south direction between Ruth Street and Canal Street. Figure 33-2 identifies Matheny Tract, the Oakland Colony ditch, a groundwater recharge basin, TID service area and the City of Tulare limits. According to TID, the Oakland Colony Ditch is used primarily for irrigation and flood control purposes. An existing pump station is located the northeast corner of Addie Avenue/Canal Street that pumps surface water into the ditch.

Excessive runoff from the Oakland Colony Ditch is directed to a groundwater recharge basin located south of North Matheny. An additional basin is located to the east of the current basin for large flood events.

Figure 33-2

Tulare Irrigation District Service Area Near Matheny Tract

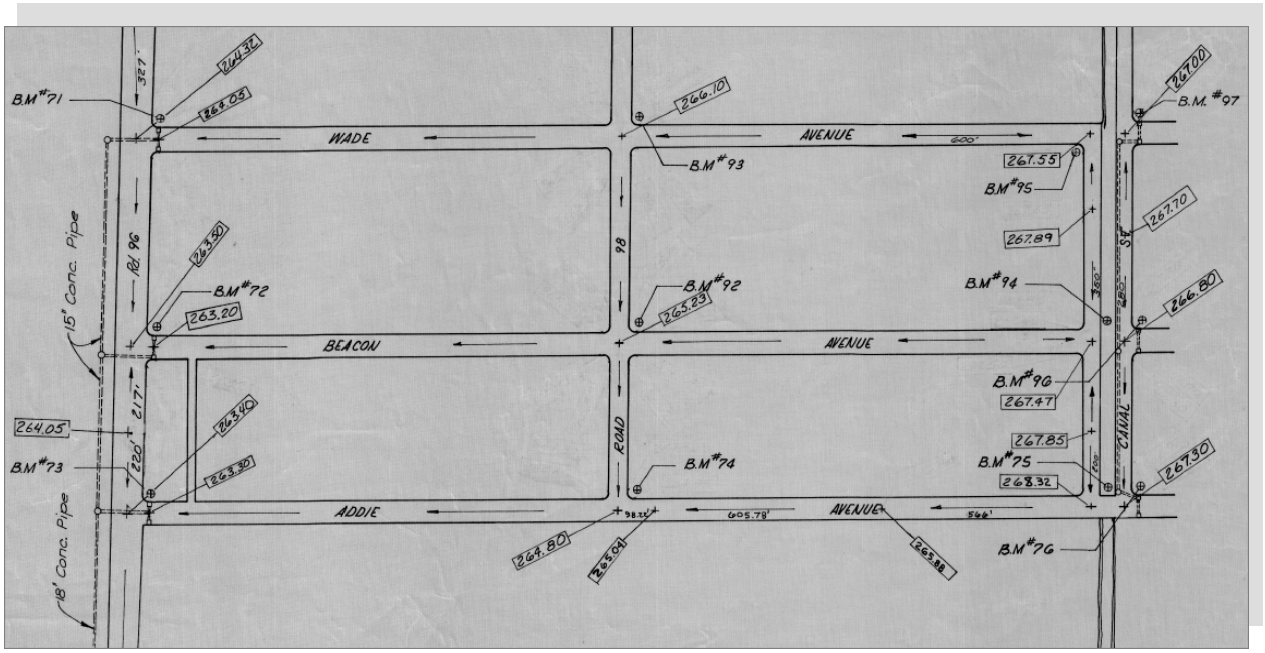


(Source: Matheny Tract Transportation and Infrastructure Plan, Omni Means September 2014)

Tulare County has completed initial base mapping for Matheny Tract. Files obtained from RMA include surveying data with bench mark locations and top of curb or pavement elevations in North Matheny. In addition, existing concrete pipes and directional flow arrows are mapped as shown in Figure 33-3.

Figure 33-3

Storm Water Survey of North Matheny Tract



(Source: Matheny Tract Transportation and Infrastructure Plan, Omni Means September 2014)

It was also indicated by TID that trash accumulation in and around Oakland Colony Ditch in the Matheny Community is a serious concern. Any future efforts to underground the ditch with a grate to exclude trash and other debris would be a maintenance issue to prevent obstruction of water flow. Additional costs would have to be offset with a maintenance agreement between the property owners and the beneficiaries of such improvements to safety and aesthetics, if desired.

33.5 Roads

Tulare County also has road classifications that are used to determine how the road is constructed, i.e., typical cross section (median, travel lanes, curb, gutter, sidewalk, shoulder, etc.), pavement structure, design speeds, grades, super elevation, sight distance, horizontal alignments, intersections, etc.. Tulare County has four road classifications as summarized below:

Class 1 Roads: a cul-de-sac or minor residential street so designed that it cannot serve more than 50 lots, the primary function of which is to provide access to abutting property.

Class 2 Roads: a minor residential street so designed that it cannot serve more than 120 lots, the primary function of which is to provide access to abutting property.

Class 3 Roads: a minor residential collector street that has ore is expected to have the dual purpose of providing access to abutting property and of carrying traffic from Class 1 and Class 2 Roads to roads in the County Select System.

Select System Roads: All State Highways, Federal Aid Secondary Routes, arterials and collector roads existing or unconstructed, that are designated for inclusion in the Select System by the Board of Supervisors with the approval of the State Department of Transportation.

Currently in Matheny Tract, there are only roads that are built within a two-lane right-of-way for Class 1, 2 and 3 Roads.

Based upon field reviews, the roads in Matheny Tract are generally in poor to fair condition, lack continuous curbs, gutters and side walks, are poorly lit at night, lack crosswalks, are susceptible to flooding i.e., lack drainage and provide limited opportunity for walking and bicycling beyond the vehicle travel surface.

There are several roadways in Matheny Tract that are in need of repair. Over time, roadway pavement can become damaged or begin to fail due to fatigue, aging, or surface abrasion. The binding agent within road pavement becomes rigid and less flexible as time passes and the surface of the pavement may start losing aggregates. If timely maintenance does not occur, potholes will start to occur within the road.

If the road is still structurally sound, a bituminous surface treatment, such as a chip seal or surface dressing can prolong the life of the road at low cost. Such repairs are considered medium if the maintenance strategy consists of:

- ✓ Chip seal - surface treatment in which the pavement is sprayed with asphalt and then immediately covered with aggregate and rolled. Chip seals are used primarily to seal the surface of a pavement with cracks not associated with heavy loads

Some roadways require more extensive repairs such as resurfacing, grinding, remix and or reconstruction. These repairs are considered major if the maintenance strategy consists of:

- ✓ Grind and remix - process by which construction materials are recycled and reused to add structure to roadways
- ✓ Overlay resurfacing operation - consists of grinding off selected areas of old asphalt, patching any potholes, placing a fabric (in some cases), placing and compacting hot mix asphalt pavement, and adjusting any street hardware
- ✓ Asphalt reconstruction - consists of excavating the entire roadway, placing and compacting rock beneath the roadway, and placing and compacting hot mix asphalt
- ✓ Cold mix reconstruction - similar to asphalt reconstruction except cold mix asphalt is used. It is commonly used as patching material and on lower volume service roads

33.6 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

The County of Tulare completed a survey of ADA compliant ramps within the communities in August 2012. According to the survey, there are no ADA compliant curb ramps located within Matheny Tract.

33.7 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in clear width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals.

However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

The presence of curbs, gutters and sidewalks (CG&S) varies significantly between the communities in Tulare County. Some street segments within the Matheny Tract have curbs and fewer segments have sidewalks; however, several segments have no curbs, gutters or sidewalks. Figure 33-4 display Existing Curbs and Sidewalks in three sub-areas in Matheny Tract (Northwest Area, Northeast Area and Southwest Area). As indicated in the Figure, many gaps and non-contiguous sections for both curbs and sidewalks exist.

Matheny Tract currently consists of existing sidewalks within the Community; however, many of these existing sidewalks are fragmented or are in relatively poor condition and need to be replaced entirely because they have deteriorated past the point where spot repairs are feasible or cost effective. The photograph to the left shows an existing street with driveways and a partial sidewalk. Many of the existing non-contiguous sidewalks are proposed to be replaced entirely in order to have uniformity and to be in compliance with current County Standards.

33.7 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

The County typically provides street lighting at major road intersections in the communities but does not provide mid-block lighting as is typical within cities. Matheny Tract has street lighting at 10 locations. Overhead utility poles are prevalent in Matheny Tract. These utility poles provide electricity and telephone service to residences and businesses in Matheny Tract and are located within the County right-of- way. Figure 33-5 display Existing Utilities Poles, Fire Hydrants and Street Lights in three sub-areas in Matheny Tract (Northwest Area, Northeast Area and Southwest Area). *[Note: New fire hydrants were being installed at various locations in 2014 that are not shown in these Figures].*

Figure 33-4
Existing Curbs and Sidewalks of Matheny Tract

(Source: Matheny Tract Transportation and Infrastructure Plan, Omni Means September 2014)

Figure 33-4 cont.
Existing Curbs and Sidewalks of Matheny Tract

(Source: Matheny Tract Transportation and Infrastructure Plan, Omni Means September 2014)

Figure 33-4 cont.
Existing Curbs and Sidewalks of Matheny Tract

(Source: Matheny Tract Transportation and Infrastructure Plan, Omni Means September 2014)

Figure 33-5
Existing Street Lights, Utility Poles and Fire Hydrants of Matheny Tract

(Source: Matheny Tract Transportation and Infrastructure Plan, Omni Means September 2014)

Figure 33-5 cont.

Existing Street Lights, Utility Poles and Fire Hydrants of Matheny Tract

(Source: Matheny Tract Transportation and Infrastructure Plan, Omni Means September 2014)

Figure 33-5 cont.
Existing Street Lights, Utility Poles and Fire Hydrants of Matheny Tract

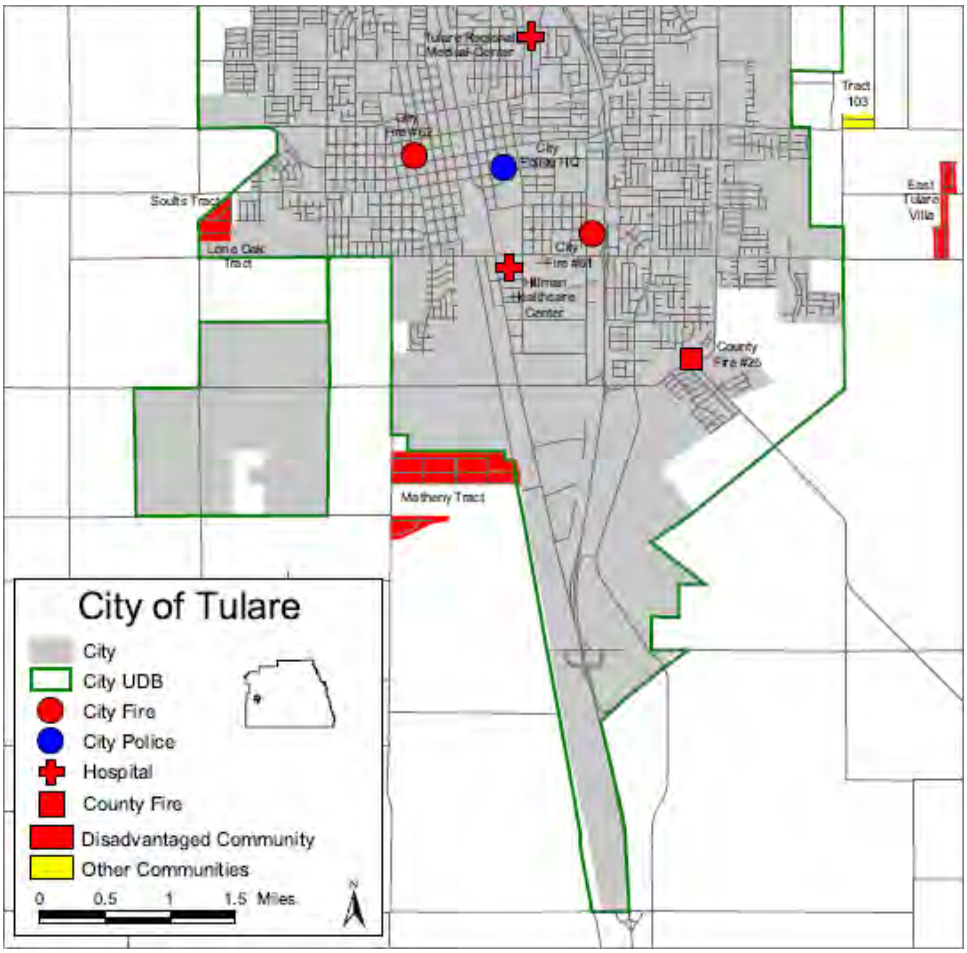
(Source: Matheny Tract Transportation and Infrastructure Plan, Omni Means September 2014)

33.8 Fire Protection

Tulare County and all of the incorporated cities have a mutual - aid agreement for fire protection services. The proximity of the nearest City or County fire station varies significantly between the unincorporated communities. There are three City fire stations and one County fire station in the Tulare area. County Fire Station #25 is within Tulare City limits. County Fire Station #25, located at Foster Drive/Turner Drive, is the closest station to Matheny Tract (two miles) and is shown in Figure 33-6.

Eleven fire hydrants are found within Matheny Tract. These fire hydrants are located within the County right-of-way. Figure 33-5 display Existing Utilities Poles, Fire Hydrants and Street Lights in three subareas in Matheny Tract (Northwest Area, North east Area and Southwest Area).

Figure 33-6
Emergency Services for Matheny Tract



(Source: Matheny Tract Transportation and Infrastructure Plan, Omni Means September 2014)

34. FIRE INFRASTRUCTURE AND RESPONSE TIMES

34.1 Existing Fire Infrastructure and Response Times

The Tulare County Fire Department provides services within the County that includes responding to fires, medical emergencies, motor vehicle accidents, technical rescues, and other life threatening or dangerous conditions. There are 27 fire stations located throughout Tulare County which are made up of more than 400 personnel.

The Tulare County Fire Department is considered a career fire department because its staff is composed of paid personnel versus volunteers. The National Fire Protection Agency (NFPA) 1710 standard applies to career departments and states the following goals:

- 1 minute to turn-out
- 4 minutes for the first engine company to arrive
- 8 minutes for the first full-alarm assignment for at least 90% of all fire calls

Table 34-A shows the nearest fire station, roadway distance between station and community, and calculated fire response times for each Community and Hamlet. Insurance Services Office (ISO) recommends a first-due engine company be located within 1.5 miles of its district and a ladder-service company within 2.5 miles. As shown in Table 34-A, there are many communities located further than 2.5 miles from the nearest fire station which leads to much longer response times to these areas. But these communities are generally smaller in population and may not warrant their own fire station. Other factors that affect response times are road and traffic conditions, weather, and reaction times.

Most of the Hamlets and Communities in Tulare County have some level of fire infrastructure existing within their boundaries. This infrastructure may include fire hydrants, fire control panels, Knox-boxes, gas shutoffs, and water meters. Many of the larger communities also contain their own fire station. Figures 34-1 through 34-29 show the location of fire hydrants, the nearest fire station, and the calculated response times for each of the Hamlets and Communities. The associated matrices that identify the location of each fire hydrant follow each figure.

34.2 Methodology for Determining Fire Response Times

Fire response timing data for each community was unavailable from the Tulare County Fire Department. In order to determine the response times, the nearest fire station was first identified for each community. The shortest roadway path between the fire station and the community was then identified and the driving distance in miles was calculated. This distance was then input into a formula developed by the RAND Corporation.

The RAND Corporation has conducted extensive studies of fire response times, which have been validated several times by various agencies. The studies determined that the average speed is 35 miles per hour (mph) for a fire apparatus responding with emergency lights and siren. This average speed assumes average terrain, traffic, weather, and slowing for intersections. Based upon its studies, RAND developed a formula for calculating response times which was applied in this chapter to determine fire response times to

each of the communities (Table 34-A shows the results):

T = 0.65+1.7D
[T = time in minutes to the nearest 1/10 of a minute
0.65 = a vehicle-acceleration constant for the first 0.5 mile traveled
1.7 = a vehicle-speed constant validated for response distances ranging from 0.5 miles to 8.0 miles.
D = distance]

It should be noted that the NFPA uses this formula in its 1142 standard.

TABLE 34-1
Existing Fire Response Times

Community	Nearest Fire Station	Roadway Distance	Fire Response Time (Rounded)	Fire Hydrants?
Alpaugh	Alpaugh Fire Station	0.5	2	Yes
Cutler	Cutler-Orosi Fire Station	1	3	Yes
Ducor	Terra Bella Fire Station	6	11	Yes
Earlimart	Earlimart Fire Station	1	3	Yes
East Orosi	Cutler-Orosi Fire Station	3	6	Yes
Lemon Cove	Lemon Cove Fire Station	0.5	2	Yes
London	Kings River Fire Station	6	11	Yes
Orosi	Cutler-Orosi Fire Station	1.5	4	Yes
Pixley	Pixley Fire Station	1	3	Yes
Plainview	Strathmore Fire Station	4	8	Yes
Poplar-Cotton Center	West Olive Fire Station	5.5	10	Yes
Richgrove	Richgrove Fire Station	0.5	2	Yes
Springville	Springville Fire Station	0.5	2	Yes
Strathmore	Strathmore Fire Station	0.5	2	Yes
Sultana	Cutler-Orosi Fire Station	4	8	Yes
Terra Bella	Terra Bella Fire Station	0.5	2	Yes
Three Rivers	Three Rivers Fire Station	0.5	2	Yes
Tipton	Tipton Fire Station	0.5	2	Yes
Traver	Kings River Fire Station	6	11	Yes
Woodville	Tipton Fire Station/West Olive Fire Station*	9	16	Yes
Hamlet	**Nearest Fire Station**	**Roadway Distance**	**Fire Response Time (Rounded)**	**Fire Hydrants?**
Allensworth	Alpaugh Fire Station	7	13	Yes
Delft Colony	Kings River Fire Station	3	6	Yes
Lindcove	Lemon Cove Fire Station	3.5	7	No
Monson	Dinuba Fire Station	5.5	10	No
Seville	Cutler-Orosi Fire Station	6.5	12	No
Teviston	Pixley Fire Station	3	6	Yes
Tonyville	Lindsay Fire Station	6	11	Yes
Waukena	Tulare Fire Station	13.5	24	No
West Goshen	Goshen Fire Station	3	6	No
Yettem	Cutler-Orosi Fire Station	4.5	9	Yes

* Same distance.

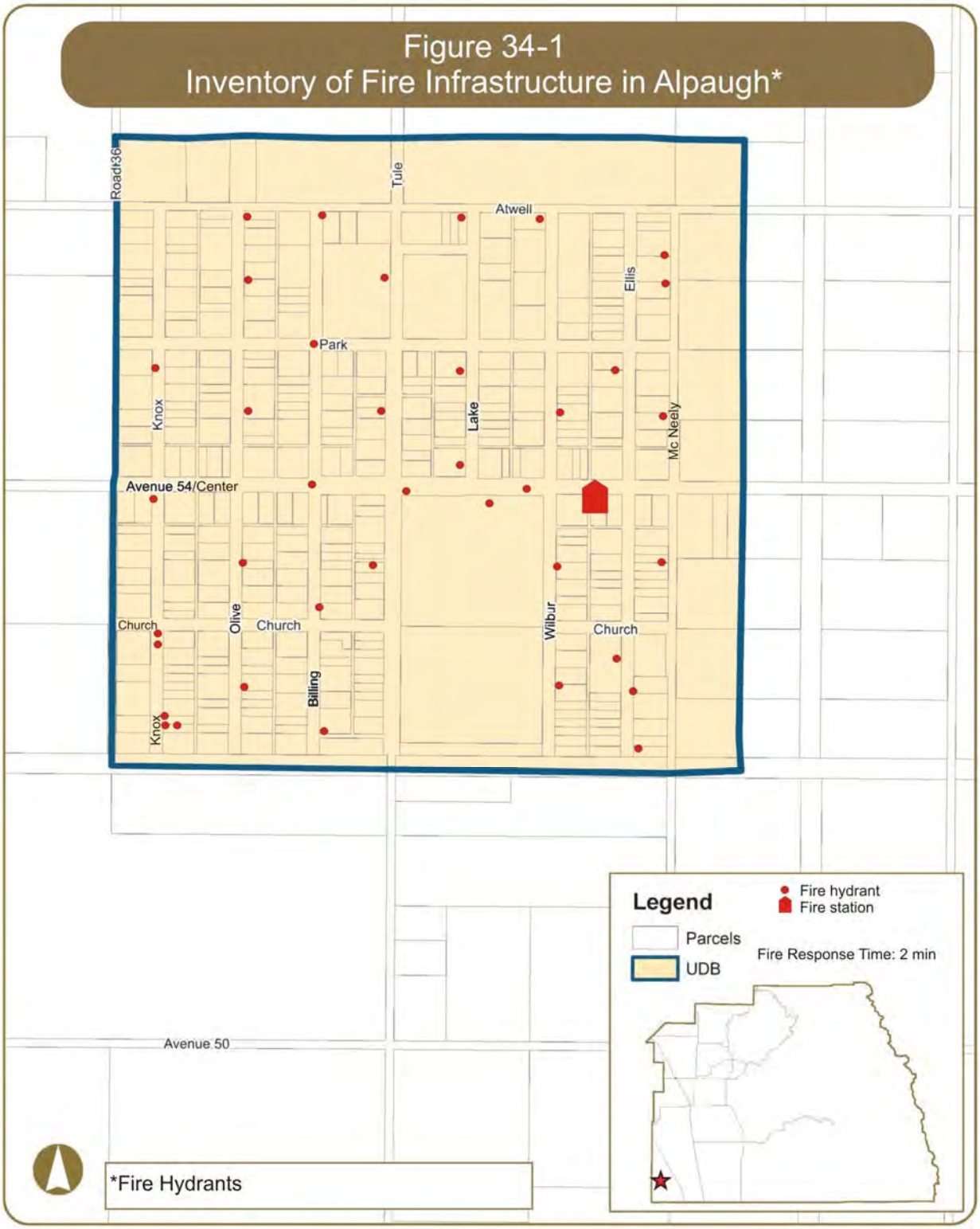


Figure 34-1
Inventory of Fire Infrastructure in Alpaugh*
Road136
Tule
Atwell
Ellis
Park
Knox
Lake
Mc Neely
Avenue 54/Center
Church
Olive
Church
Billing
Wilbur
Church
Knox
Avenue 50
Legend
Fire hydrant
Fire station
Parcels
UDB
Fire Response Time: 2 min
*Fire Hydrants

TABLE 34-1
Existing Fire Infrastructure in Alpaugh

Existing Fire Hydrants	
No.	**Location**
1	Attwell Street and Olive Road
2	Attwell Street and Billing Road
3	Attwell Street and Lake Road
4	Attwell Street and Wilbur Road
5	Olive Road south of Attwell Street
6	Tule Road south of Attwell Street
7	McNeely Road south of Attwell Street
8	McNeely Road south of Attwell Street
9	Park Avenue at Knox Road
10	Park Avenue at Billing Road
11	Park Avenue at Lake Road
12	Park Avenue at Ellis Road
13	Olive Road south of Park Avenue
14	Tule Road south of Park Avenue
15	Wilbur Road south of Park Avenue
16	McNeely Road south of Park Avenue
17	Center Street at Knox Road
18	Center Street at Billing Road
19	Center Street at Tule Road
20	Center Street at Lake Road
21	Center Street at Lake Road
22	Center Street at Wilbur Road
23	Olive Road south of Center Street
24	Tule Road south of Center Street
25	Wilbur Road south of Center Street
26	McNeely Road south of Center Street
27	Church Avenue at Knox Road
28	Church Avenue at Knox Road
29	Church Avenue at Billing Road
30	Church Avenue at Ellis Road
31	Olive Road south of Church Avenue
32	Wilbur Road south of Church Avenue
33	Ellis Road south of Church Avenue
34	Boswell Avenue at Knox Road
35	Boswell Avenue at Knox Road
36	Boswell Avenue at Knox Road
37	Boswell Avenue at Billing Road
38	Boswell Avenue at Ellis Road

Figure 34-2
Inventory of Fire Infrastructure in Cutler-Orosi*

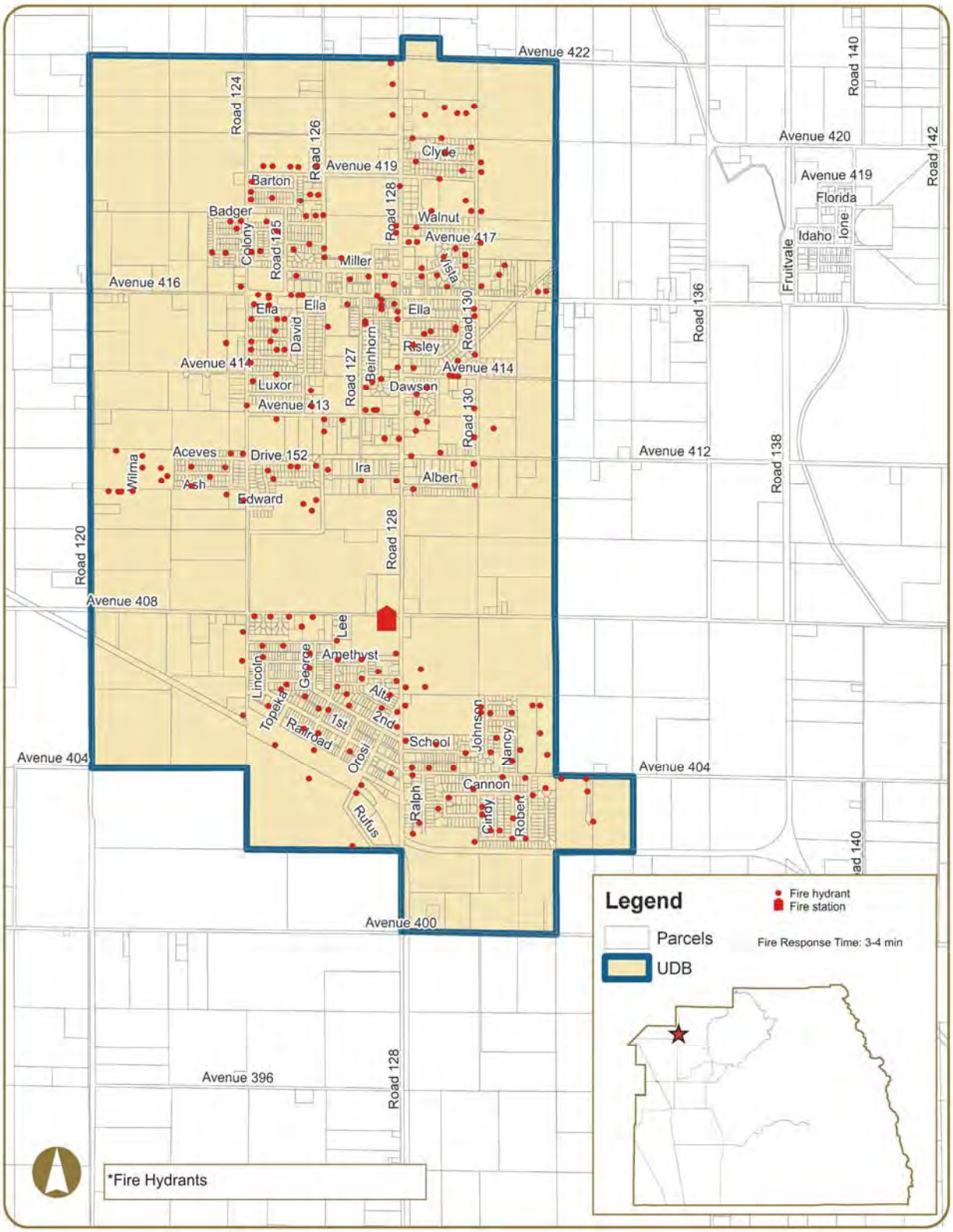


TABLE 34-2
Existing Fire Infrastructure in Cutler-Orosi

Existing Fire Hydrants			
No.	**Location**	***No.***	**Location**
1	Avenue 422 west of Road 128	41	Road 125 south of Walnut Avenue
2	Road 128 south of Avenue 422	42	Dennison Drive west of Stewart Street
3	Road 128 south of Avenue 422	43	Colony Street north of Buenna Vista Avenue
4	Orosi Mobile Home Estates east of Road 128	44	Colony Street north of Buenna Vista Avenue
5	Orosi Mobile Home Estates east of Road 128	45	Badger Avenue and Road 124
6	Orosi Mobile Home Estates east of Road 128	46	Badger Avenue west of Road 124
7	Orosi Mobile Home Estates east of Road 128	47	Road 124 south of Badger Avenue
8	Orosi Mobile Home Estates east of Road 128	48	Sequoia Avenue and Granite Court
9	Road 128 north of Clyde Avenue	49	Sequoia Avenue and Wilsonia Avenue
10	Tactacan Avenue west of Road 130	50	Avenue 417 east of Road 125
11	Tactacan Avenue and Road 130	51	Avenue 417 west of Road 126
12	Tactacan Avenue west of Road 130	52	Avenue 417 and Road 126
13	Clyde Avenue and Road 130	53	Road 126 south of Avenue 417
14	Road 130 south of Clyde Avenue	54	Miller Avenue east of Road 126
15	Clyde Avenue west of Road 130	55	Road 128 south of Walnut Avenue
16	Clyde Avenue east of Road 128	56	Road 128 south of Walnut Avenue
17	Avenue 419 east of Ralph Road	57	Road 130 and Avenue 417
18	Road 128 south of Avenue 419	58	Avenue 417 west of Road 130
19	Road 126 north of Avenue 419	59	Avenue 417 west of Road 130
20	Avenue 419 west of Road 126	60	Avenue 417 west of Road 130
21	Avenue 419 west of Van Tassel Road	61	Avenue 416 east of Road 130
22	Avenue 419 west of Van Tassel Road	62	Avenue 416 east of Road 130
23	Avenue 419 east of Road 124	63	Road 130 north of Avenue 416
24	Road 124 north of Barton Avenue	64	Miller Road east of Road 130
25	Road 124 and Barton Avenue	65	Miller Road east of Road 130
26	Road 124 south of Barton Avenue	66	Miiler Road and Pacifica Court
27	Barton Avenue east of Road 124	67	Miller Road and Vista Court
28	Van Tassel Road south of Barton Avenue	68	Lincoln Road north of Avenue 416
29	Road 126 south of Avenue 419	69	Miller Avenue and Ralph Road
30	Road 126 south of Avenue 419	70	Miller Avenue and Ralph Road
31	Road 126 north of Walnut Avenue	71	Road 128 north of Avenue 416
32	Road 126 north of Walnut Avenue	72	Miller Avenue west of Road 128
33	Road 126 north of Walnut Avenue	73	Miller Avenue and Claude Road
34	Ralph Road south of Avenue 419	74	Eddy Road south of Miller Avenue
35	Road 130 north of Walnut Avenue	75	Miller Avenue east of Road 125
36	Road 130 north of Walnut Avenue	76	Avenue 416 and Road 124
37	Road 130 north of Walnut Avenue	77	Avenue 416 east of Road 124
38	Walnut Avenue east of Road 128	78	Avenue 416 east of Road 124
39	Walnut Avenue and Road 128	79	Avenue 416 east of Road 124
40	Road 128 south of Walnut Avenue	80	Avenue 416 east of Road 124

TABLE 34-2 (continued)
Existing Fire Infrastructure in Cutler-Orosi

Existing Fire Hydrants			
No.	**Location**	***No.***	**Location**
81	Road 124 south of Avenue 416	121	Road 130 south of Avenue 414
82	Avenue 416 east of Road 125	122	Road 130 north of Avenue 412
83	Avenue 416 east of Road 125	123	Road 130 north of Avenue 412
84	Avenue 416 east of Road 125	124	Avenue 412 and Road 130
85	Road 126 south of Ella Avenue	125	Albert Avenue and Road 130
86	Ella Avenue and Road 124	126	Avenue 412 west of Road 130
87	Ella Avenue east of Road 124	127	Albert Avenue east of Road 128
88	Ella Avenue west of Elrod Road	128	Albert Avenue and Road 128
89	Avenue 415 west of Elrod Road	129	Avenue 412 east of Road 128
90	Avenue 415 west of Elrod Road	130	Road 128 north of Avenue 412
91	Elrod Road south of Avenue 415	131	Road 128 north of Avenue 412
92	Risley Avenue west of Elrod Road	132	Road 128 south of Avenue 413
93	Avenue 415 and Road 124	133	Avenue 413 east of Road 128
94	Road 124 north of Risley Avenue	134	Avenue 413 east of Road 128
95	Road 124 south of Risley Avenue	135	Dawson Avenue east of Road 128
96	Road 124 south of Avenue 415	136	Dawson Avenue east of Road 128
97	Avenue 416 east of Eddy Road	137	Beinhorn Road south of Avenue 414
98	Road 127 and Ella Avenue	138	Beinhorn Road south of Avenue 414
99	Road 127 and Ella Avenue	139	Road 127 north of Avenue 413
100	Avenue 416 and Claude Road	140	Avenue 413 and Road 127
101	Avenue 416 east of Claude Road	141	Avenue 413 east of Road 127
102	Avenue 416 east of Claude Road	142	Avenue 413 east of Road 127
103	Avenue 416 east of Claude Road	143	Avenue 414 east of Road 124
104	Road 128 south of Avenue 416	144	Road 124 south of Avenue 414
105	Road 128 south of Avenue 416	145	David Road south of Avenue 414
106	Ella Avenue at Road 128	146	Road 124 south of Luxor Avenue
107	Road 130 south of Avenue 416	147	Avenue 413 east of Road 124
108	Ella Avenue and Road 130	148	David Road south of Luxor Avenue
109	Mueller Road south of Ella Avenue	149	Avenue 413 east of David Road
110	Mueller Road south of Ella Avenue	150	Avenue 413 east of David Road
111	Aveune 415 east of Road 128	151	Avenue 413 east of David Road
112	Aveune 415 east of Road 128	152	Ira Avenue and Road 127
113	Avenue 415 east of Road 128	153	Ira Avenue west of Road 127
114	Ledbetter Drive and Road 130	154	David Road and Aceves avenue
115	Ledbetter Drive west of Road 130	155	Edward Avenue east of Road 124
116	Avenue 414 west of Road 130	156	Edward Avenue east of Road 124
117	Avenue 415 and Ledbetter Drive	157	Edward Avenue east of Road 124
118	Avenue 415 west of Ledbetter Drive	158	Road 124 north of Edward Avenue
119	Avenue 414 east of Road 128	159	Aceves Avenue west of David Road
120	Road 128 north of Avenue 414	160	Aceves Avenue west of David Road

TABLE 34-2 (continued)
Existing Fire Infrastructure in Cutler-Orosi

Existing Fire Hydrants			
No.	**Location**	***No.***	**Location**
161	Albert Avenue east of Frances Road	201	Road 128 south of Emerald Avenue
162	Frances Road south of Aceves Avenue	202	Avenue 406 and Eddy Road
163	Aceves Avenue and Road 124	203	Avenue 406 west of George Road
164	Aceves Avenue and Birch Road	204	Avenue 406 west of George Road
165	Birch Road south of Aceves Avenue	205	George Road south of Avenue 406
166	Ash Avenue and Birch Road	206	Topeka Drive south of 1st Drive
167	Albert Avenue west of Birch Road	207	Road 124 south of Railroad Drive
168	Ash Avenue east of Olympic Street	208	Road 128 north of Alta Drive
169	Olympic Street south of Aceves Avenue	209	Orosi Drive and Road 128
170	Albert Avenue and Olympic Street	210	Orosi Drive south of Road 128
171	Albert Avenue west of Olympic Street	211	Road 128 north of 2nd Drive
172	Albert Avenue west of Olympic Street	212	Alta Drive west of Orosi Drive
173	Alber Avenue and Wilma Road	213	2nd Drive west of Cutler Drive
174	Aceves Avenue and Wilma Road	214	Eddy Road north of 2nd Drive
175	Ash Avenue west of Wilma Road	215	Santa Fe Drive south of 2nd Drive
176	Ash Avenue west of Wilma Road	216	Santa Fe Drive south of 2nd Drive
177	Ash Avenue east of Richau Street	217	Santa Fe Drive south of 1st Drive
178	Ash Avenue east of Richau Street	218	Santa Fe Drive south of 1st Drive
179	Aceves Avenue east of Richau Street	219	Railroad Drive east of Santa Fe Drive
180	Avenue 408 and Road 124	220	Road 124 south of Railroad Drive
181	Avenue 408 east of Lincoln Road	221	Cutler Drive south of 1st Drive
182	Avenue 408 east of Topeka Road	222	Railroad Drive east of Santa Fe Drive
183	Avenue 408 east of Topeka Road	223	Orosi Drive south of Railroad Drive
184	Avenue 408 east of Topeka Road	224	Orosi Drive south of Railroad Drive
185	Road 124 south of Avenue 408	225	Avenue 402 west of Riad 128
186	Avenue 407 and Eddy Road	226	2nd Drive and Road 128
187	Avenue 407 east of Road 124	227	Road 128 south of 1st Drive
188	Avenue 407 east of Road 124	228	School Avenue east of Road 128
189	George Road south of Avenue 407	229	Quinto Court and Johnston Road
190	George Road south of Amethyst Avenue	230	Virgil Avenue and Johnston Road
191	Amethyst Avenue west of Lincoln Road	231	Virgil Avenue and Johnston Road
192	Road 124 and Amethyst Avenue	232	Virgil Avenue west of Nancy Road
193	Amethyst Avenue and Eddy Road	233	Robert Road south of Rivera Court
194	Amethyst Avenue and Road 127	234	Robert Road south of Rivera Court
195	Road 128 south of Avenue 408	235	Merlo Court east of Nancy Road
196	Emerald Avenue and Road 128	236	Merlo Avenue and Cindy Road
197	Emerald Avenue east od Road 127	237	Johnston Road south of Merlo Avenue
198	Avenue 406 and Road 127	238	School Avenue and Mueller Road
199	Road 128 north of Emerald Avenue	239	Antonia Avenue and Nancy Road
200	Road 128 south of Emerald Avenue	240	Kahlo Court and Nancy Road

TABLE 34-2 (continued)
Existing Fire Infrastructure in Cutler-Orosi

Existing Fire Hydrants	
No.	**Location**
241	Kahlo Court east of Nancy Road
242	Avenue 404 east of Road 128
243	Avenue 404 east of Road 128
244	Avenue 404 and Ralph Road
245	Avenue 404 and Mueller Road
246	Avenue 404 and Cindy Road
247	Avenue 404 and Robert Road
248	Avenue 404 east of Robert Road
249	Avenue 404 east of Robert Road
250	Private Dwy east of Robert Road south of Avenue 404
251	Private Dwy east of Robert Road south of Avenue 404
252	Dianna Road north of Sierra Avenue
253	Cannon Avenue and Robert Road
254	Cannon Avenue and Nancy Road
255	Nancy Road south of Cannon Avenue
256	Rosalie Avenue and Nancy Road
257	Rosalie Avenue and Robert Road
258	Cindy Road north of Rosalie Avenue
259	Cindy Road north of Rosalie Avenue
260	Rosalie Avenue and Road 130
261	Sierra Avenue and Road 130
262	Road 130 north of Sierra Avenue
263	Cannon Avenue and Road 130
264	Cannon Avenue north of Sierra Avenue
265	Sierra Avenue and Cannon Avenue
266	Ralph Road south of Avenue 403
267	Ralph Road south of Avenue 403

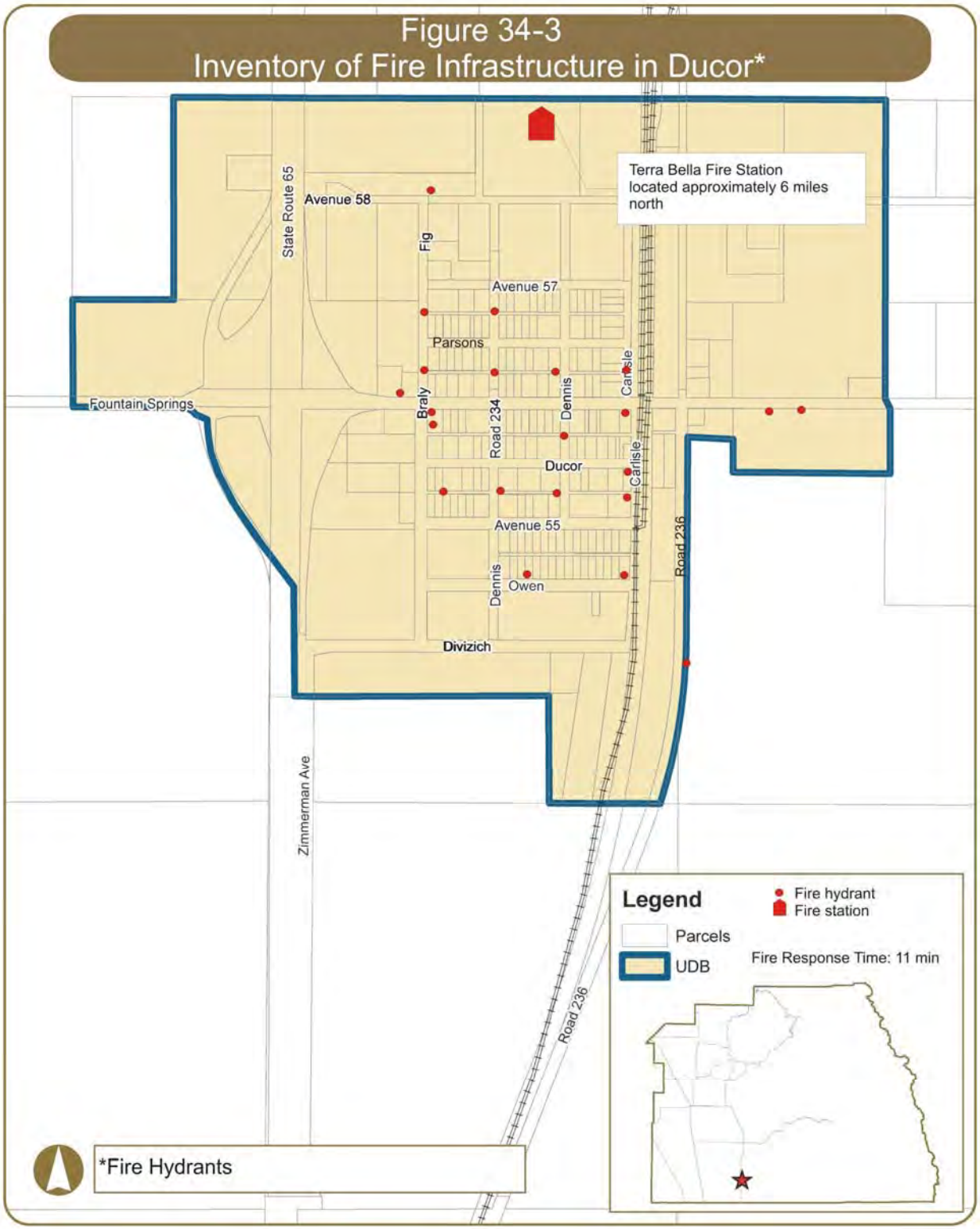


Figure 34-3
Inventory of Fire Infrastructure in Ducor*
Terra Bella Fire Station located approximately 6 miles north
State Route 65
Avenue 58
Fig
Avenue 57
Parsons
Braly
Road 234
Dennis
Carlisle
Fountain Springs
Ducor
Avenue 55
Road 236
Dennis
Owen
Divizich
Zimmerman Ave
Road 236
Legend
Fire hydrant
Fire station
Parcels
UDB
Fire Response Time: 11 min
*Fire Hydrants

TABLE 34-3
Existing Fire Infrastructure in Ducor

Existing Fire Hydrants	
No.	**Location**
1	Avenue 58 and Braly Avenue
2	Braly Avenue north of Parsons Avenue
3	Road 234 north of Parsons Avenue
4	Braly Avenue south of Parsons Avenue
5	Road 234 south of Parsons Avenue
6	Dennis Road south of Parsons Avenue
7	Carlisle Road south of Parsons Avenue
8	Fountain Springs Avenue west of Braly Avenue
9	Fountain Springs Avenue and Braly Avenue
10	Braly Avenue south of Fountain Springs Avenue
11	Fountain Springs Avenue and Carlisle Road
12	Fountain Springs Avenue east of Road 236
13	Fountain Springs Avenue east of Road 236
14	Dennis Road north of Ducor Avenue
15	Ducor Avenue and Carlisle Road
16	Carlisle Road south of Ducor Avenue
17	Braly Avenue south of Avenue 55
18	Road 234 south of Ducor Avenue
19	Dennis Road south of Ducor Avenue
20	Owen Avenue east of Road 234
21	Owen Avenue and Carlisle Road
22	Road 236 south of Fountain Springs Avenue

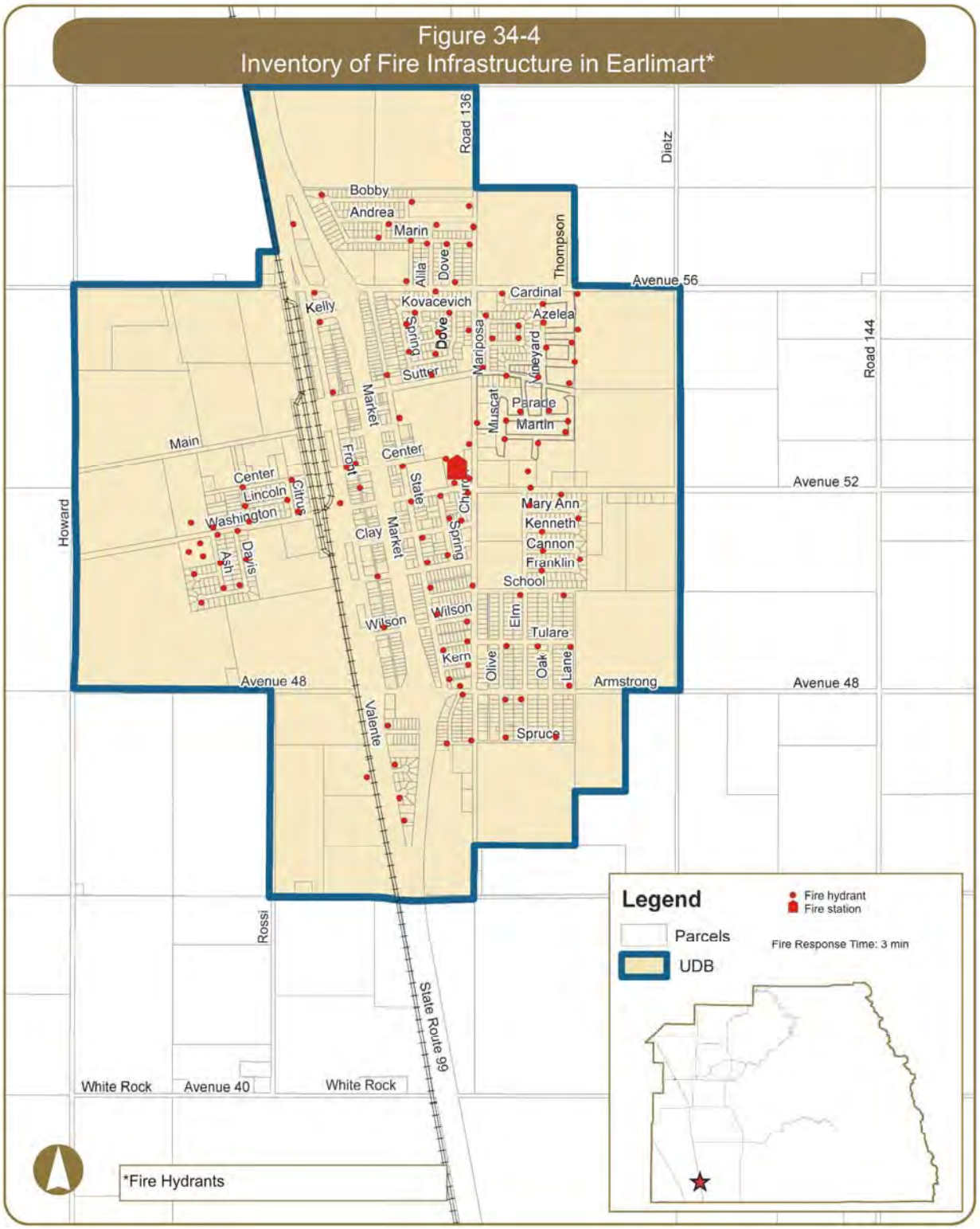


Figure 34-4
Inventory of Fire Infrastructure in Earlimart*
Road 136
Dietz
Bobby
Andrea
Marin
Alila
Dove
Thompson
Avenue 56
Kelly
Kovacevich
Cardinal
Azelea
Spring
Dove
Mariposa
Vineyard
Road 144
Sutter
Market
Muscat
Parade
Martin
Main
Center
Front
State
Church
Avenue 52
Center
Lincoln
Citrus
Mary Ann
Kenneth
Howard
Washington
Clay
Market
Spring
Cannon
Franklin
Ash
Davis
School
Wilson
Wilson
Elm
Tulare
Kern
Olive
Oak
Lane
Avenue 48
Armstrong
Avenue 48
Valente
Spruce
Rossi
State Route 99
White Rock
Avenue 40
White Rock
Legend
Fire hydrant
Fire station
Parcels
Fire Response Time: 3 min
UDB
*Fire Hydrants

TABLE 34-4
Existing Fire Infrastructure in Earlimart

Existing Fire Hydrants			
No.	**Location**	***No.***	**Location**
1	Bobbi Avenue and Molly Road	41	Bent Ranch Avenue east of Spring Road
2	Bobbi Avenue north of Andrea Avenue	42	Sutter Avenue east of Spring Road
3	Bobbi Avenue and Road 136	43	State Street north of Sutter Avenue
4	Front Street north of Avenue 56	44	Sutter Avenue and Front Street
5	Andrea Avenue and Diane Street	45	Main Avenue and State Street
6	Andrea Avenue and Alila Street	46	Parade Avenue and La Primavera Court
7	Andrea Avenue and Road 136	47	Parade Avenue and Vineyard Road
8	Marin Avenue and Diane Street	48	Parade Avenue and Thompson Road
9	Marin Avenue and Earlimart Avenue	49	Martin Avenue and Thompson Road
10	Marin Avenue and Alila Street	50	Martin Avenue and La Primavera Court
11	Marin Avenue and Dove Road	51	Martin Avenue and Muscat Court
12	Marin Avenue and Road 136	52	Parade Avenue and Muscat Court
13	Avenue 56 east of Front Street	53	Center Avenue and Church Road
14	Avenue 56 and Earlimart Avenue	54	Center Avenue and Church Road
15	Avenue 56 and Alila Street	55	Center Avenue and Alfalfa Road
16	Avenue 56 and Dove Road	56	Lincoln Avenue and Alfalfa Road
17	Avenue 56 and Muscat Road	57	Center Avenue and Curtis Road
18	Avenue 56 and Thompson Road	58	Lincoln Avenue and Curtis Road
19	Kelly Avenue and Front Street	59	Washington Avenue and Curtis Road
20	Spring Road south of Kovacevich Street	60	Washington Avenue and Alfalfa Road
21	Kovacevich Street and Earlimart Avenue	61	Washington Avenue and Davis Street
22	Kovacevich Street and Dove Road	62	Davis Street south of Washington Avenue
23	Church Road south of Kovacevich Street	63	Washington Avenue and Ash Street
24	Earlimart Avenue and Quail Avenue	64	Washington Avenue and Ash Street
25	Spring Road south of Quail Avenue	65	Ash Street south of Washington Avenue
26	Azalea Court and Mariposa Road	66	Clay Avenue and Davis Street
27	Cardinal Avenue and Vineyard Road	67	Clay Avenue and Ash Street
28	Azalea Avenue and Vineyard Road	68	Clay Avenue west of Ash Street
29	Azalea Avenue and La Primavera Avenue	69	Rhoden Court west of Ash Street
30	Camelia Avenue and La Primavera Avenue	70	Washington Avenue west of Ash Street
31	Camelia Avenue and Mariposa Road	71	Washington Avenue west of Ash Street
32	Azalea Avenue and Thompson Road	72	Washington Avenue west of Ash Street
33	Bent Ranch Avenue and Thompson Avenue	73	Washington Avenue west of Fruit
34	Bent Ranch Avenue and Thompson Avenue	74	Center Avenue and Front Street
35	Vineyard Road south of Bent Ranch Avenue	75	Center Avenue and Front Street
36	Sutter Avenue east of Vineyard Road	76	Front Street south of Center Avenue
37	Sutter Avenue and Vineyard Road	77	Washington Avenue west of Front Street
38	Sutter Avenue and Muscat Road	78	Center Avenue and State Street
39	Sutter Avenue and Mariposa Road	79	Center Avenue west of Church Road
40	Spring Road north of Bent Ranch Avenue	80	Washington Avenue and Church Road

TABLE 34-4 (continued)
Existing Fire Infrastructure in Earlimart

Existing Fire Hydrants			
No.	**Location**	***No.***	**Location**
81	Washington Avenue and Church Road	121	Spruve Avenue amd Church Street
82	Washington Avenue west of Church Road	122	Spruce Avenue and State Street
83	Washington Avenue and Spring Road	123	Cedar Avenue and Front Street
84	Washington Avenue and State Street	124	Olympia Street and Front Street
85	Clay Avenue and Spring Road	125	Chaparral Street and Front Street
86	Clay Avenue west of Church Road	126	Front Street south of Chaparral Street
87	Clay Avenue and State Street	127	Valente Road north of Cable Street
88	Avenue 52 and Elm Road		
89	Avenue 52 east of Church Road		
90	Avenue 52 east of Elm Road		
91	Mary Ann Avenue and Elm Road		
92	Lane Avenue south of Mary Ann Avenue		
93	Kenneth Avenue east of Elm Road		
94	Cannon Avenue east of Elm Road		
95	Lane Avenue south of Cannon Avenue		
96	Franklin Avenue east of Elm Road		
97	Spring Road north of Franklin Avenue		
98	Franklin Avenue and State Street		
99	Franklin Avenue east of Front Street		
100	Wilson Avenue east of Front Street		
101	State Street north of School Avenue		
102	School Avenue and Church Street		
103	School Avenue and Elm Road		
104	School Avenue east of Oak Road		
105	Wilson Avenue and State Street		
106	Wilson Avenue and Church Street		
107	Tulare Avenue and State Street		
108	Tulare Avenue and Church Street		
109	Kern Avenue and Church Street		
110	Tulare Avenue and Olive Road		
111	Tulare Avenue east of Elm Road		
112	Tulare Avenue and Lane Avenue		
113	Armstrong Avenue and Lane Avenue		
114	Armstrong Avenue and Elm Road		
115	Armstrong Avenue and Olive Road		
116	Armstrong Avenue and State Street		
117	Armstrong Avenue and State Street		
118	State Street north of Armstrong Avenue		
119	Spruce Avenue and Oak Road		
120	Spruce Avenue and Olive Road		

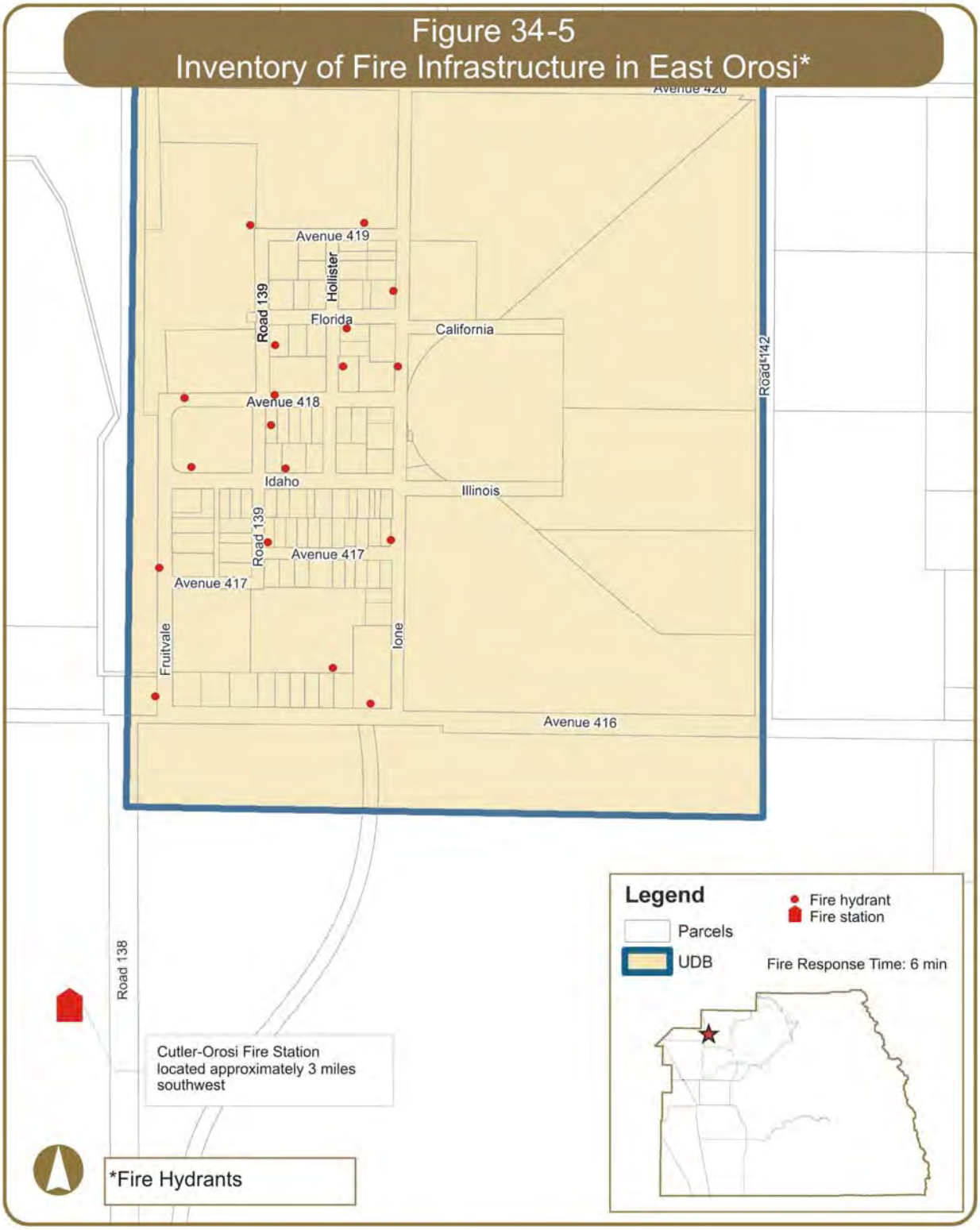


Figure 34-5
Inventory of Fire Infrastructure in East Orosi*
Avenue 420
Avenue 419
Hollister
Road 139
Florida
California
Road 142
Avenue 418
Idaho
Illinois
Road 139
Avenue 417
Avenue 417
Fruitvale
Ione
Avenue 416
Road 138
Cutler-Orosi Fire Station
located approximately 3 miles
southwest
*Fire Hydrants
Legend
Fire hydrant
Fire station
Parcels
UDB
Fire Response Time: 6 min

TABLE 34-5
Existing Fire Infrastructure in East Orosi

Existing Fire Hydrants	
No.	**Location**
1	Avenue 419 and Road 139
2	Avenue 419 east of Hollister Road
3	Ione Road north of Florida Avenue
4	Florida Avenue and Hollister Road
5	Road 139 south of Florida Avenue
6	Hollister Road south Florida Avenue
7	Ione Road south of Florida Avenue
8	Avenue 418 and Road 139
9	Road 139 south of Avenue 418
10	Avenue 418 east of Road 138
11	Idaho Avenue east of Road 138
12	Idaho Avenue east of Road 139
13	Ione Road north of Avenue 417
14	Avenue 417 and Road 139
15	Road 138 north of Avenue 417
16	Road 138 north of Avenue 416
17	Avenue 416 west of Ione Road
18	Avenue 416 west of Ione Road

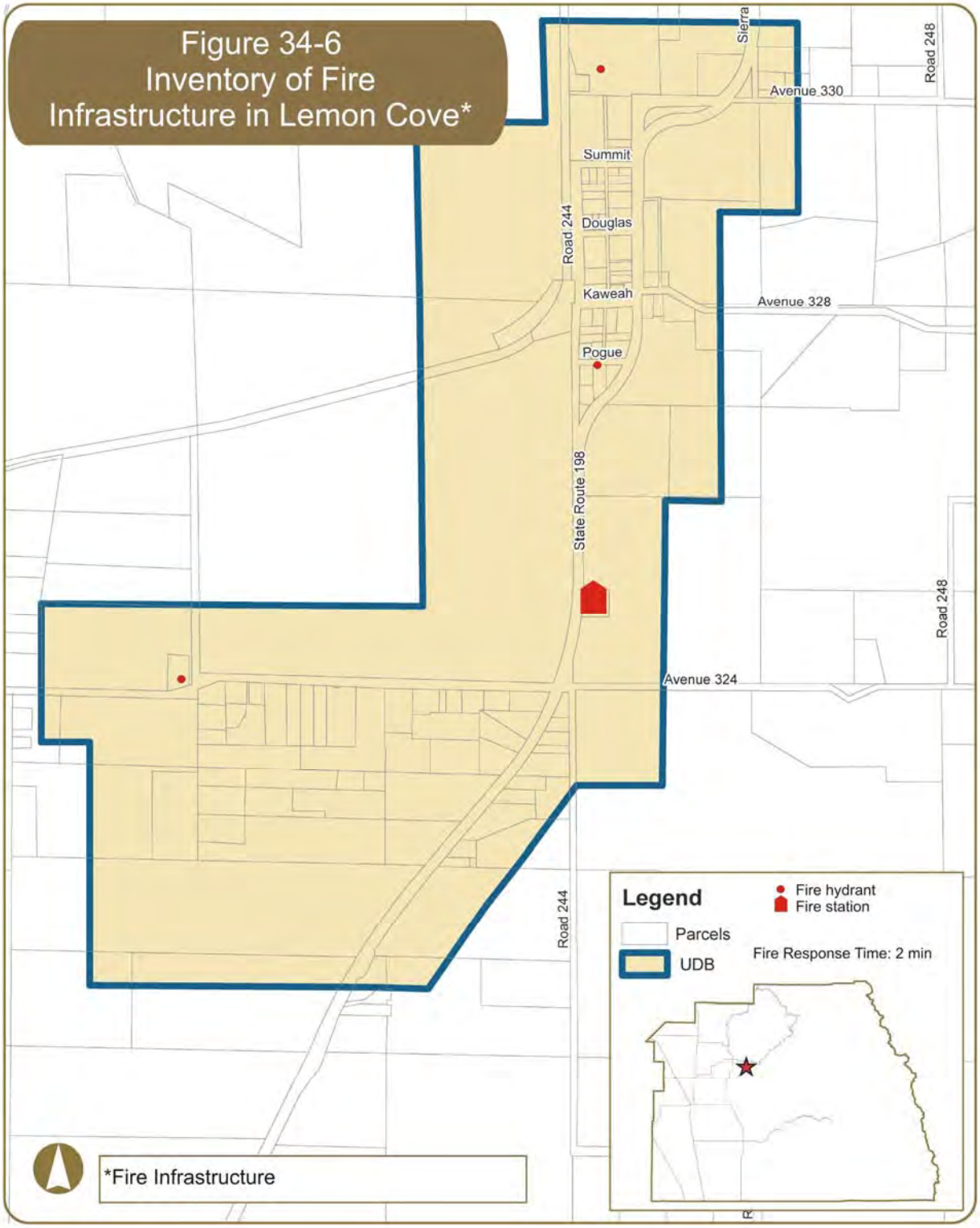


Figure 34-6
Inventory of Fire
Infrastructure in Lemon Cove*
Sierra
Road 248
Avenue 330
Summit
Douglas
Road 244
Kaweah
Avenue 328
Pogue
State Route 198
Road 248
Avenue 324
Road 244
Legend
Fire hydrant
Fire station
Parcels
UDB
Fire Response Time: 2 min
*Fire Infrastructure

TABLE 34-6
Existing Fire Infrastructure in Lemon Cove

Existing Fire Hydrants	
No.	**Location**
1	Goodale Lane north of Avenue 330
2	Pogue Avenue east of Road 244
3	Avenue 324 west of Road 240

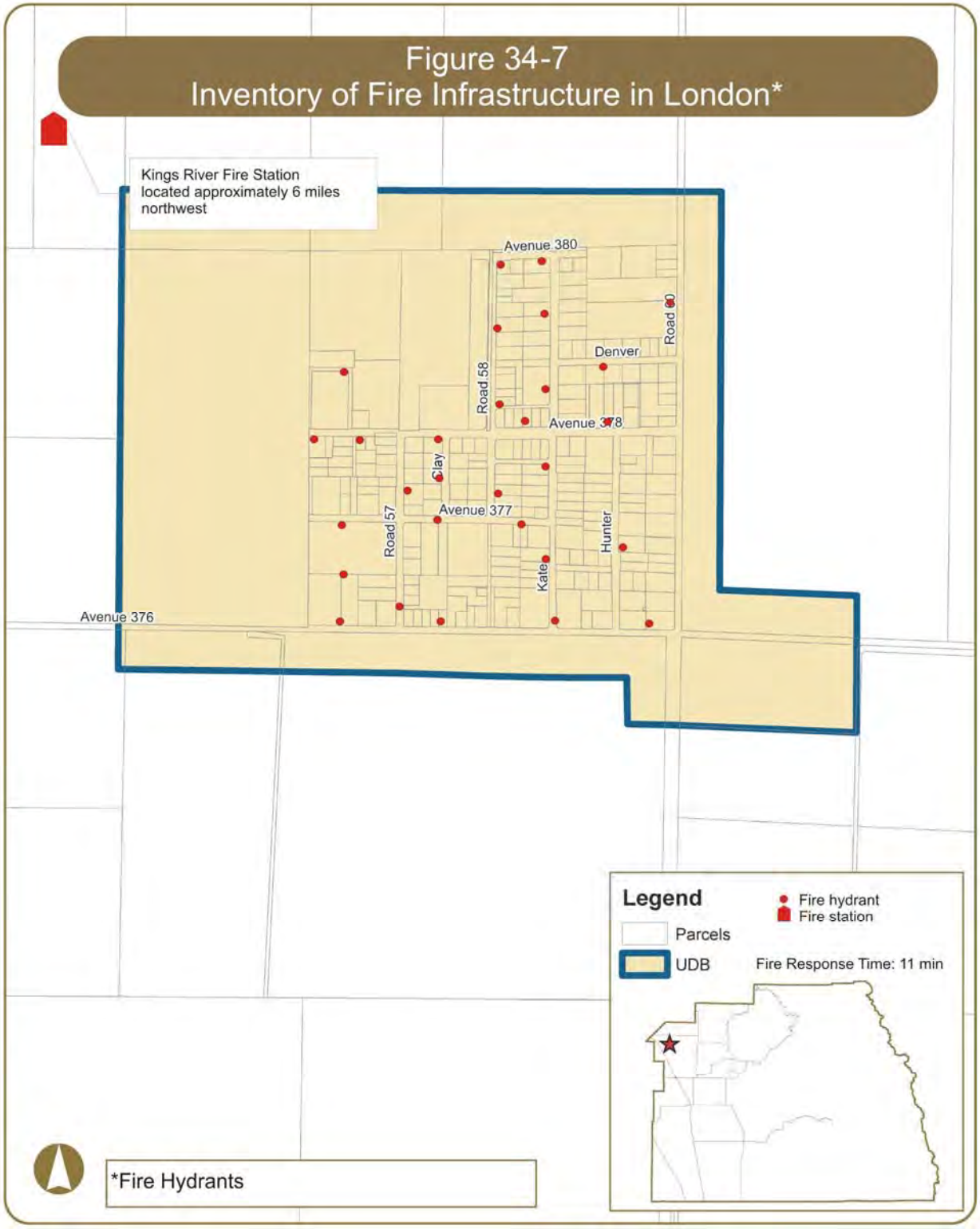


Figure 34-7
Inventory of Fire Infrastructure in London*
Kings River Fire Station
located approximately 6 miles
northwest
Avenue 380
Road 60
Denver
Road 58
Avenue 378
Clay
Avenue 377
Road 57
Hunter
Kate
Avenue 376
Legend
Fire hydrant
Fire station
Parcels
UDB
Fire Response Time: 11 min
*Fire Hydrants

TABLE 34-7
Existing Fire Infrastructure in London

Existing Fire Hydrants	
No.	**Location**
1	Avenue 380 and Road 58
2	Avenue 380 and Kate Road
3	Road 60 north of Denver Avenue
4	Kate Road north of Denver Road
5	Road 58 south of Avenue 380
6	Denver Avenue east of Kate Road
7	Kate Road north of Avenue 378
8	Road 58 north of Avenue 378
9	Avenue 378 east of Kate Road
10	Avenue 378 east of Road 58
11	Kate Road south of Avenue 378
12	Road 58 north of Avenue 377
13	Avenue 377 east of Road 58
14	Kate Road south of Avenue 377
15	Hunter Road south of Avenue 378
16	Avenue 376 east of Hunter Road
17	Avenue 376 and Kate Road
18	Pound Road north of Avenue 378
19	Avenue 378 west of Pound Road
20	Avenue 378 and Pound Road
21	Avenue 378 and Clay Road
22	Clay Road south of Avenue 378
23	Road 57 north of Avenue 377
24	Avenue 377 and Clay Road
25	Avenue 377 west of Pound Road
26	Pound Road south of Avenue 377
27	Avenue 376 west of Road 57
28	Road 57 north of Avenue 376
29	Avenue 376 east of Road 57

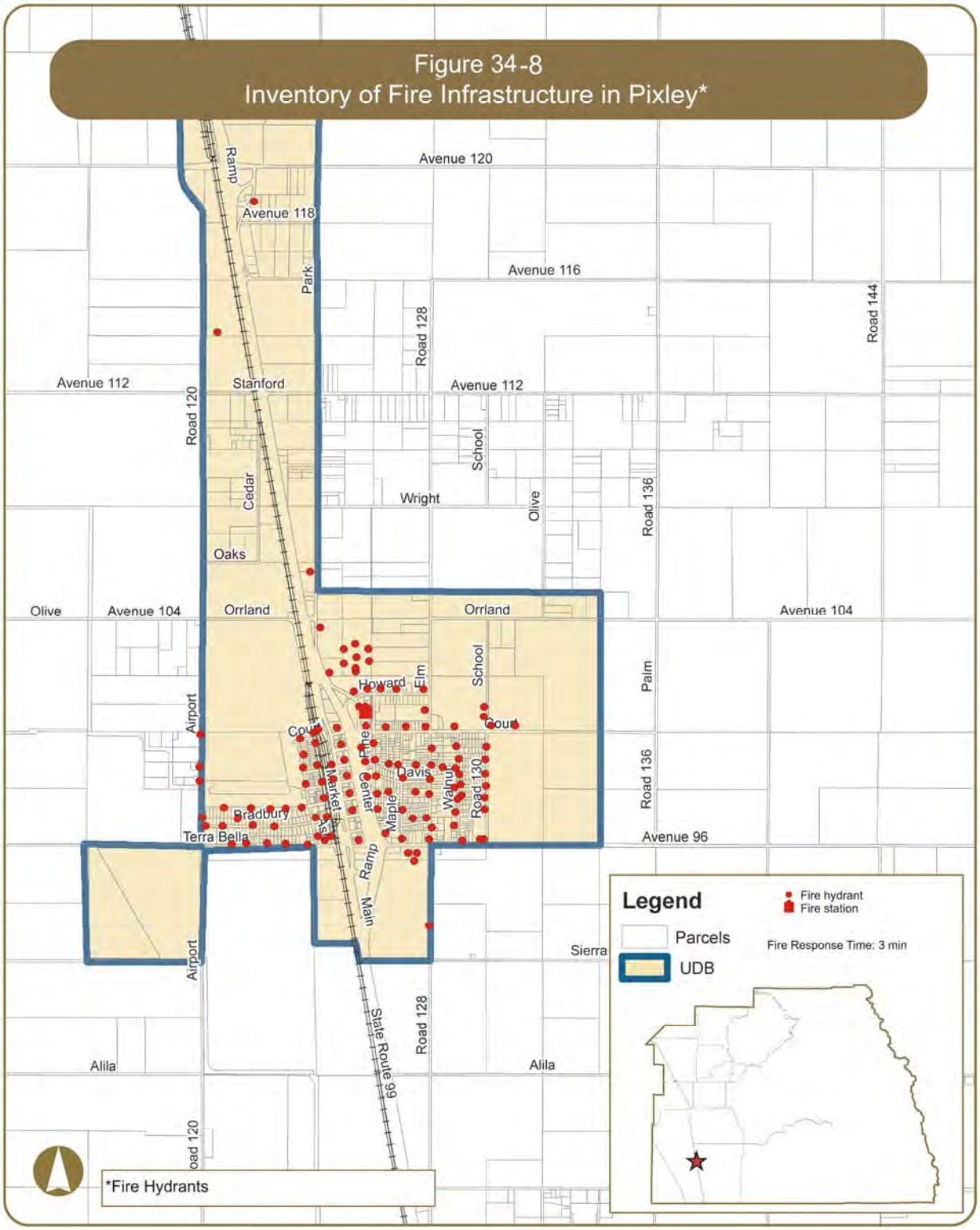


Figure 34-8
Inventory of Fire Infrastructure in Pixley*
Avenue 120
Avenue 118
Avenue 116
Avenue 112
Avenue 104
Avenue 96
Ramp
Park
Road 128
Road 144
Road 120
Road 136
Road 130
Stanford
Cedar
Oaks
Wright
School
Olive
Orrland
Howard
Elm
Palm
Court
Davis
Walnut
Center
Maple
Market
Bradbury
Terra Bella
Main
Sierra
Alila
State Route 99
Airport
*Fire Hydrants
Legend
Fire hydrant
Fire station
Parcels
UDB
Fire Response Time: 3 min

TABLE 34-8
Existing Fire Infrastructure in Pixley

Existing Fire Hydrants			
No.	**Location**	***No.***	**Location**
1	Drv 1228 north of Avenue 118	41	Walnut Street and Sarah Avenue
2	Road 120 north of Avenue 112	42	Walnut Street and Carol Avenue
3	Park Drive south of Wright Avenue	43	School Street and Carol Avenue
4	Park Drive south of SR 99 NB Ramps	44	School Street and Sarah Avenue
5	Park Drive north of SR 99 NB Off-Ramp	45	School Street and Holste Avenue
6	Park Village Development east of Park Drive	46	Walnut Street and Holste Avenue
7	Park Village Development east of Park Drive	47	Walnut Street and Dianna Avenue
8	Park Village Development east of Park Drive	48	School Street and Dianna Avenue
9	Park Village Development east of Park Drive	49	Walnut Street and Dianna Avenue
10	Park Village Development east of Park Drive	50	Walnut Street and Carla Avenue
11	Park Village Development east of Park Drive	51	School Street and Carla Avenue
12	Park Village Development east of Park Drive	52	Walnut Street and Carla Avenue
13	Park Village Development east of Park Drive	53	Walnut Street and Joanne Avenue
14	Park Drive and SR 99 NB Off-Ramp	54	School Street and Joanne Avenue
15	Park Drive south of Howard Avenue	55	Walnut Street south of Joanne Avenue
16	Howard Avenue east of Pine Street	56	Avenue 96 east of Walnut Street
17	Howard Avenue west of Pine Street	57	School Street and Avenue 96
18	Howard Avenue and Maple Street	58	Avenue 96 west of School Street
19	Howard Avenue west of Elm Street	59	Davis Street west of Pine Street
20	Elm Street north of Court Avenue	60	Davis Street and Pine Street
21	School Street north of Court Avenue	61	Davis Street and Maple Street
22	School Street north of Court Avenue	62	Davis Street and Elm Street
23	Court Avenue and School Street	63	Compton Avenue and Elm Street
24	Court Avenue east of School Street	64	Compton Avenue west of Elm Street
25	Court Avenue and Walnut Street	65	Compton Avenue west of Maple Street
26	Court Avenue and Elm Street	66	Compton Avenue and Pine Street
27	Court Avenue east of Maple Street	67	Joanne Avenue and Park Drive
28	Court Avenue and Spani Way	68	Joanne Avenue and Maple Street
29	Court Avenue and Pine Street	69	Lavonia Avenue and Elm Street
30	Franklin Avenue west of Pine Street	70	Lavonia Avenue west of Elm Street
31	Franklin Avenue and Pine Street	71	Elm Street south of Lavonia Avenue
32	Ellsworth Avenue west of Pine Street	72	Elm Street and Avenue 96
33	Ellsworth Avenue and Pine Street	73	Maple Street and Avenue 96
34	Ellsworth Avenue and Spani way	74	Park Drive north of Avenue 96
35	Ellsworth Avenue and Maple Street	75	Avenue 96 east of Maple Street
36	Ellsworth Avenue east of Maple Street	76	Avenue 96 east of Maple Street
37	Ellsworth Avenue and Elm Street	77	Avenue 96 east of Maple Street
38	Elm Street north of Ellsworth Avenue	78	Elm Street south of Sierra Avenue
39	Ellsworth Avenue east of Elm Street	79	Court Avenue east of Main Street
40	Ellsworth Avenue and Walnut Street	80	Franklin Avenue east of Main Street

TABLE 34-8 (continued)
Existing Fire Infrastructure in Pixley

Existing Fire Hydrants			
No.	**Location**	***No.***	**Location**
81	Ellsworth Avenue east of Main Street	121	Terra Bella Street west of Ash Street
82	Davis Street east of Main Street		
83	Compton Avenue east of Main Street		
84	Bradbury Avenue east of Main Street		
85	Terra Bella Street east of Main Street		
86	Ellsworth Avenue east of Market Street		
87	Davis Street east of Market Street		
88	Court Avenue and Market Street		
89	Court Avenue and Market Street		
90	Market Street south of Court Avenue		
91	Ellsworth Street and Market Street		
92	Davis Avenue and Market Street		
93	Compton Avenue and Market Street		
94	Bradbury Avenue and Market Street		
95	Market Street north of Terra Bella Street		
96	Terra Bella Street east of Ash Street		
97	Ash Street north of Terra Bella Street		
98	Bradbury Avenue and Ash Street		
99	Davis Avenue and Ash Street		
100	Ellsworth Street and Ash Street		
101	Ash Street north of Ellsworth Street		
102	Court Street and Ash Street		
103	Airport Street north of Compton Avenue		
104	Airport Street north of Compton Avenue		
105	Airport Street north of Compton Avenue		
106	Compton Avenue east of Airport Street		
107	Compton Avenue west of Cedar Street		
108	Compton Avenue east of Cedar Street		
109	Compton Avenue east of Cedar Street		
110	Compton Avenue west of Ash Street		
111	Bradbury Avenue east of Cedar Street		
112	Bradbury Avenue and Cedar Street		
113	Bradbury Avenue west of Cedar Street		
114	Bradbury Avenue east of Airport Street		
115	Bradbury Avenue and Airport Street		
116	Airport Street north of Bradbury Avenue		
117	Terra Bella Street east of Airport Street		
118	Terra Bella Street west of Cedar Street		
119	Terra Bella Street east of Cedar Street		
120	Terra Bella Street east of Cedar Street		

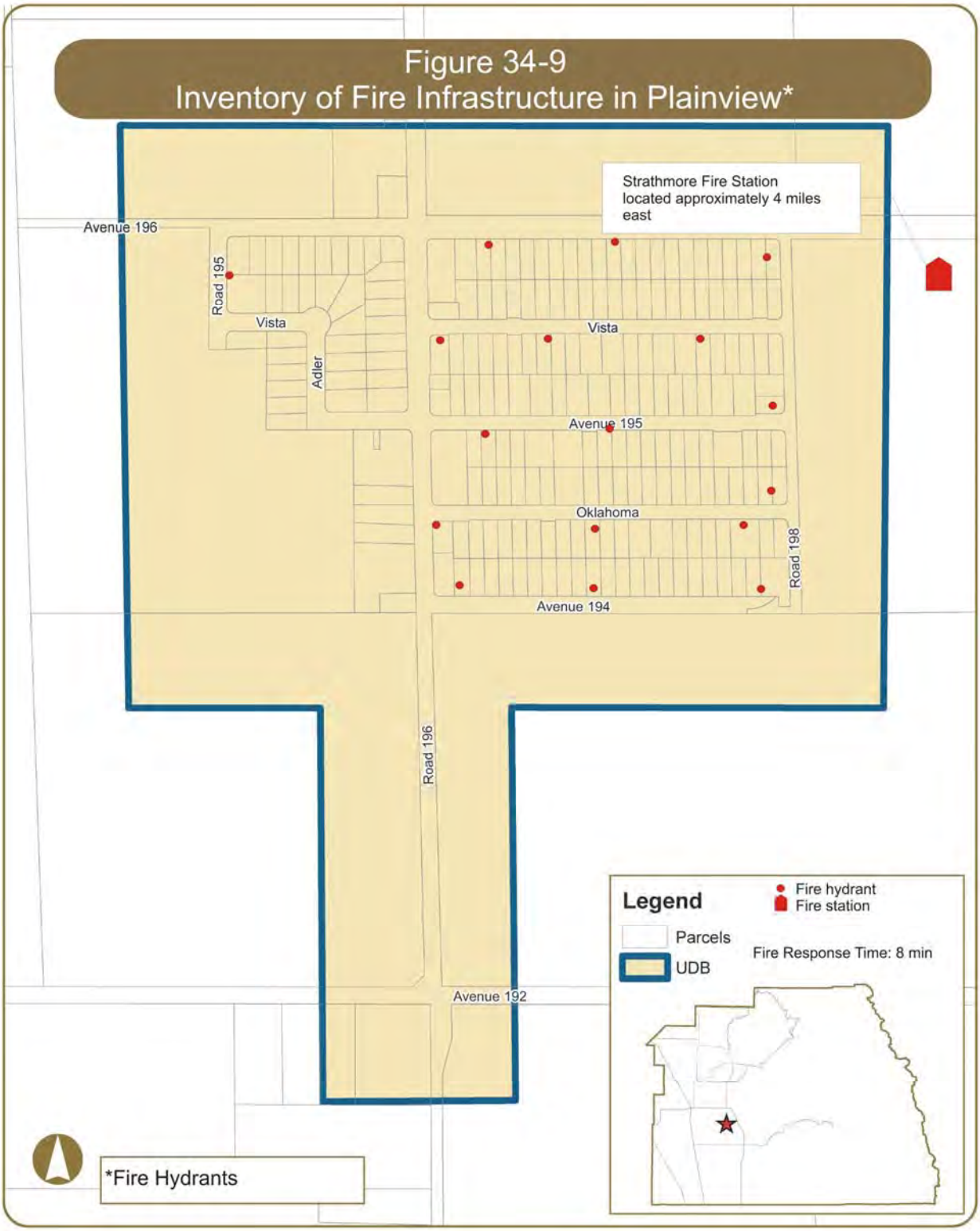


Figure 34-9
Inventory of Fire Infrastructure in Plainview*
Strathmore Fire Station located approximately 4 miles east
Avenue 196
Road 195
Vista
Adler
Vista
Avenue 195
Oklahoma
Road 198
Avenue 194
Road 196
Avenue 192
Legend
Fire hydrant
Fire station
Parcels
UDB
Fire Response Time: 8 min
*Fire Hydrants

TABLE 34-9
Existing Fire Infrastructure in Plainview

Existing Fire Hydrants	
No.	**Location**
1	Road 195 south of Avenue 196
2	Avenue 196 east of Road 196
3	Avenue 196 east of Road 196
4	Avenue 196 west of Road 198
5	Vista Avenue and Road 196
6	Vista Avenue east of Road 196
7	Vista Avenue west of Road 198
8	Avenue 195 and Road 198
9	Avenue 195 west of Road 198
10	Avenue 195 east of Road 196
11	Oklahoma Avenue west of Road 198
12	Oklahoma Avenue west of Road 198
13	Oklahoma Avenue east of Road 196
14	Oklahoma Avenue and Road 196
15	Avenue 194 east of Road 196
16	Avenue 194 east of Road 196
17	Avenue 194 west of Road 198

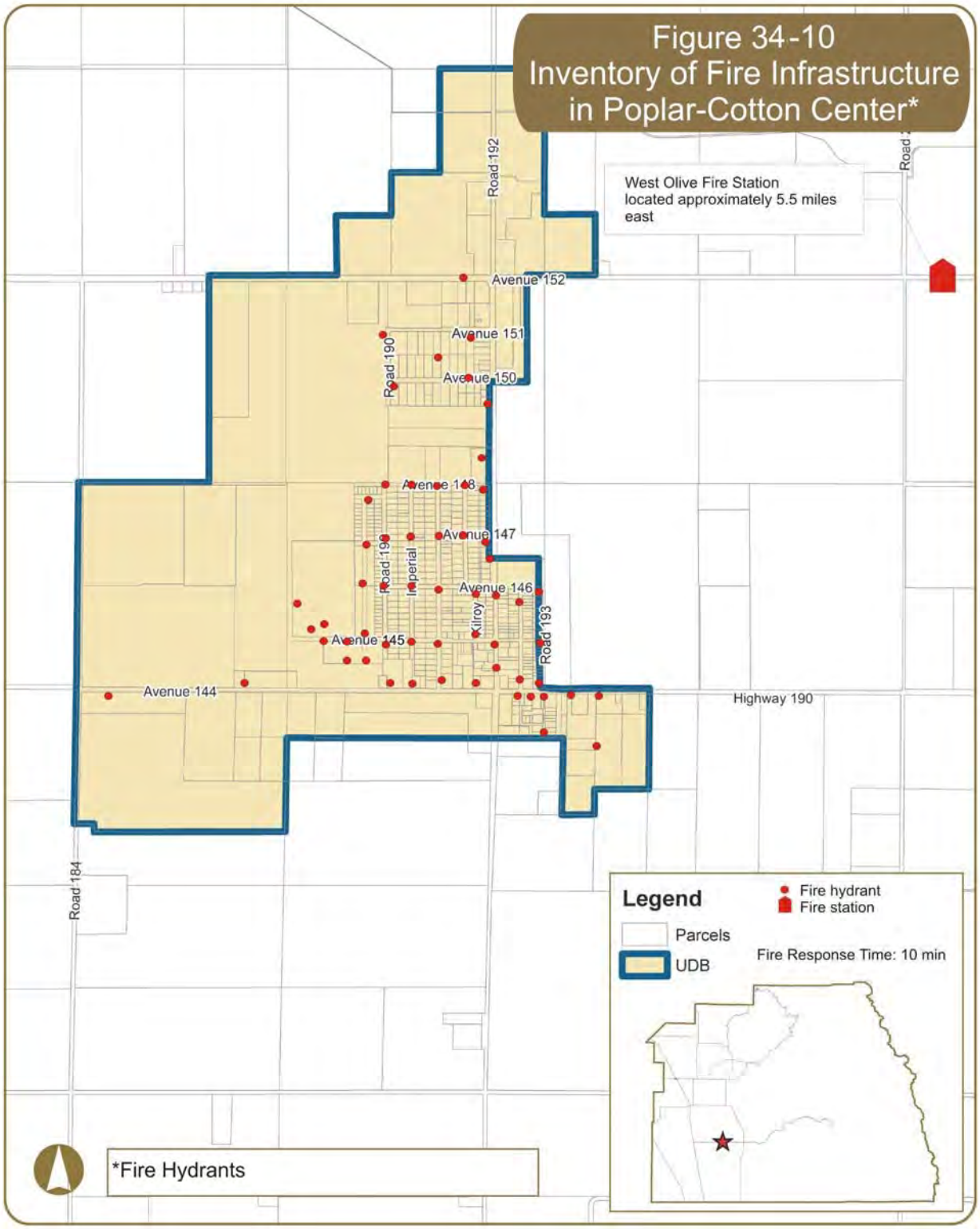


Figure 34-10
Inventory of Fire Infrastructure in Poplar-Cotton Center*
West Olive Fire Station located approximately 5.5 miles east
Road 192
Avenue 152
Avenue 151
Road 190
Avenue 150
Avenue 148
Avenue 147
Road 189
Imperial
Avenue 146
Kilroy
Road 193
Avenue 145
Avenue 144
Highway 190
Road 184
Legend
Fire hydrant
Fire station
Parcels
UDB
Fire Response Time: 10 min
*Fire Hydrants

TABLE 34-10
Existing Fire Infrastructure in Poplar-Cotton Center

Existing Fire Hydrants			
No.	**Location**	***No.***	**Location**
1	Avenue 152 west of Road 192	41	Avenue 145 (Pleasant View Elementary) west of Walker Road
2	Avenue 151 west of Road 192	42	Avenue 144 east of Road 184
3	Road 190 and Avenue 151	43	Avenue 144 east of Road 184
4	Alley between Avenue 150 and 151 west of Road 192	44	Walker Road south od Avenue 145
5	Road 190 and Avenue 150	45	Private Road west of Walker Road
6	Avenue 150 west of Road 192	46	Avenue 144 west of Road 191
7	Road 190 and Road 192	47	Avenue 144 west of Road 191
8	Road 192 north of Avenue 148	48	Avenue 144 west of Road 192
9	Road 192 south of Avenue 148	49	Road 192 north of Avenue 144
10	Avenue 148 and Kilroy Road	50	Tobias Road north of Avenue 144
11	Avenue 148 and Road 191	51	Avenue 144 east of Road 192
12	Avenue 148 and Imperial Road	52	Avenue 144 west of Cook Street
13	Avenue 148 and Road 190	53	Road 193 north of Avenue 144
14	Tulae Avenue and Walker Road	54	Avenue 144 and Cook Street
15	Road 192 south of Avenue 147	55	Cook Street south of Avenue 144
16	Road 192 north of Avenue 146	56	Avenue 144 east of Cook Street
17	Avenue 147 and Kilroy Road	57	Avenue 144 and Road 193
18	Road 191 south of Avenue 148	58	Avenue 144 and Road 194
19	Imperial Road south of Avenue 148	59	Road 194 south of Avenue 144
20	Road 190 north of Avenue 147		
21	Walker Road and Avenue 147		
22	Walker Road south of Avenue 147		
23	Road 190 and Avenue 146		
24	Imperial Road and Avenue 146		
25	Road 191 and Avenue 146		
26	Kilroy Road south of Avenue 146		
27	Road 192 south of Avenue 146		
28	Tobias Road south of Avenue 146		
29	Road 193 and Avenue 146		
30	Road 193 and Avenue 145		
31	Road 192 and Avenue 145		
32	Kilroy Road north of Avenue 145		
33	Road 191 and Avenue 145		
34	Imperial Road and Avenue 145		
35	Road 190 and Avenue 145		
36	Walker Road and Avenue 145		
37	Avenue 145 west of Walker Road		
38	Avenue 145 west of Walker Road		
39	Avenue 145 north of Avenue 145		
40	Avenue 145 (Pleasant View Elementary) west of Walker Road		

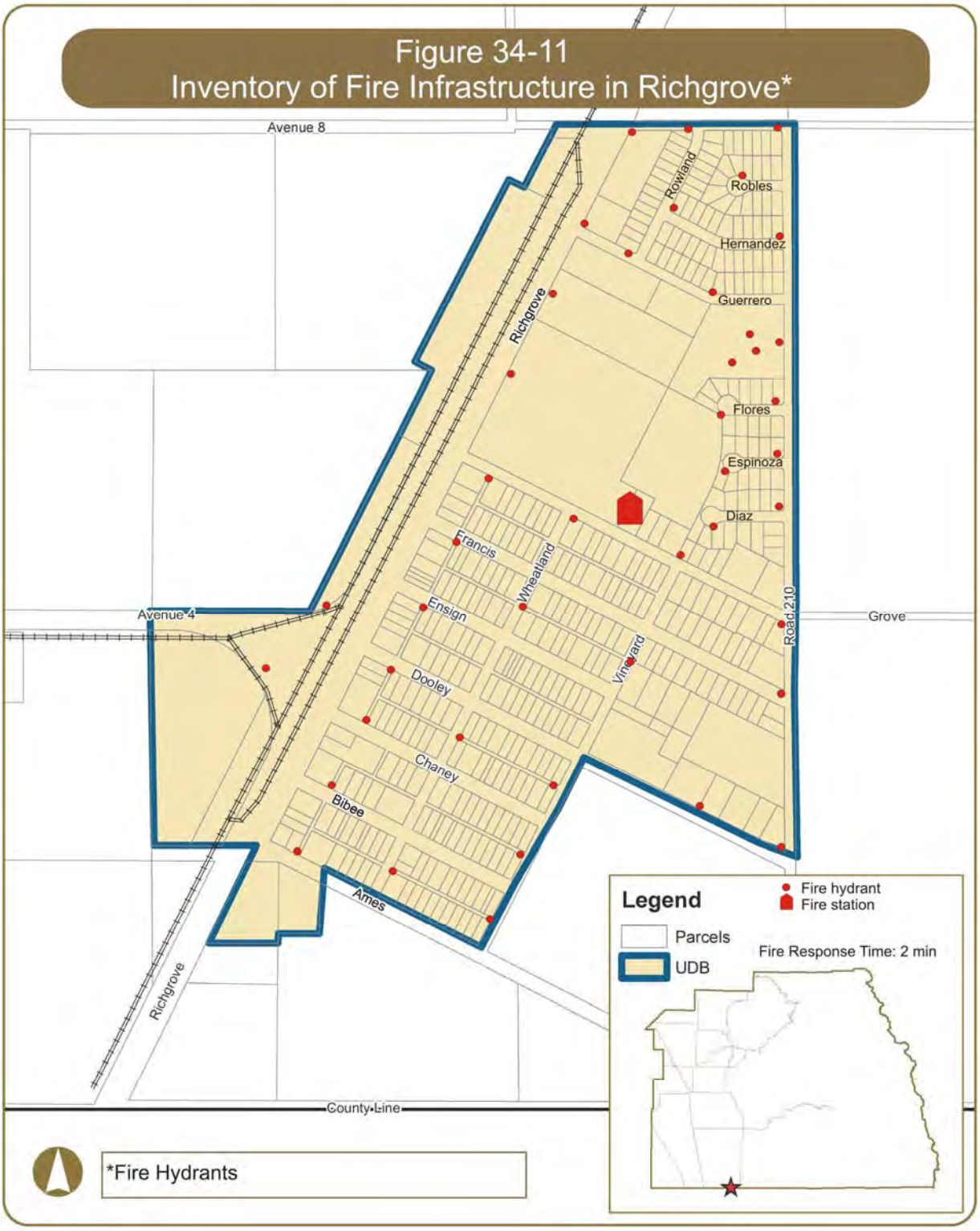


Figure 34-11
Inventory of Fire Infrastructure in Richgrove*
Avenue 8
Avenue 4
Grove
County Line
Rowland
Robles
Hernandez
Guerrero
Richgrove
Flores
Espinoza
Diaz
Francis
Wheatland
Ensign
Vineyard
Road 210
Dooley
Chaney
Bibee
Ames
Richgrove
Legend
Fire hydrant
Fire station
Parcels
UDB
Fire Response Time: 2 min
*Fire Hydrants

TABLE 34-11
Existing Fire Infrastructure in Richgrove

Existing Fire Hydrants			
No.	**Location**	***No.***	**Location**
1	Avenue 8 east of Richgrove Drive	41	Vineyard Drive south of Bibee Drive
2	Avenue 8 and Rowland Street	42	Wheatland Drive south of Bibee Drive
3	Avenue 8 and Road 210	43	Ames Drive east of Richgrove Drive
4	Robles Court west of Road 210		
5	Road 210 and Hernandez Avenue		
6	Rowland Street and Hernandez Avenue		
7	Guerrero Avenue west of Road 210		
8	Rowland Street and Guerrero Avenue		
9	Richgrove Drive and Guerrero Avenue		
10	Richgrove Drive south of Guerrero Avenue		
11	Road 210 south of Guerrero Avenue (apartment complex)		
12	Road 210 south of Guerrero Avenue (apartment complex)		
13	Road 210 south of Guerrero Avenue (apartment complex)		
14	Road 210 south of Guerrero Avenue (apartment complex)		
15	Road 210 and Flores Avenue		
16	Flores Avenue west of Road 210		
17	Espinoza Avenue and Road 210		
18	Espinoza Avenue west of Road 210		
19	Diaz Avenue and Road 210		
20	Diaz Avenue west of Road 210		
21	Richgrove Drive north of Grove Drive		
22	Grove Drive east of Richgrove Drive		
23	Grove Drive and Wheatland Drive		
24	Grove Drive and Vineyard Drive		
25	Grove Drive and Road 210		
26	Francis Drive and Road 210		
27	Francis Drive east of Richgrove Drive		
28	Wheatland Drive south of Francis Drive		
29	Vineyard Drive south of Francis Drive		
30	Dooley Drive and Road 210		
31	Dooley Drive west of Road 210		
32	Ensign Drive east of Richgrove Drive		
33	Dooley Drive east of Richgrove Drive		
34	Avenue 4 west of Richgrove Drive		
35	Richgrove Drive south of Avenue 4		
36	Wheatland Drive south of Dooley Drive		
37	Vineyard Drive south of Dooley Drive		
38	Chaney Drive east of Richgrove Drive		
39	Bibee Drive east of Richgrove Drive		
40	Vineyard Drive south of Chaney Drive		

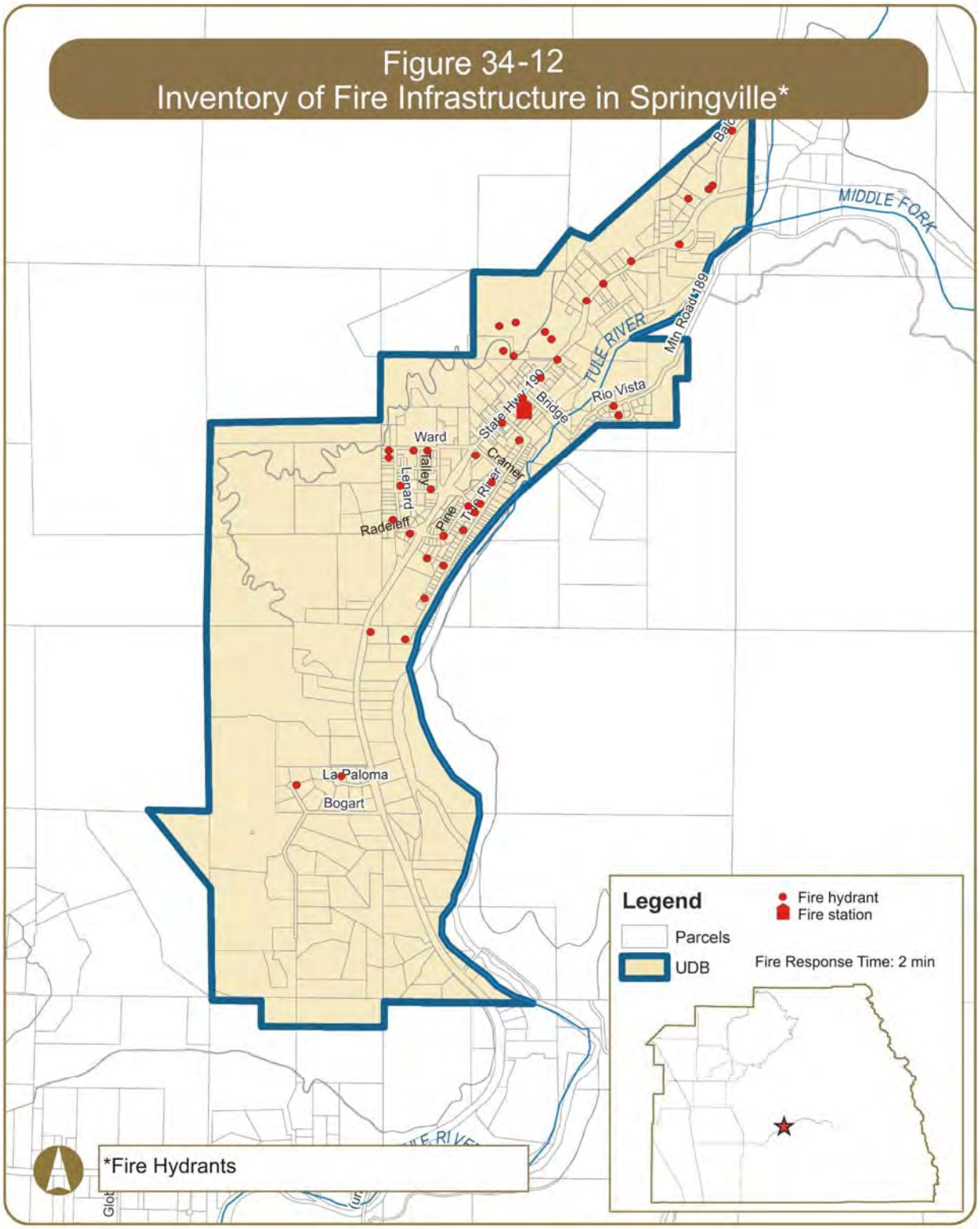


Figure 34-12
Inventory of Fire Infrastructure in Springville*
MIDDLE FORK
TULE RIVER
Mtn Road 189
State Hwy 190
Bridge
Rio Vista
Ward
Bailey
Lepard
Radcliff
Pine
Tule River
Cramer
La Paloma
Bogart
Legend
Fire hydrant
Fire station
Parcels
UDB
Fire Response Time: 2 min
*Fire Hydrants

TABLE 34-12
Existing Fire Infrastructure in Springville

Existing Fire Hydrants			
No.	**Location**	***No.***	**Location**
1	Wilson Drive north of Bogart Drive	41	SR 190 and Balch Park Road
2	La Paloma Drive west of SR 190	42	SR 190 and Balch Park Road
3	SR 190 south of Radeleff Avenue	43	Balch Park Road north of SR 190
4	Tule River Drive south of Malcolm Drive		
5	Tule River Drive south of Malcolm Drive		
6	Tule River Drive and Malcolm Drive		
7	Malcolm Drive west of Tule River Drive		
8	Pine Drive east of SR 190		
9	Radeleff Avenue west of SR 190		
10	Tule River Drive south of Pine Drive		
11	Tule River Drive and Pine Drive		
12	Tule River Drive and Pine Drive		
13	James Avenue and Pine Drive		
14	Tule River Drive north of Pine Drive		
15	Tule River Drive east of SR 190		
16	SR 190 and Tule River Drive		
17	SR 190 and Cramer Drive		
18	Lenard Road north of Radeleff Avenue		
19	Lenard Road and James Avenue		
20	James Avenue west of SR 190		
21	Lenard Road south of Ward Avenue		
22	Ward Avenue east of Lenard Road		
23	Ward Avenue and Talley Street		
24	Ward Avenue east of Talley Street		
25	SR 190 and Bridge Drive		
26	Rio Vista Road north of Alta Drive		
27	Alta Drive south of Rio Vista Road		
28	SR 190 north of Bridge Drive		
29	SR 190 north of Bridge Drive		
30	Private Road for Sequoia Dawn Apartments west of SR 190		
31	Private Road for Sequoia Dawn Apartments west of SR 190		
32	Private Road for Sequoia Dawn Apartments west of SR 190		
33	Private Road for Sequoia Dawn Apartments west of SR 190		
34	Private Road for Sequoia Dawn Apartments west of SR 190		
35	Private Road for Sequoia Dawn Apartments west of SR 190		
36	SR 190 south of Walkers Drive		
37	SR 190 south of Walkers Drive		
38	SR 190 north of Walkers Drive		
39	SR 190 and Shingle Mill Road		
40	Shingle Mill Road west of SR 190		

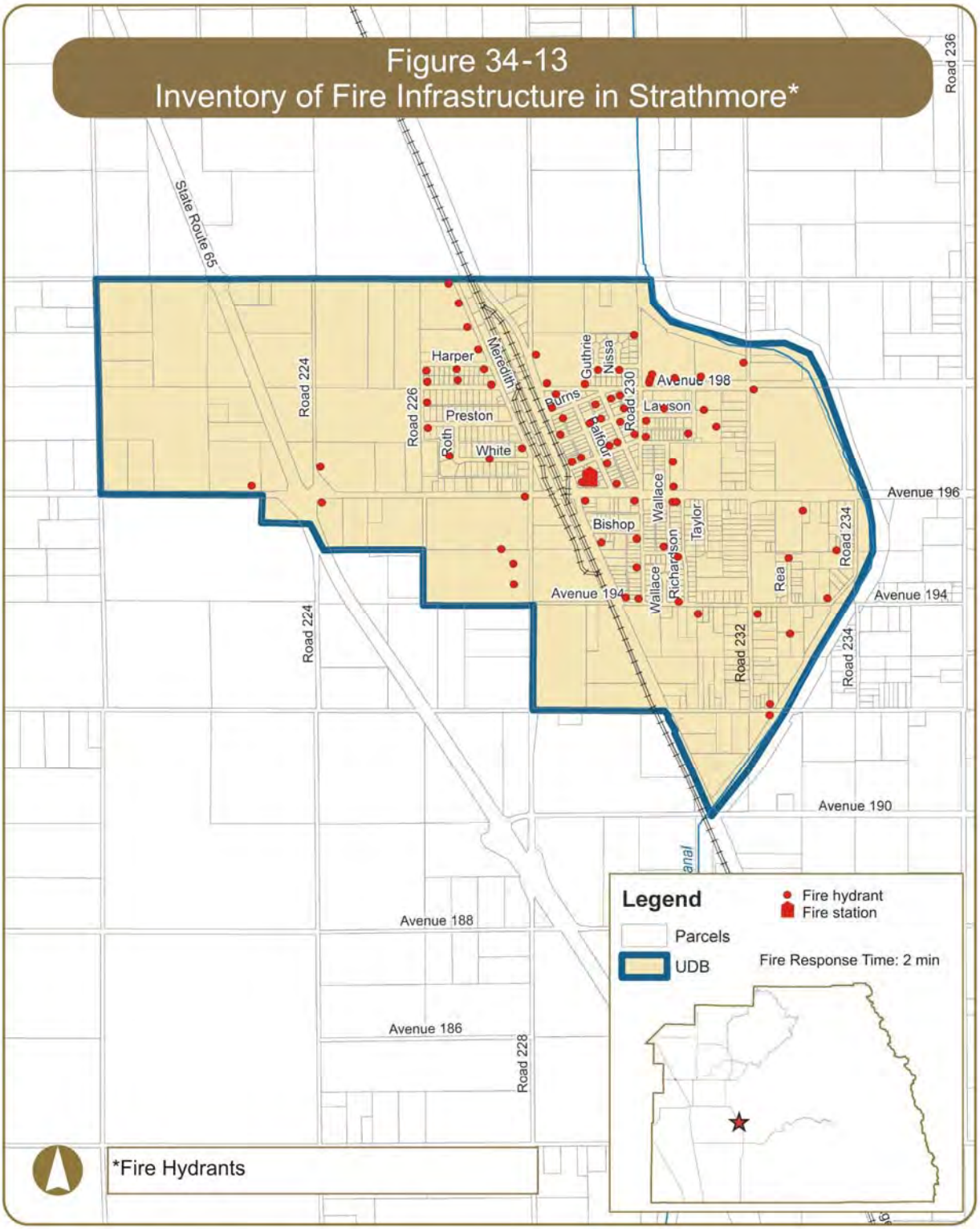


Figure 34-13
Inventory of Fire Infrastructure in Strathmore*
State Route 65
Road 224
Road 226
Road 230
Road 232
Road 234
Road 236
Harper
Preston
Roth
White
Meredith
Guthrie
Nissa
Burns
Balfour
Lawson
Avenue 198
Avenue 196
Avenue 194
Avenue 190
Avenue 188
Avenue 186
Bishop
Wallace
Richardson
Taylor
Rea
Road 228
Legend
Fire hydrant
Fire station
Parcels
UDB
Fire Response Time: 2 min
*Fire Hydrants

TABLE 34-13
Existing Fire Infrastructure in Strathmore

Existing Fire Hydrants			
No.	**Location**	***No.***	**Location**
1	Avenue 196 west of SR 65	41	Burns Drive east of Orange Belt Drive
2	Road 224 north of Avenue 196	42	Lawson Drive and Orange Belt Drive
3	Road 224 and Avenue 196	43	Lawson Drive and Balfour Drive
4	Meredith Drive and Avenue 200	44	Lawson Drive west of Guthrie Drive
5	Meredith Drive south of Avenue 200	45	Lawson Drive east of Guthrie Drive
6	Meredith Drive south of Avenue 200	46	Lawson Drive and Guthrie Drive
7	Meredith Drive north of Harper Avenue	47	Lawson Avenue east of Road 230
8	Meredith Drive and Harper Avenue	48	Road 231 and Lawson Avenue
9	Meredith Drive and Avenue 198	49	Lawson Avenue and Road 230
10	Harper Avenue west of Meredith Drive	50	Road 231 south of Lawson Avenue
11	Harper Avenue and Road 226	51	Road 231 north of Avenue 197
12	Avenue 198 and Road 226	52	Orange Belt Drive and Bruce Drive
13	Avenue 198 west of Meredith Drive	53	Bruce Drive east of Orange Belt Drive
14	Road 226 south of Avenue 198	54	Bruce Drive west of Guthrie Drive
15	Road 226 and Preston Avenue	55	Bruce Drive and Guthrie Drive
16	Roth Road and White Avenue	56	Road 230 amd Bruce Drive
17	White Avenue east of Roth Road	57	Road 230 and Avenue 197
18	Meredith Drive north of White Avenue	58	Balfour Drive south of Bruce Drive
19	Road 228 and Avenue 196	59	Avenue 196 and Orange Belt Drive
20	Road 228 south of Avenue 196	60	Avenue 196 and Orange Belt Drive
21	Road 228 south of Avenue 196	61	Avenue 196 and Balfour Drive
22	Road 228 north of Avenue 194	62	Road 230 and Avenue 196
23	Road 230 north of Avenue 198	63	Avenue 196 and Wallace Road
24	Orange Belt Highway and Orange Belt Drive	64	Avenue 196 east of Wallace Road
25	Avenue 198 and Orange Belt Drive	65	Avenue 196 and Wallace Road
26	Avenue 198 east of Orange Belt Drive	66	Wallace Road north of Avenue 196
27	Burns Drive and Orange Belt Drive	67	Avenue 196 east of Road 232
28	Avenue 198 east of Balfour Drive	68	Orange Belt Drive south of Bishop Avenue
29	Harper Avenue and Guthrie Court	69	Bishop Avenue and Road 230
30	Harper Avenue and Nissa Court	70	Avenue 195 and Wallace Road
31	Avenue 198 east of Road 230	71	Avenue 195 and Richardson Road
32	Avenue 198 east of Road 230	72	Road 230 south of Avenue 195
33	Avenue 198 east of Road 230	73	Orange Belt Drive and Avenue 194
34	Avenue 198 west of Road 231	74	Road 230 and Avenue 194
35	Avenue 198 and Road 231	75	Richardson Road and Avenue 194
36	Road 232 north of Avenue 198	76	Avenue 194 east of Richardson Road
37	Avenue 198 and Road 232	77	Rea Raod north of Avenue 194
38	Avenue 198 west of Road 230	78	Road 234 north of Avenue 194
39	Burns Drive and Guthrie Drive	79	Road 234 and Avenue 194
40	Burns Drive west of Guthrie Drive	80	Road 232 and Avenue 194

TABLE 34-13 (continued)
Existing Fire Infrastructure in Strathmore

Existing Fire Hydrants	
No.	**Location**
81	Avenue 194 east of Road 232
82	Avenue 192 east of Road 232
83	Avenue 192 east of Road 232

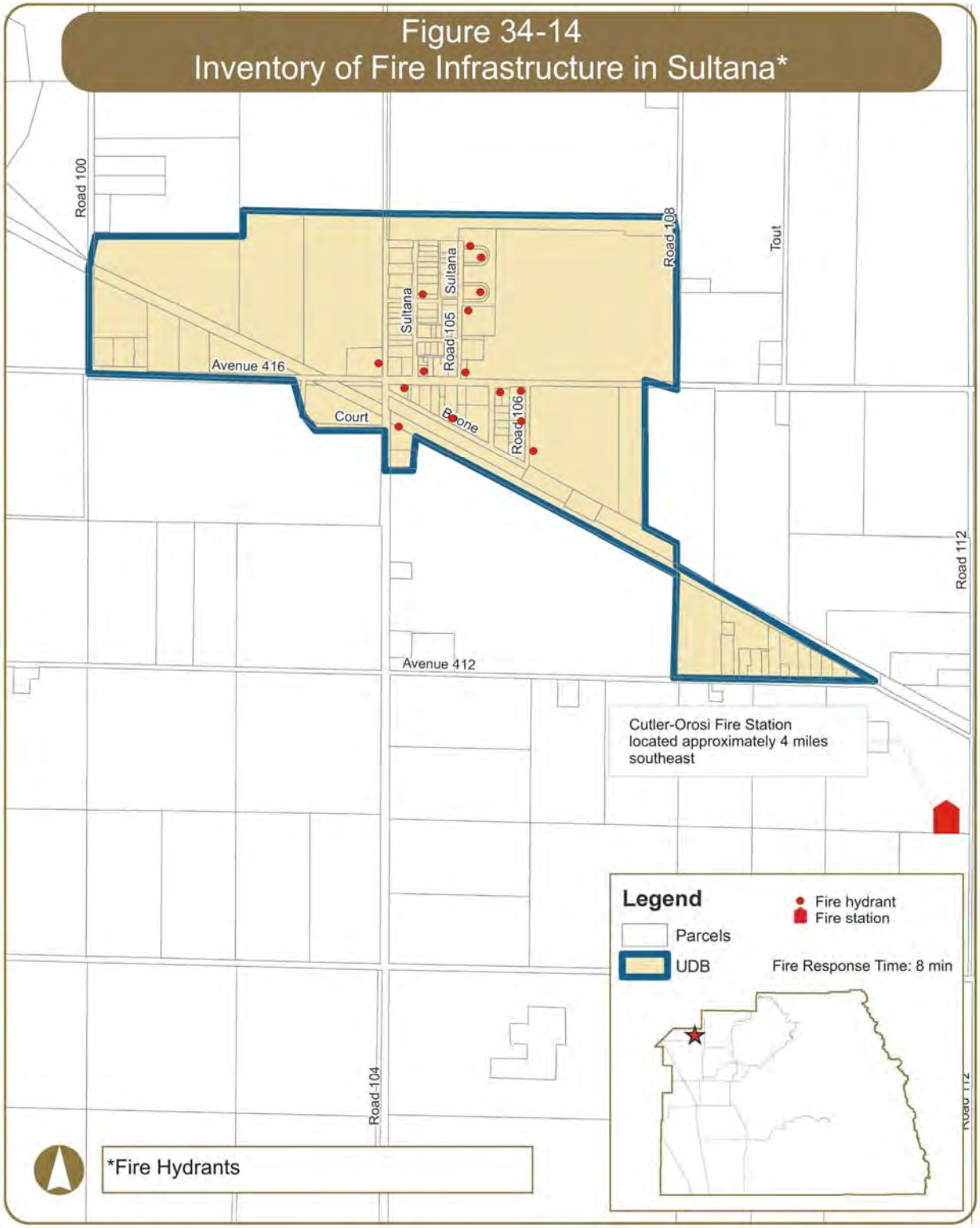


Figure 34-14
Inventory of Fire Infrastructure in Sultana*
Road 100
Road 108
Tout
Sultana
Sultana
Road 105
Avenue 416
Court
Boone
Road 106
Road 112
Avenue 412
Cutler-Orosi Fire Station located approximately 4 miles southeast
Legend
Fire hydrant
Fire station
Parcels
UDB
Fire Response Time: 8 min
Road 104
*Fire Hydrants

TABLE 34-14
Existing Fire Infrastructure in Sultana

Existing Fire Hydrants	
No.	**Location**
1	Road 105 north of Avenue 416
2	Road 105 north of Avenue 416
3	Road 105 north of Avenue 416
4	Road 105 north of Avenue 416
5	Road 105 and Avenue 416
6	Sultana Road north of Avenue 417
7	Sultana Road and Avenue 416
8	Avenue 416 west of Sultana Road
9	Road 104 north of Avenue 416
10	Road 104 south of Avenue 416
11	Avenue 416 and Perkins Road
12	Avenue 416 and Road 106
13	Road 106 south of Avenue 416
14	Road 106 north of Boone Avenue
15	Boone Avenue south of Avenue 416

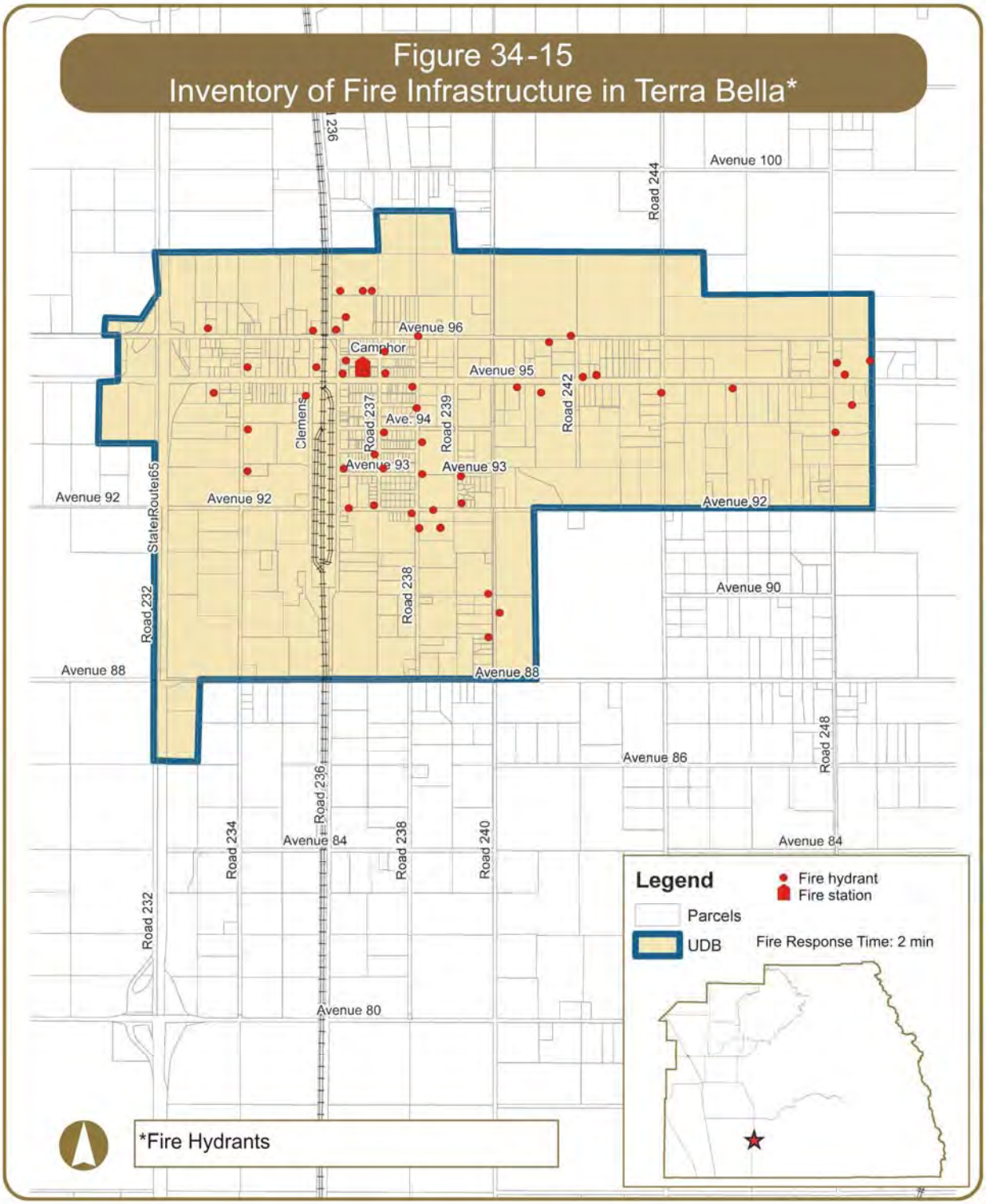


Figure 34-15
Inventory of Fire Infrastructure in Terra Bella*
Avenue 100
Road 244
Avenue 96
Camphor
Avenue 95
Road 242
Clemens
Road 237
Ave. 94
Road 239
Avenue 93
Avenue 93
Avenue 92
Avenue 92
Avenue 92
State Route 65
Road 232
Road 238
Avenue 90
Avenue 88
Avenue 88
Avenue 86
Road 248
Road 236
Road 234
Avenue 84
Road 238
Road 240
Avenue 84
Road 232
Avenue 80
Legend
Fire hydrant
Fire station
Parcels
UDB
Fire Response Time: 2 min
*Fire Hydrants

TABLE 34-15
Existing Fire Infrastructure in Terra Bella

Existing Fire Hydrants			
No.	**Location**	***No.***	**Location**
1	Road 236 north of Avenue 96	41	Avenue 93 and Road 239
2	Road 236 north of Avenue 96	42	Avenue 92 east of Road 236
3	Road 236 north of Avenue 96	43	Avenue 92 and Road 237 (2nd Street)
4	Road 236 north of US Post Office	44	Avenue 92 and Road 238
5	Avenue 96 east of SR 65	45	Road 238 south of Avenue 92
6	Avenue 96 west of Road 236	46	Avenue 92 east of Road 238
7	Road 236 and Avenue 96	47	Avenue 92 west of Road 239
8	Avenue 96 and Road 238	48	Avenue 92 and Road 239
9	Avenue 96 west of Road 242	49	Road 240 south of Avenue 92
10	Avenue 96 and Road 242	50	Road 240 south of Avenue 90
11	Camphor Avenue Road 237 (2nd Street)	51	Road 240 north of Avenue 88
12	Road 234 north of Avenue 95		
13	Clemens Road north of Avenue 95		
14	Road 236 and Avenue 95		
15	Road 236 north of Avenue 95		
16	Avenue 95 west of Road 237		
17	Road 237 and Avenue 95		
18	Road 238 and Avenue 95		
19	Avenue 95 east of Road 240		
20	Avenue 95 west of Road 242		
21	Road 242 and Avenue 95		
22	Avenue 95 east of Road 242		
23	Road 244 south of Avenue 95		
24	Avenue 95 east of Road 244		
25	Road 248 and Avenue 95		
26	Road 248 north of Avenue 95		
27	Avenue 95 easat of Road 248		
28	Road 248 south of Avenue 95		
29	Road 248 south of Avenue 95		
30	Avenue 95 west of Road 234		
31	Clemens Road south of Avenue 95		
32	Road 234 south of Avenue 95		
33	Road 234 north of Avenue 92		
34	Road 238 and Magnolia Avenue		
35	Avenue 94 and Road 237 (2nd Street)		
36	Road 238 south of Avenue 94		
37	Pepper Avenue and Road 237 (2nd Street)		
38	Avenue 93 and Road 236		
39	Avenue 93 and Road 237 (2nd Street)		
40	Avenue 93 and Road 238		

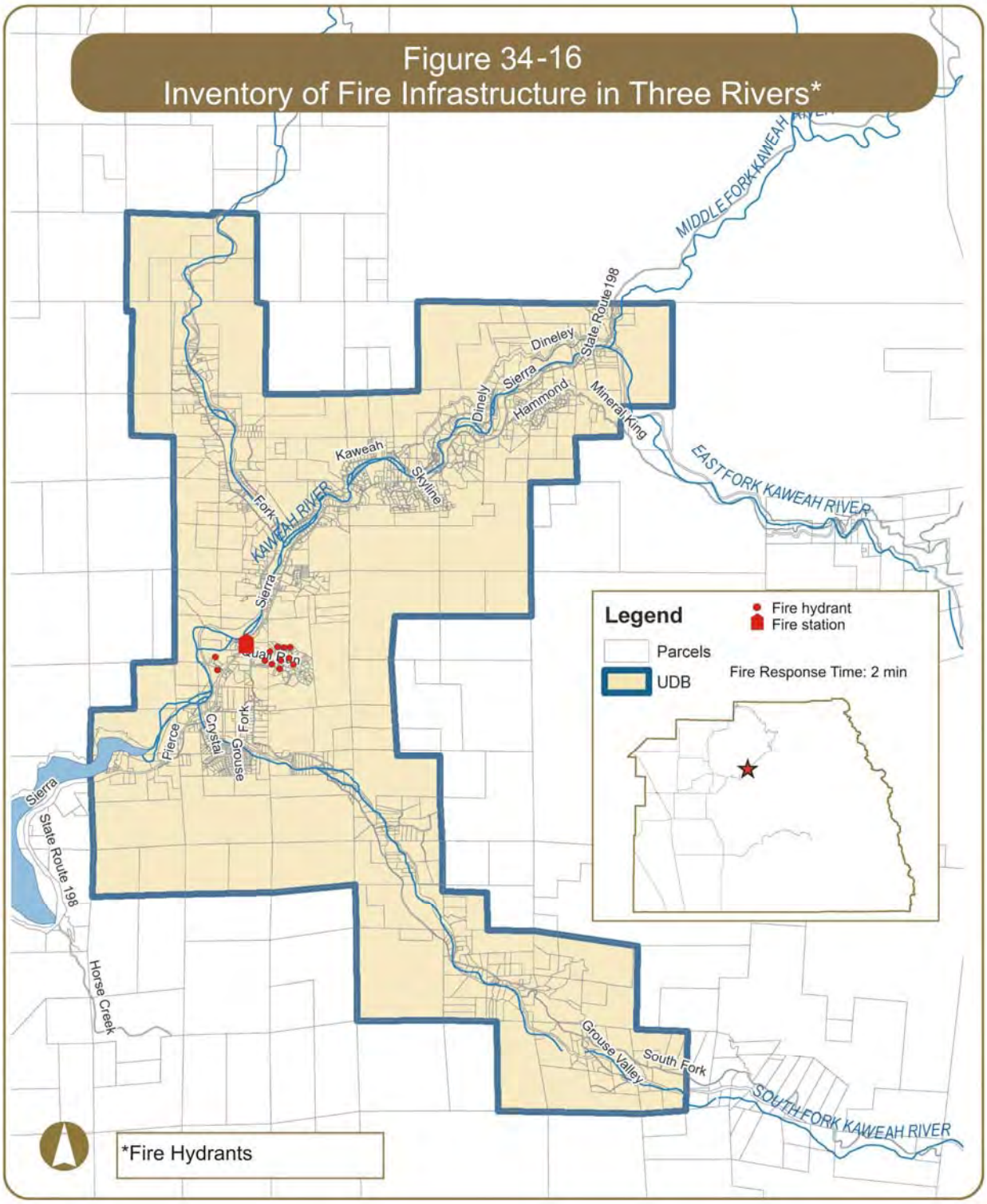


Figure 34-16
Inventory of Fire Infrastructure in Three Rivers*
MIDDLE FORK KAWEAH RIVER
State Route 198
Dineley
Sierra
Hammond
Mineral King
EAST FORK KAWEAH RIVER
Kaweah
Skyline
Fork
KAWEAH RIVER
Sierra
Quad Cities
Pierce
Crystal
Fork
Grouse
Sierra
State Route 198
Horse Creek
Grouse Valley
South Fork
SOUTH FORK KAWEAH RIVER
Legend
Fire hydrant
Fire station
Parcels
UDB
Fire Response Time: 2 min
*Fire Hydrants

TABLE 34-16
Existing Fire Infrastructure in Three Rivers

Existing Fire Hydrants	
No.	**Location**
1	Sierra Drive north of US Post Office/Serrano's Restaurant
2	Sierra Drive north of Three Rivers Drug Store
3	Quail Run Drive east of Fork Drive
4	Quail Run Drive west of Black Oak Drive
5	Quail Run Drive and Black Oak Drive
6	Black Oak Drive north of Quail Run Drive
7	Black Oak Drive and Corral Drive
8	Corral Drive east of Black Oak Drive
9	Black Oak Drive north of Corral Drive
10	Black Oak Drive north of Corral Drive
11	Black Oak Drive north of Quail Run Drive
12	Black Oak Drive north of Quail Run Drive

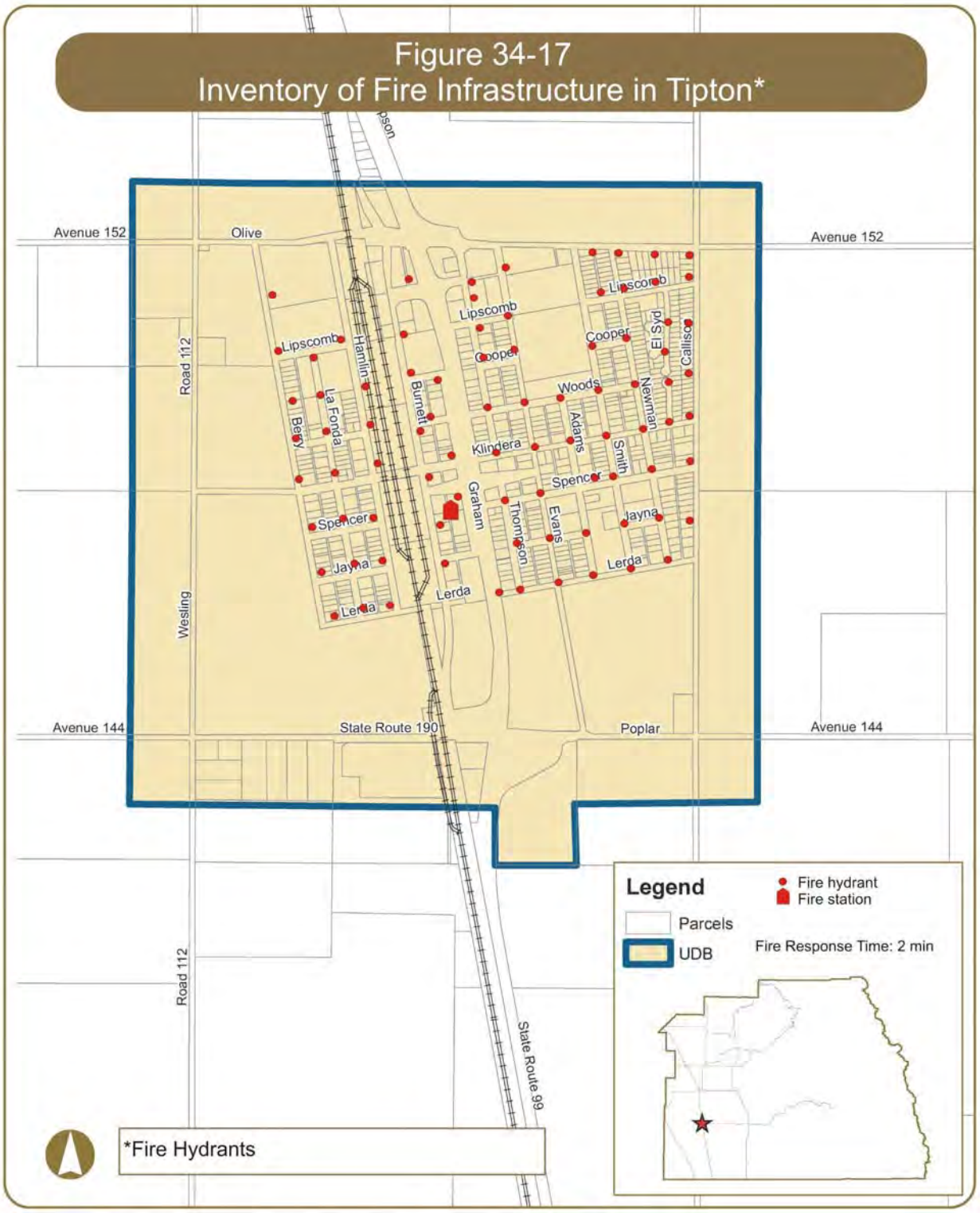


Figure 34-17
Inventory of Fire Infrastructure in Tipton*
Avenue 152
Olive
Avenue 152
Road 112
Lipscomb
Hamlin
Lipscomb
Cooper
Lipscomb
Cooper
Elyd
Callison
Woods
Newman
Berry
La Fonda
Burnett
Adams
Klindera
Smith
Spencer
Graham
Thompson
Evans
Jayna
Spencer
Jayna
Lerda
Lerda
Lerda
Westling
Avenue 144
State Route 190
Poplar
Avenue 144
Road 112
State Route 99
Legend
Fire hydrant
Fire station
Parcels
UDB
Fire Response Time: 2 min
*Fire Hydrants

TABLE 34-17
Existing Fire Infrastructure in Tipton

Existing Fire Hydrants			
No.	**Location**	***No.***	**Location**
1	Berry Road south of Avenue 152	41	Thompson Road and Woods Avenue
2	Lipscomb Avenue and Berry Road	42	Evans Road and Woods Avenue
3	Berry Road south of Lipscomb Avenue	43	Thompson Avenue and Klindera Avenue
4	Woods Avenue and Berry Road	44	Evans Road and Klindera Avenue
5	Klindera Avenue and Berry Road	45	Thompson Avenue and Spencer Avenue
6	Spencer Avenue and Berry Road	46	Evans Road and Spencer Avenue
7	Jayne Avenue and Berry Road	47	Thompson Avenue and Jayna Avenue
8	Lerda Avenue and Berry Road	48	Evans Road and Jayna Avenue
9	Lipscomb Avenue east of Berry Road	49	Lerda Avenue west of Thompson Avenue
10	Lipscomb Avenue and Hamlin Road	50	Thompson Avenue and Lerda Avenue
11	Lafond Road north of Woods Avenue	51	Evans Road and Lerda Avenue
12	Woods Avenue and Lafond Road	52	Adams Road and Woods Avenue
13	Lafond Road north of Klindera Avenue	53	Smith Road and Woods Avenue
14	Lafond Road north of Spencer Avenue	54	Adams Road and Klindera Avenue
15	Lafond Road north of Jayne Avenue	55	Smith Road and Klindera Avenue
16	Lafond Road north of Lerda Avenue	56	Spencer Road east of Adams Road
17	Hamlin Road south Lipscomb Road	57	Smith Road and Spencer Road
18	Woods Avenue and Hamlin Road	58	Adams Road and Jayna Avenue
19	Hamlin Road north of Klindera Avenue	59	Smith Road and Jayna Avenue
20	Spencer Avenue and Hamlin Road	60	Adams Road and Lerda Avenue
21	Jayne Avenue and Hamlin Road	61	Smith Road and Lerda Avenue
22	Lerda Avenue and Hamlin Road	62	Smith Road and Cooper Avenue
23	SR 99 SB Ramps east of Burnett Road	63	Olive Street east of Smith Road
24	Burnett Road north of Cooper Avennue	64	Olive street and Newman Road
25	Burnett Road and Cooper Avenue	65	Lipscomb Avenue east of Smith Road
26	Graham Road and Cooper Avenue	66	Newman Road and Lipscomb Avenue
27	Woods Avenue east of Burnett Road	67	Newman Road and Cooper Avenue
28	Burnett Road and Woods Avenue	68	Newman Road and Woods Avenue
29	Graham Road and Klindera Avenue	69	Newman Road and Klindera Avenue
30	Burnett Road and Klindera Avenue	70	Newman Road and Spencer Road
31	Graham Road north of Spencer Avenue	71	Newman Road and Jayna Avenue
32	Burnett Road south of Spencer Avenue	72	Newman Road and Lerda Avenue
33	Burnett Road and Jayna Avenue	73	Olive Street east of Newman Road
34	Evans Road south of Olive Street	74	Callison Road and Olive Street
35	Thompson Road and SR 99 NB Ramps	75	Callison Road and Lipscomb Avenue
36	Tompson Road south of SR 99 NB Ramps	76	El Syd Street and Lipscomb Avenue
37	Thompson Road and Lipscomb Avenue	77	El Syd Street and Cooper Court
38	Evans Road and Lipscomb Avenue	78	Callison Road south of Lipscomb Avenue
39	Thompson Road and Cooper Avenue	79	El Syd Street and Woods Court
40	Evans Road and Cooper Avenue	80	Callison Road north of Klindera Avenue

TABLE 34-17 (continued)
Existing Fire Infrastructure in Tipton

Existing Fire Hydrants	
No.	**Location**
81	El Syd Street north Klindera Avenue
82	El Syd Street and Klinda Avenue
83	Callison Road and Klindera Avenue
84	Callison Road and Spencer Road
85	Callison Road north of Lerda Avenue

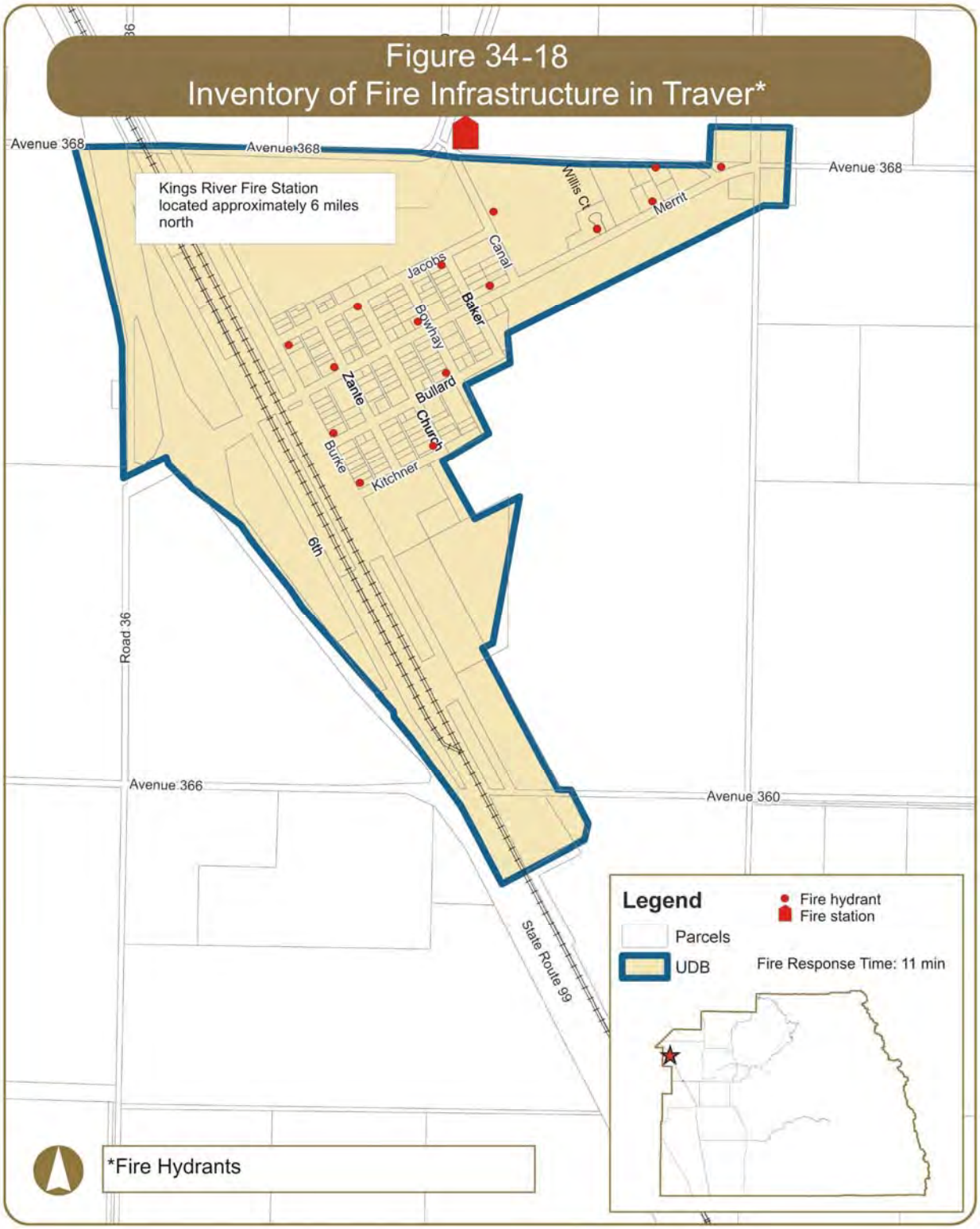


Figure 34-18
Inventory of Fire Infrastructure in Traver*
Avenue 368
Avenue 368
Avenue 368
Kings River Fire Station
located approximately 6 miles
north
Willis Ct
Merrit
Canal
Jacobs
Baker
Bowhay
Zante
Bullard
Church
Burke
Kitchner
6th
Road 36
Avenue 366
Avenue 360
State Route 99
Legend
Fire hydrant
Fire station
Parcels
UDB
Fire Response Time: 11 min
*Fire Hydrants

TABLE 34-18
Existing Fire Infrastructure in Traver

Existing Fire Hydrants	
No.	**Location**
1	Jacobs Drive and Burke Drive
2	Bullard Drive and Burke Drive
3	Kitchner Drive and Burke Drive
4	Merrit Drive and Zante Drive
5	Jacobs Drive and Church Drive
6	Kitchner Drive and Church Drive
7	Merrit Drive and Bowhay Drive
8	Bullard Drive and Bowhay Drive
9	Jacobs Drive and Baker Drive
10	Merrit Drive east of Baker Drive
11	Canal Drive north of Jacobs Drive
12	Merrit Drive and Willis Court
13	Merrit Drive south of Avenue 368
14	Avenue 368 west of Merrit Drive
15	Merrit Drive and Avenue 368

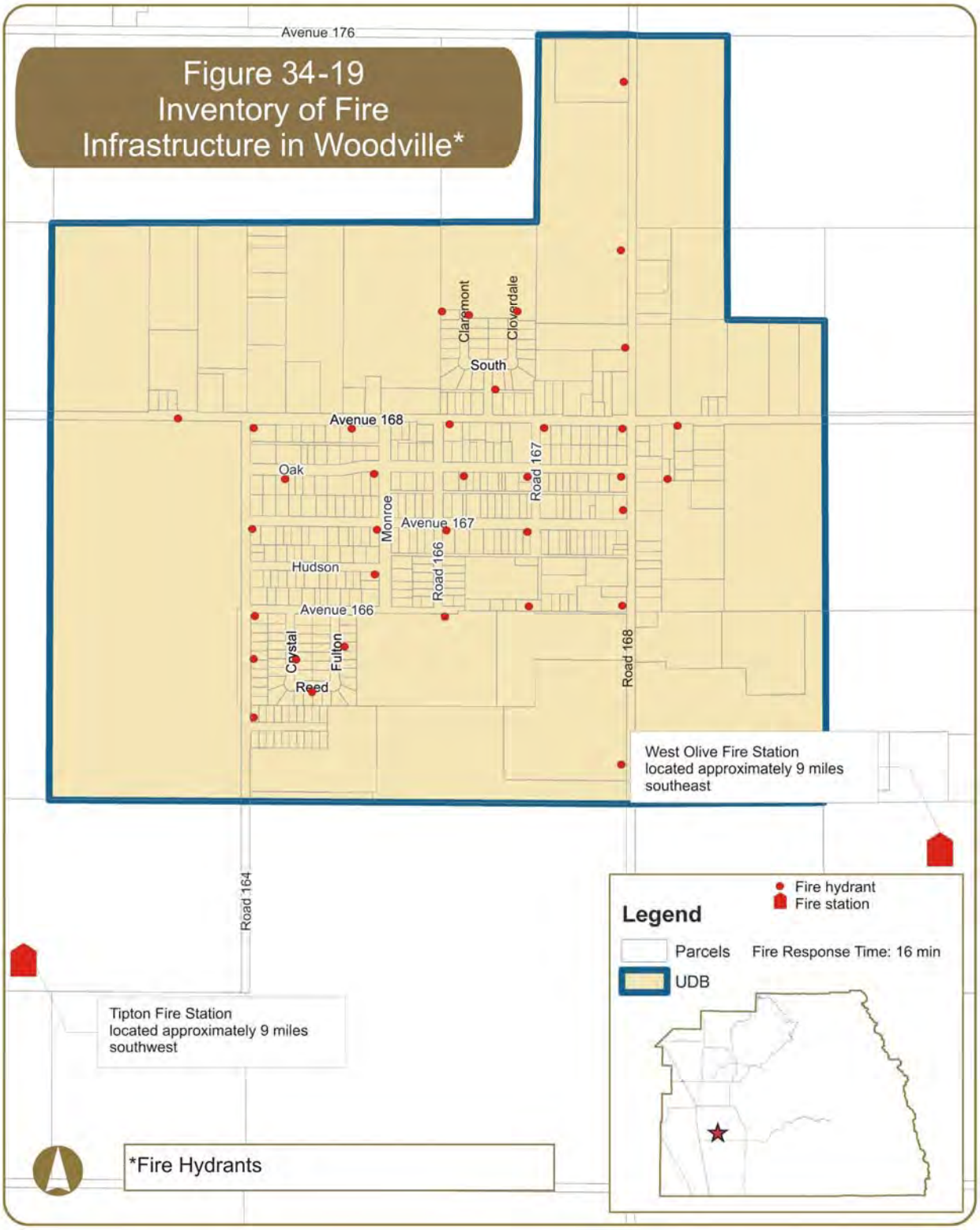


Figure 34-19
Inventory of Fire
Infrastructure in Woodville*
Avenue 176
Claremont
Cloverdale
South
Avenue 168
Oak
Road 167
Monroe
Avenue 167
Hudson
Road 166
Avenue 166
Crystal
Fulton
Reed
Road 168
West Olive Fire Station
located approximately 9 miles
southeast
Road 164
Tipton Fire Station
located approximately 9 miles
southwest
*Fire Hydrants
Legend
Fire hydrant
Fire station
Parcels
Fire Response Time: 16 min
UDB

TABLE 34-19
Existing Fire Infrastructure in Woodville

Existing Fire Hydrants	
No.	**Location**
1	Avenue 168 west of Road 164
2	Avenue 168 and Road 164
3	Avenue 167 and Road 164
4	Avenue 166 and Road 164
5	Road 164 south of Avenue 166
6	Road 164 south of Avenue 166
7	Oak Avenue east of Road 164
8	Crystal Street north of Reed Avenue
9	Reed Avenue east of Crystal Street
10	Fulton Street north of Reed Avenue
11	Avenue 168 west of Monroe Road
12	Oak Avenue and Monroe Road
13	Avenue 167 and Monroe Road
14	Hudson Avenue and Monroe Road
15	Avenue 169 west of Claremont Road
16	Avenue 168 and Road 166
17	Avenue 169 and Claremont Road
18	Avenue 169 and Cloverdale Road
19	Cloverdale Road north of Avenue 168
20	Oak Avenue east of Road 166
21	Avenue 167 and Road 166
22	Avenue 166 and Road 166
23	Avenue 168 and Road 167
24	Oak Avenue and Road 167
25	Avenue 167 and Road 167
26	Avenue 166 west of Road 168
27	Road 168 north of Avenue 172
28	Road 168 south of Avenue 172
29	Road 168 north of Avenue 168
30	Avenue 168 and Road 168
31	Oak Avenue and Road 168
32	Avenue 167 and Road 168
33	Avenue 166 and Road 168
34	Road 168 south of Avenue 166
35	Avenue 168 east of Road 168
36	Road 168 south of Avenue 168

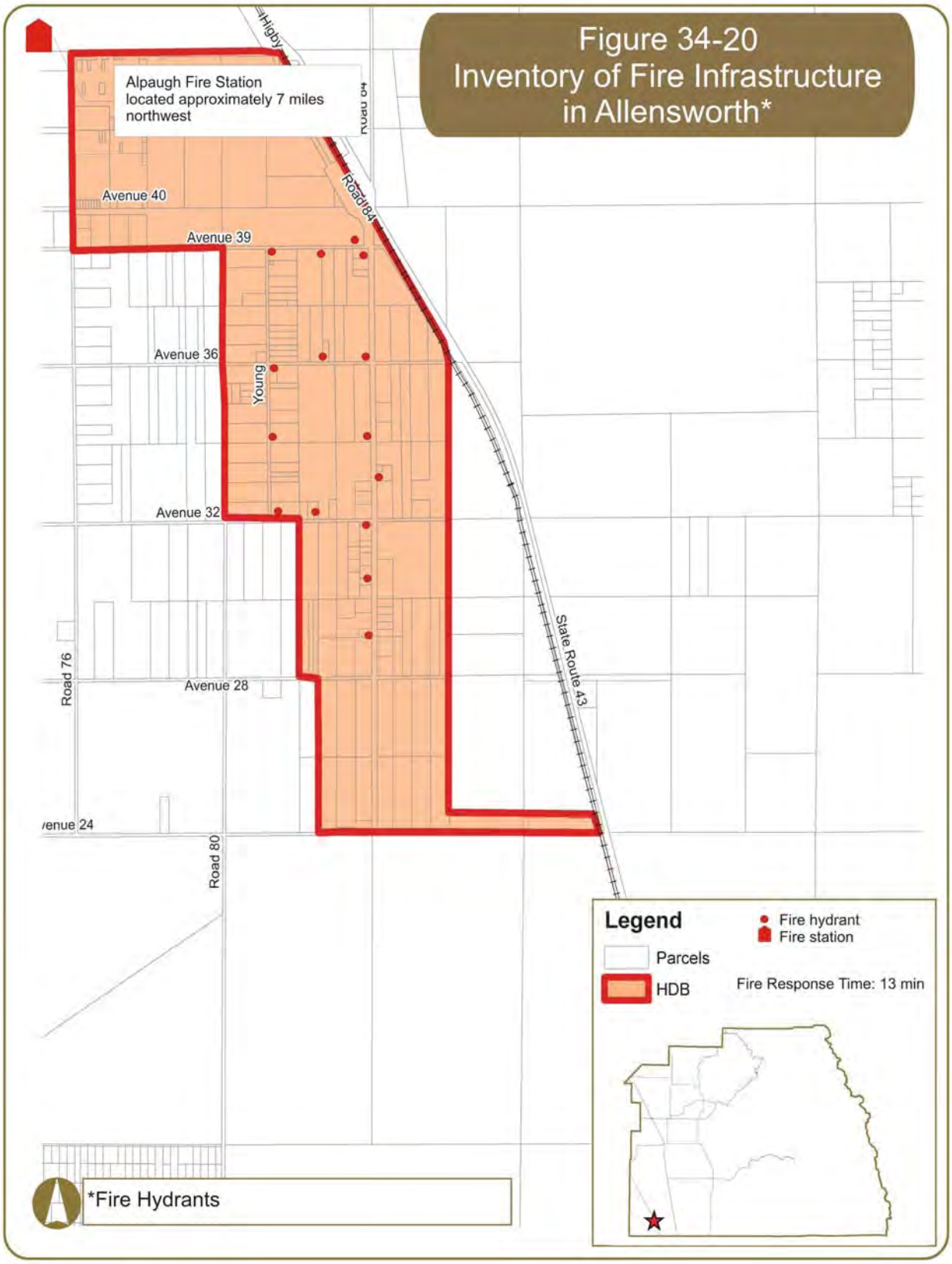


Figure 34-20
Inventory of Fire Infrastructure in Allensworth*
Alpaugh Fire Station located approximately 7 miles northwest
Avenue 40
Avenue 39
Avenue 36
Avenue 32
Avenue 28
Road 84
Young
State Route 43
Road 76
Road 80
Legend
Fire hydrant
Fire station
Parcels
HDB
Fire Response Time: 13 min
*Fire Hydrants

TABLE 34-20
Existing Fire Infrastructure in Allensworth

Existing Fire Hydrants	
No.	**Location**
1	Avenue 39 and Young Road
2	Avenue 39 east of Young Road
3	Avenue 39 west of Road 84
4	Avenue 39 and Road 84
5	Avenue 36 and Young Road
6	Avenue 36 east of Young Road
7	Avenue 36 and Road 84
8	Young Road south of Avenue 36
9	Road 84 south of Avenue 36
10	Road 84 north of Avenue 32
11	Avenue 32 and Young Road
12	Avenue 32 east of Young Road
13	Avenue 32 and Road 84
14	Road 84 south of Avenue 32
15	Road 84 north of Avenue 28

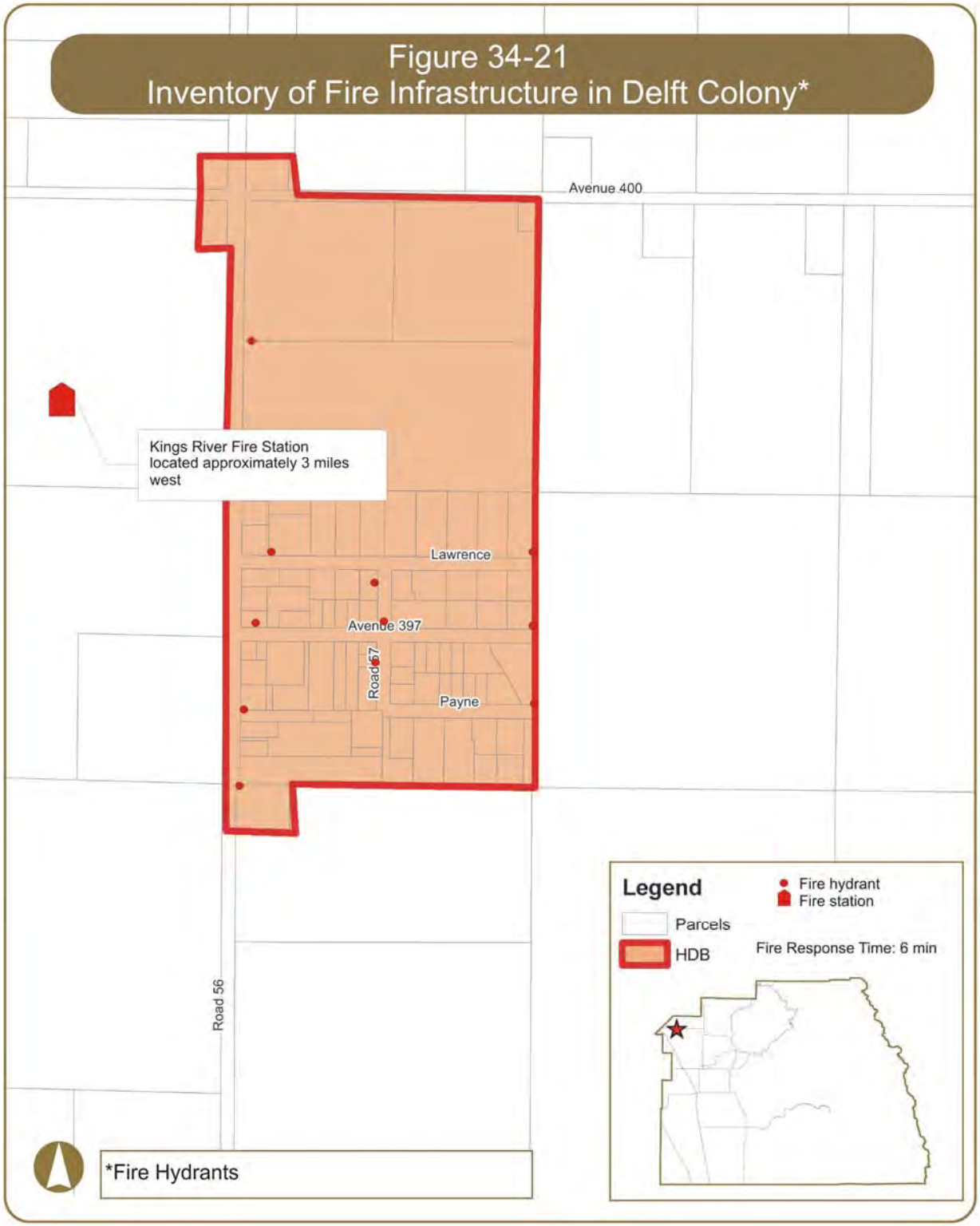


Figure 34-21
Inventory of Fire Infrastructure in Delft Colony*
Avenue 400
Kings River Fire Station located approximately 3 miles west
Lawrence
Avenue 397
Road 57
Payne
Road 56
Legend
Fire hydrant
Fire station
Parcels
HDB
Fire Response Time: 6 min
*Fire Hydrants

TABLE 34-21
Existing Fire Infrastructure in Delft Colony

Existing Fire Hydrants	
No.	**Location**
1	Road 56 south of Avenue 400
2	Lawrence Avenue east of Road 56
3	Lawrence Avenue east of Road 57
4	Road 57 south of Lawrence Avenue
5	Avenue 397 and Road 57
6	Avenue 397 east of Road 56
7	Avenue 397 east of Road 57
8	Road 57 south of Avenue 397
9	Road 56 south of Avenue 397
10	Payne Avenue east of Road 57
11	Road 56 south of Avenue 397

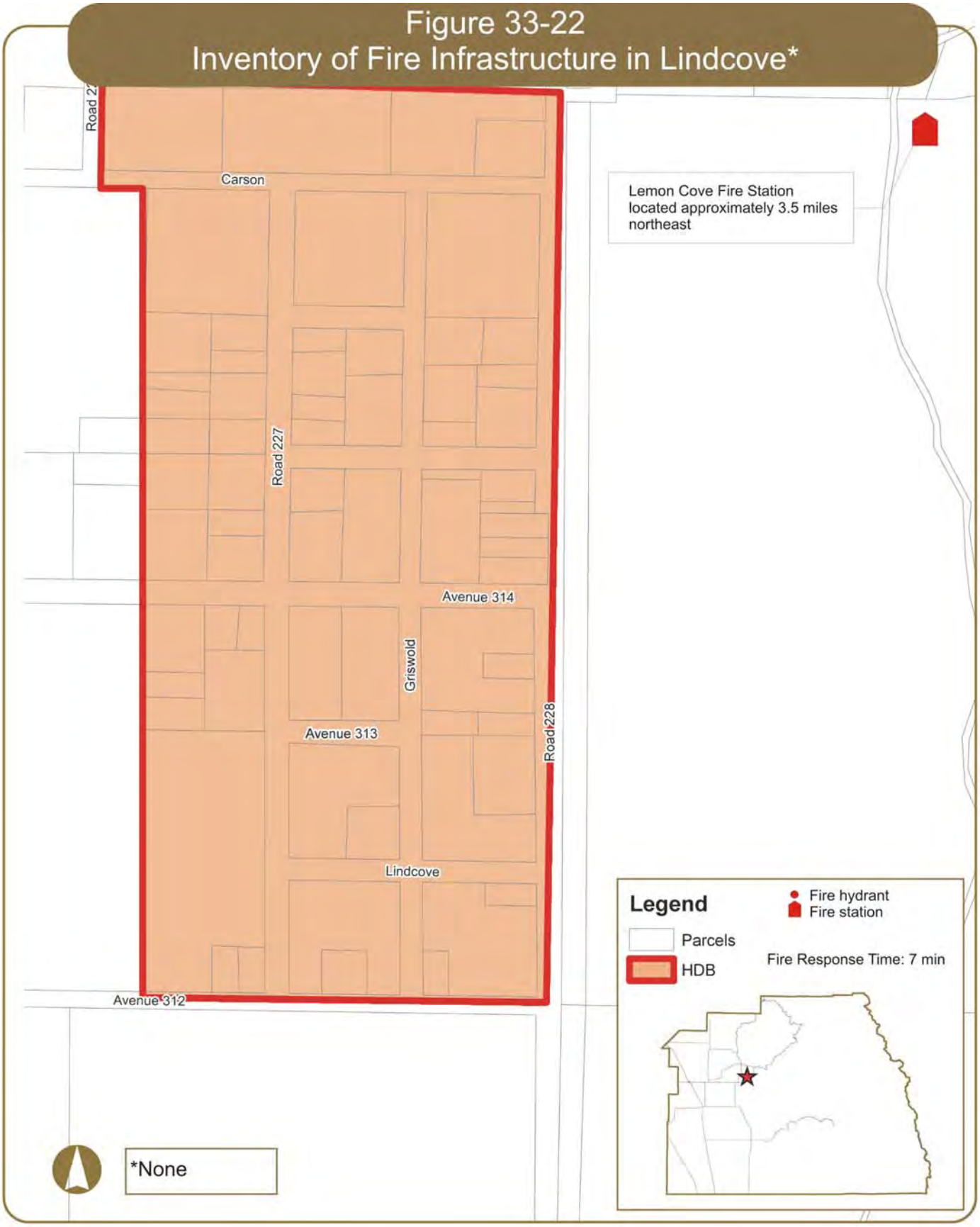


Figure 33-22
Inventory of Fire Infrastructure in Lindcove*
Road 22
Carson
Lemon Cove Fire Station located approximately 3.5 miles northeast
Road 227
Avenue 314
Griswold
Avenue 313
Road 228
Lindcove
Avenue 312
Legend
Fire hydrant
Fire station
Parcels
HDB
Fire Response Time: 7 min
*None

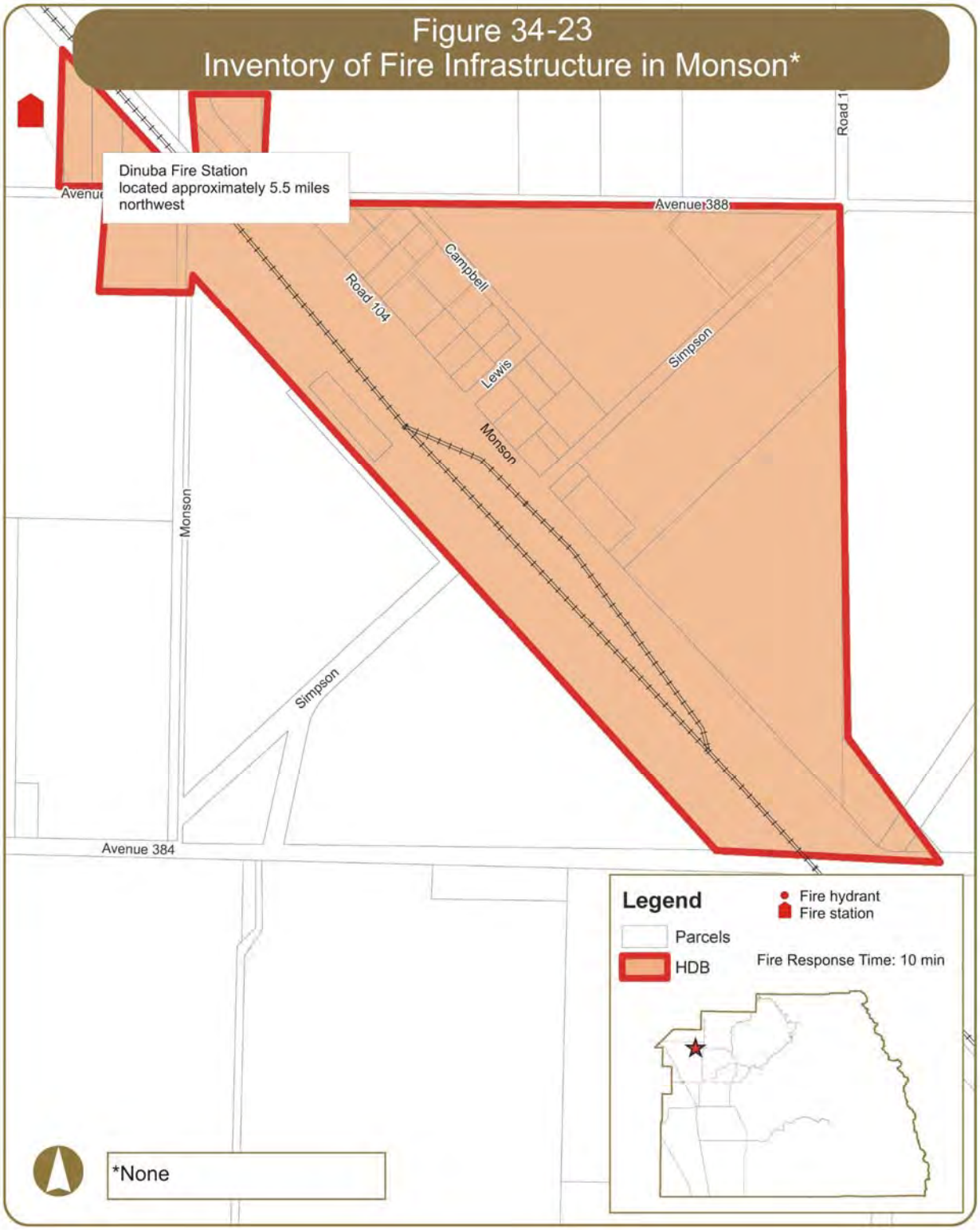


Figure 34-23
Inventory of Fire Infrastructure in Monson*
Dinuba Fire Station
located approximately 5.5 miles
northwest
Avenue 388
Road 104
Campbell
Lewis
Simpson
Monson
Simpson
Monson
Avenue 384
Road 1
Legend
Fire hydrant
Fire station
Parcels
HDB
Fire Response Time: 10 min
*None

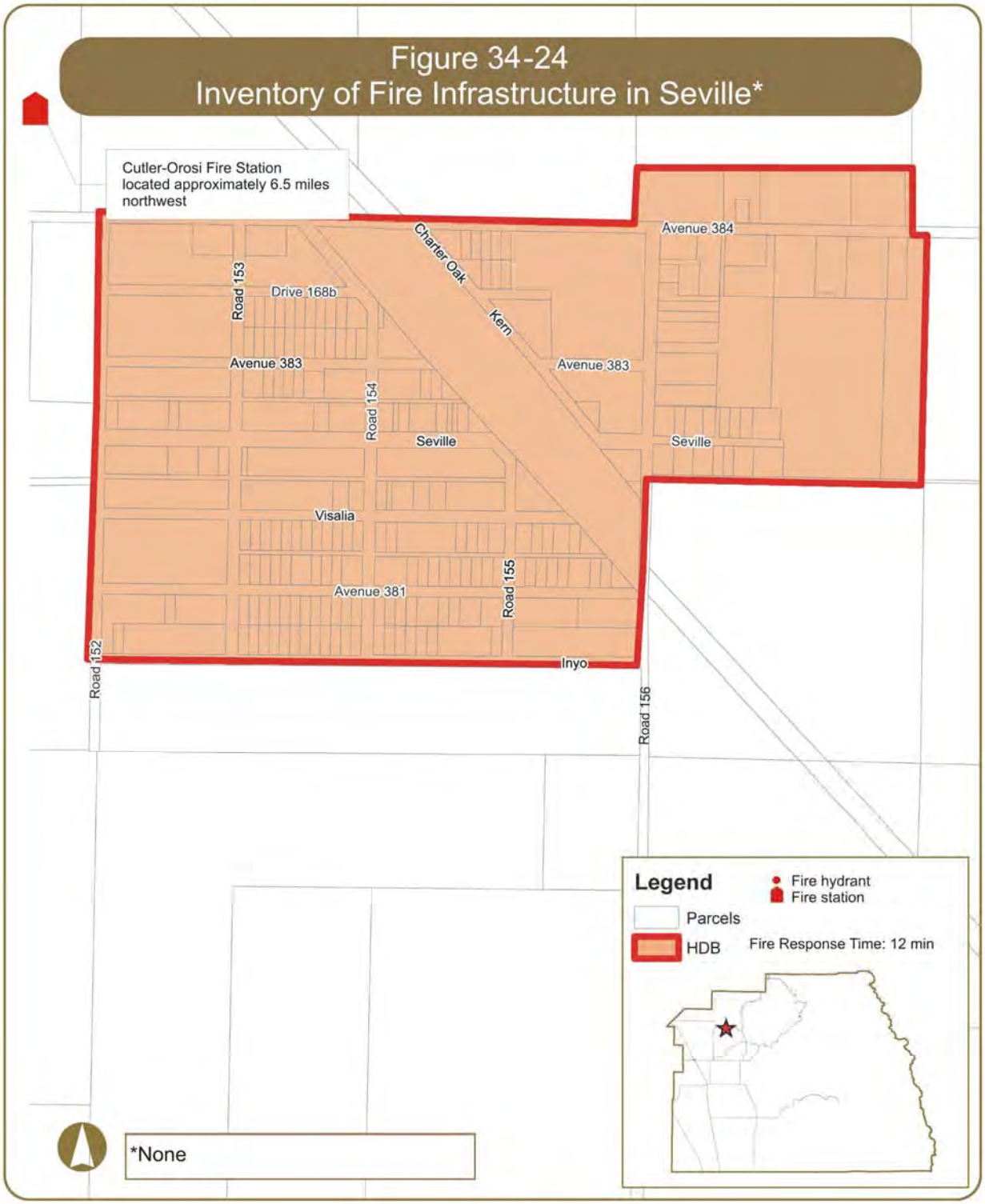


Figure 34-24
Inventory of Fire Infrastructure in Seville*
Cutler-Orosi Fire Station located approximately 6.5 miles northwest
Charter Oak
Kern
Avenue 384
Road 153
Drive 168b
Avenue 383
Avenue 383
Road 154
Seville
Seville
Visalia
Avenue 381
Road 155
Road 152
Inyo
Road 156
Legend
Fire hydrant
Fire station
Parcels
HDB
Fire Response Time: 12 min
*None

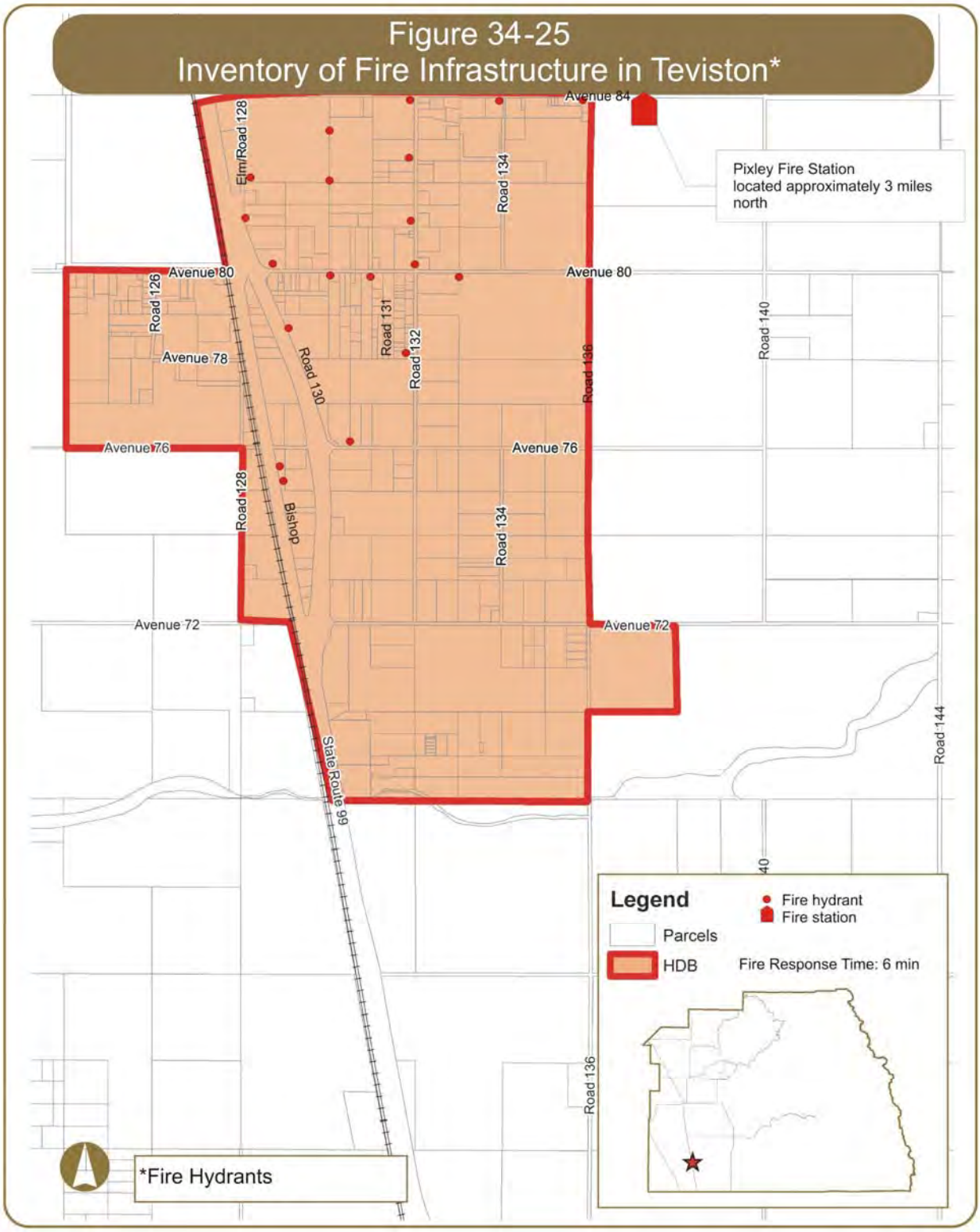


Figure 34-25
Inventory of Fire Infrastructure in Teviston*
Avenue 84
Elm/Road 128
Road 134
Pixley Fire Station
located approximately 3 miles
north
Avenue 80
Avenue 80
Road 126
Road 131
Road 132
Road 140
Avenue 78
Road 130
Road 136
Avenue 76
Avenue 76
Road 128
Bishop
Road 134
Avenue 72
Avenue 72
Road 144
State Route 99
Road 136
Legend
Fire hydrant
Fire station
Parcels
HDB
Fire Response Time: 6 min
*Fire Hydrants

TABLE 34-25
Existing Fire Infrastructure in Teviston

Existing Fire Hydrants	
No.	**Location**
1	Avenue 84 and Road 132
2	Avenue 84 and Road 134
3	Avenue 84 and Road 136
4	Private Road south of Avenue 84 btw Road 128 and Road 132
5	Road 132 south of Avenue 84
6	Road 128 south of Avenue 84
7	Private Road south of Avenue 84 btw Road 128 and Road 132
8	Road 128 north of Avenue 80
9	Road 132 north of Avenue 80
10	Road 128/130 and Avenue 80
11	Avenue 80 east of Road 128/130
12	Avenue 80 west of Road 132
13	Avenue 80 and Road 132
14	Avenue 80 east of Road 132
15	Road 130 south of Avenue 80
16	Road 132 south of Avenue 80
17	Avenue 76 east of Road 130
18	Bishop Street south of Avenue 76
19	Bishop Street south of Avenue 76

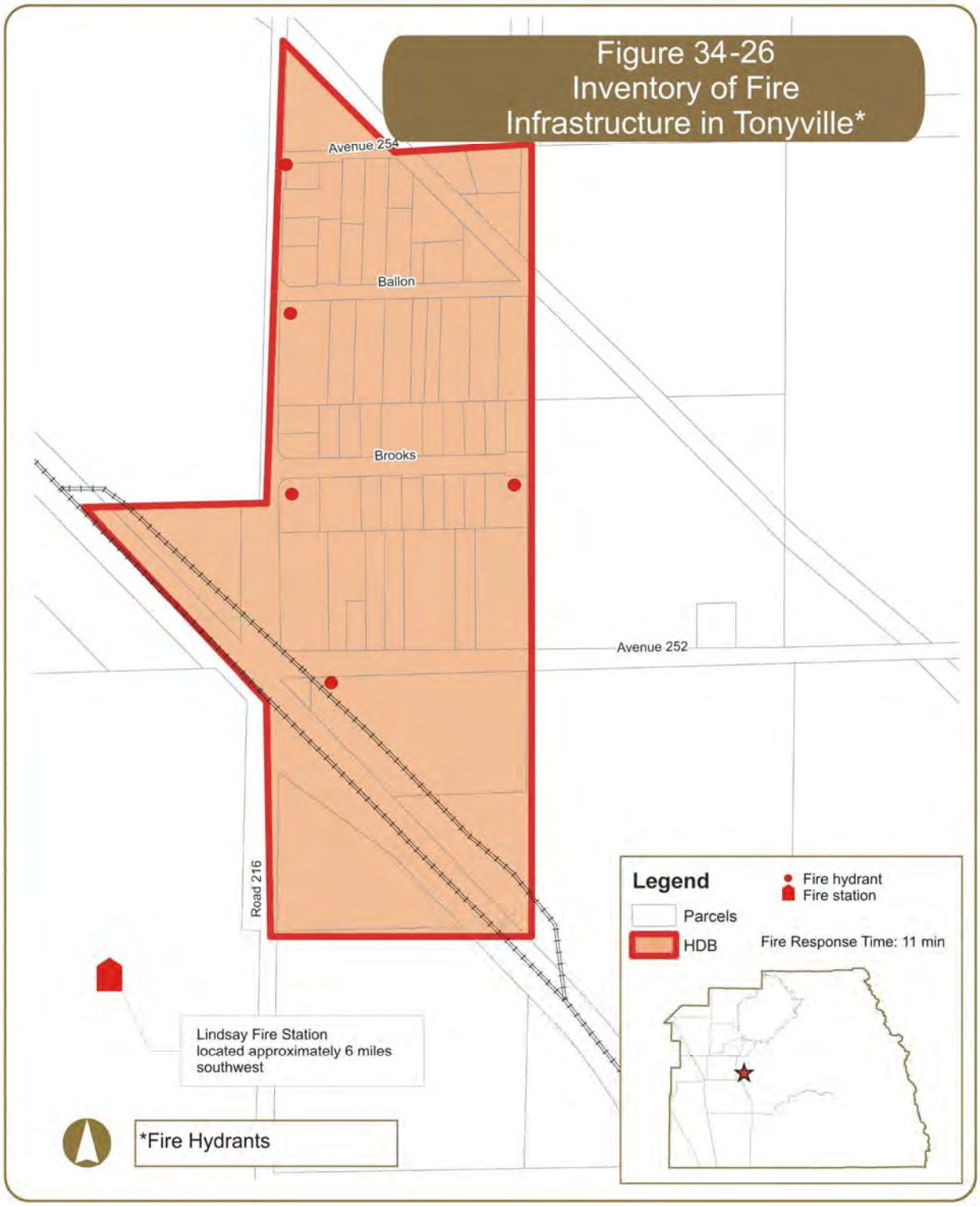


Figure 34-26
Inventory of Fire
Infrastructure in Tonyville*
Avenue 254
Ballon
Brooks
Avenue 252
Road 216
Legend
Fire hydrant
Fire station
Parcels
HDB
Fire Response Time: 11 min
Lindsay Fire Station
located approximately 6 miles
southwest
*Fire Hydrants

TABLE 34-26
Existing Fire Infrastructure in Tonyville

Existing Fire Hydrants	
No.	**Location**
1	Avenue 254 and Road 216
2	Ballon Avenue and Road 216
3	Brooks Avenue and Road 216
4	Brooks Avenue east of Road 216
5	Avenue 252 east of Road 216

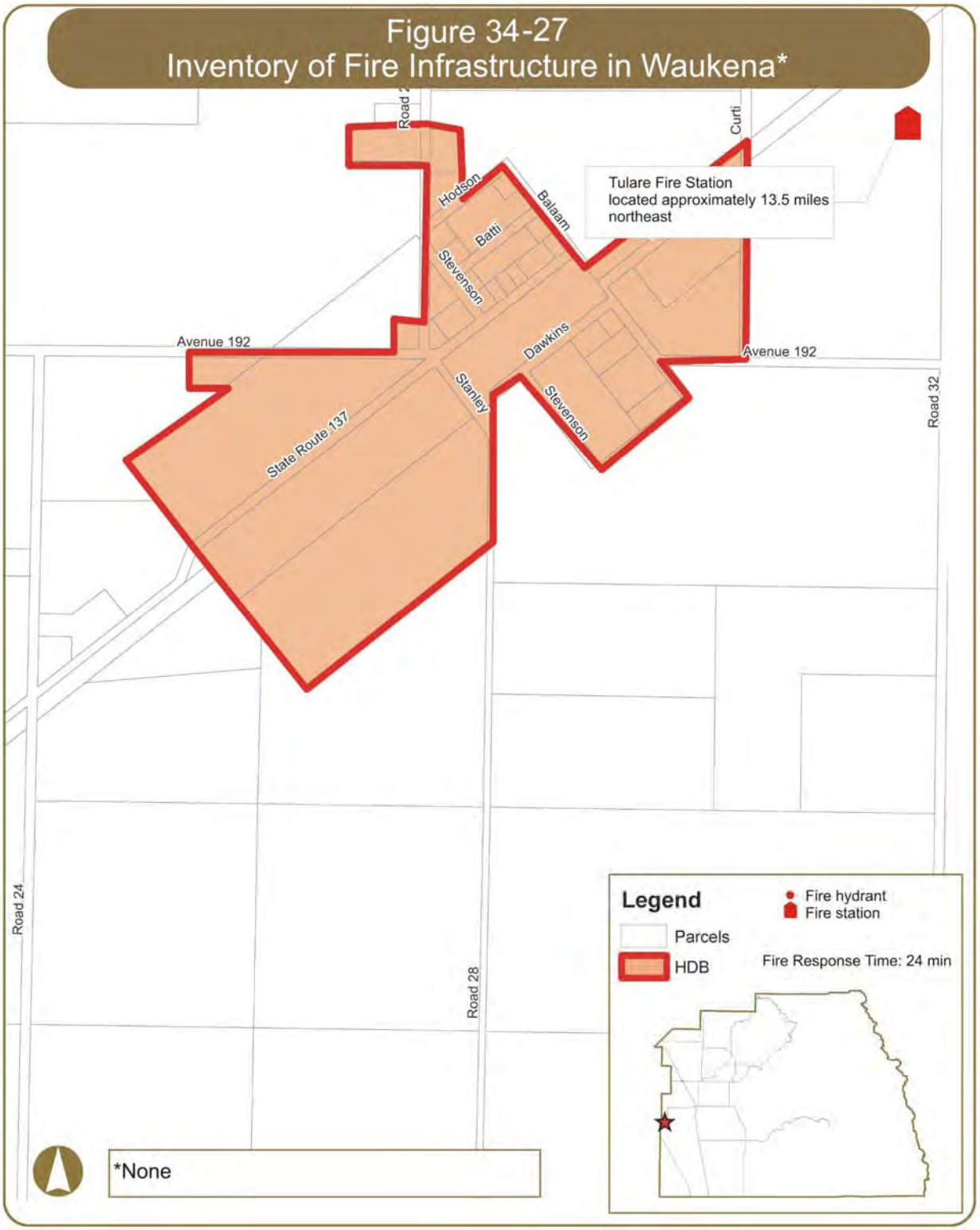


Figure 34-27
Inventory of Fire Infrastructure in Waukena*
Tulare Fire Station
located approximately 13.5 miles
northeast
Hodson
Balaam
Batti
Stevenson
Dawkins
Stanley
Stevenson
Curti
Avenue 192
Avenue 192
State Route 137
Road 32
Road 24
Road 28
Legend
Fire hydrant
Fire station
Parcels
HDB
Fire Response Time: 24 min
*None

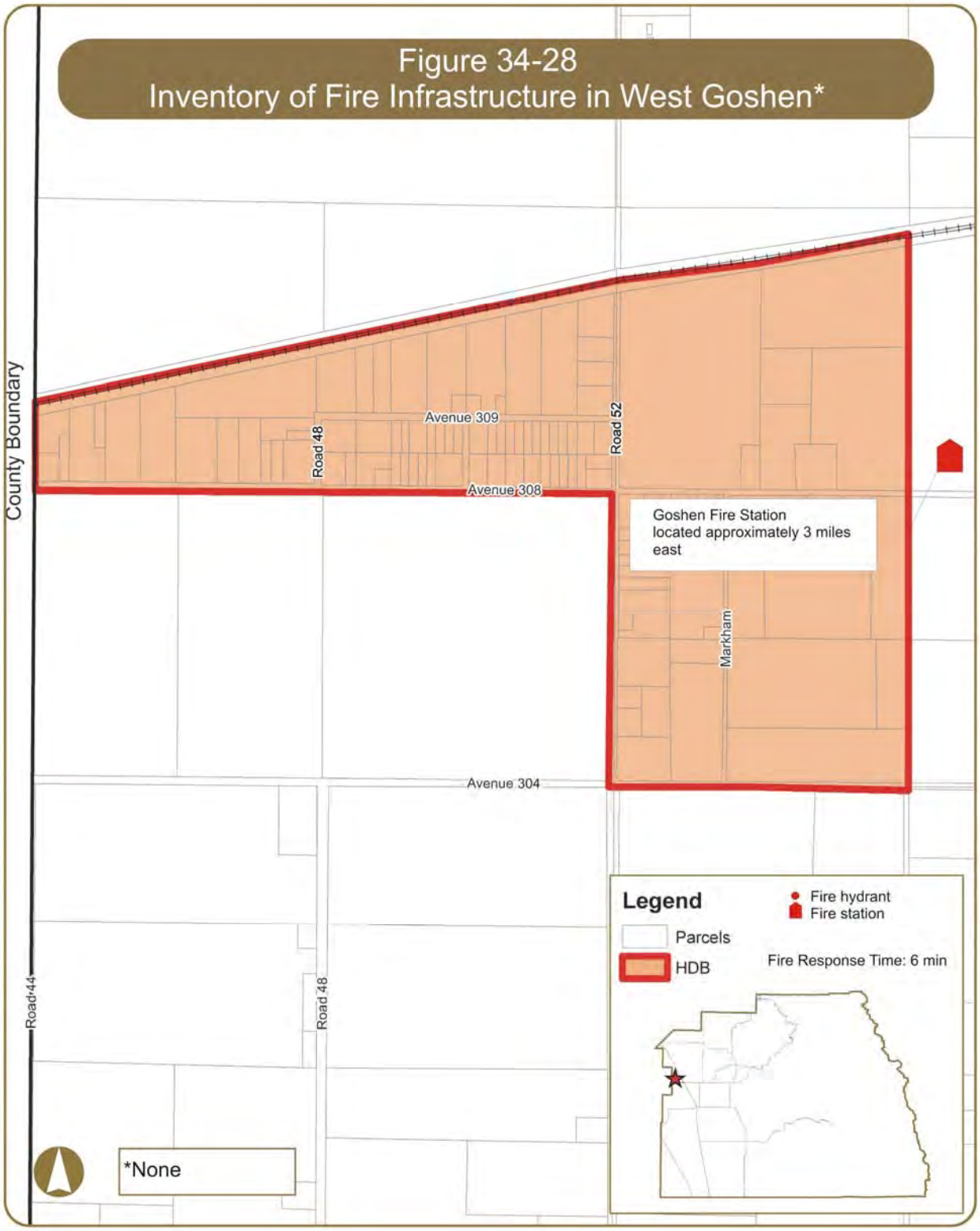


Figure 34-28
Inventory of Fire Infrastructure in West Goshen*
County Boundary
Avenue 309
Road 48
Road 52
Avenue 308
Goshen Fire Station
located approximately 3 miles
east
Markham
Avenue 304
Road 44
Road 48
Legend
Fire hydrant
Fire station
Parcels
HDB
Fire Response Time: 6 min
*None

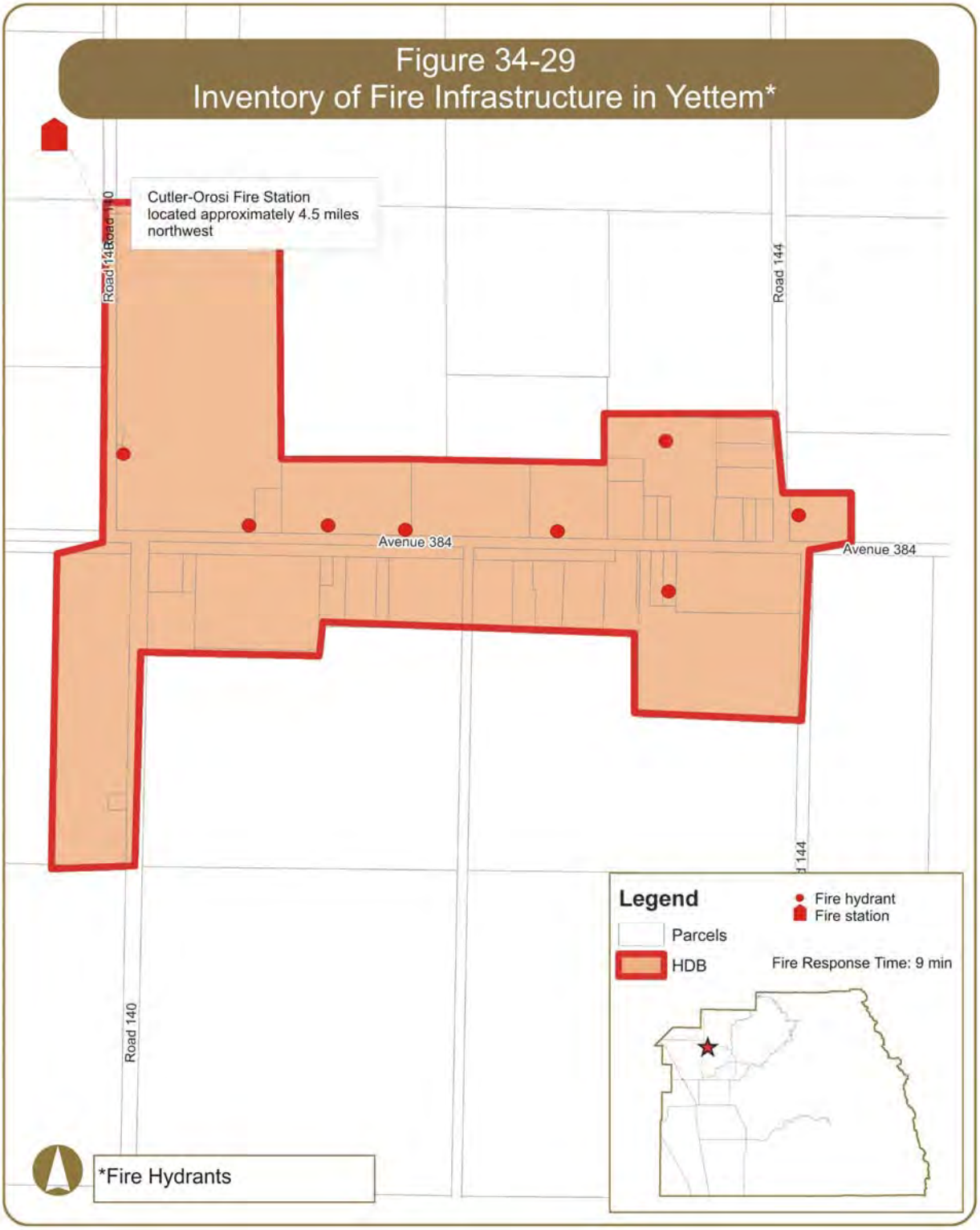


Figure 34-29
Inventory of Fire Infrastructure in Yettem*
Cutler-Orosi Fire Station
located approximately 4.5 miles
northwest
Road 144
Road 140
Avenue 384
Legend
Fire hydrant
Fire station
Parcels
HDB
Fire Response Time: 9 min
*Fire Hydrants

TABLE 34-29
Existing Fire Infrastructure in Yettem

Existing Fire Hydrants	
No.	**Location**
1	Road 140 north of Avenue 384
2	Avenue 384 easat of Road 140
3	Avenue 384 easat of Road 140
4	Avenue 384 easat of Road 140
5	Avenue 384 west of Road 144
6	Avenue 384 west of Road 144
7	Avenue 384 west of Road 144
8	Road 144 north of Avenue 384

35. INFRASTRUCTURE NEEDS

35.1 General

Previous chapters of this report showing the existing infrastructure of each Community and Hamlet indicates that many communities are lacking various types of infrastructure. The purpose of this chapter is to identify the infrastructure needs of each community as well as any planned and programmed projects that would provide this infrastructure.

35.2 Applicable Projects

The Tulare County Resource Management Agency (RMA) Five Year Capital Improvement Plan (CIP), the 2013-2018 Tulare County Comprehensive Economic Development (CED) project list, and the Tulare County Association of Governments (TCAG) 2014 Regional Transportation Plan & Sustainable Communities Strategy (RTP & SCS) identify infrastructure projects planned for some of the Communities and Hamlets. Table 35-1 lists each of these applicable projects.

35.3 Remaining Infrastructure Needs

The planned and programmed projects identified in Table 35-1 fall short of meeting all of the infrastructure needs for the communities. Table 35-2 identifies the unmet needs for each community by identifying whether there are deficiencies in each system. More detailed information for each community is provided on the following pages.

TABLE 35-1
Planned Infrastructure Projects

Community or Hamlet	Project	Fiscal Year	Funding Sources [1]	Reference [2]
Allensworth	No. 11 Allensworth-White River Flood Control Project - Design and construct a stormwater drainage system, construct 15,000 foot ditch system to discharge into proposed drainage basin and provide much needed groundwater recharge. The lack of a stormwater drainage system causes area flooding every 1-3 years damaging 105 structures including historic building, the local school and church.		EDA and FEMA	CED
Alpaugh	1400-53 Bike and Pedestrian Trails - Design only. Project will connect school sites to residential neighborhoods	2014/2015		CIP
Ducor	TUL12-123 - Widen SR-65 from 2 to 4 lanes from Orris UP to Avenue 92		RIP/R	RTP
	TUL12-124 - Widen SR-65 from 2 to 4 lanes from County Line to Avenue 56		RIP/R	RTP
Earlimart	1400-27 Prop 1B Road Projects FY13 - Roadway reconstruction of Road 136 (Church) from Sierra to Avenue 72	2013/2014		CIP
Orosi	1400-52 Cutler-Orosi SRTS Federal - Pedestrian improvements along the east side of Road 126 from Miller Avenue north to Avenue 419 in front of the Orosi High School campus. Project consists of the installation of curb, gutter, sidewalk, and curb ramps.	2014/2015		CIP
	No. 9 Sand Creek Dam - Improve 850 feet of channel downstream of dam outlet structure to prevent erosion at Sand Creek Road bridge, road flooding, and farmland erosion. Improve 150 feet of channel upstream of dam inlet structure to reduce the amount of debris that clogs inflow from Sand Creek.		EDA and FEMA sources	CED
Pixley	1400-34 Pixley TE - Pixley Main Street Business Improvement Project, includes curbs, gutter, and sidewalk, bulbouts, landscaping and enhanced crosswalks	2013/2014		CIP
	1400-54 Complete Streets Policy	2014/2015		CIP
	No. 13 Pixley Industrial Access & Development Study - The study will focus on truck transport access solutions to the designated industrial development area within the community. Improvements to the frontage road(s) along Highway 99 and analysis of the types of industrial development which could occur with increased infrastructure capacity in Pixley.		EDA and Caltrans	CED
Poplar-Cotton Center	CT-RTP07-008 - Widen SR-190 from 2 to 4 lanes from SR-65 to Avenue 184		RIP/R	RTP
Seville	1400-30 Seville Sontag Flood Control - Two 24-inch culverts connecting the Sontag Ditch to the Stone Corral Irrigation District drainage system, one culvert on the north side of Road 384 (State Highway 201) and the other culvert on the south side of Road 384, each flowing east. The purpose is to divert flood waters to the Stone Corral system that would otherwise flow to the community of Seville.	2013/2014		CIP
	No. 3 Seville-Sontag Ditch - Construct 3 miles of a ditch and culvert system to reduce flood impacts to the community of Seville, an area that historically floods during significant events. The project will also mitigate flood impacts on the local school and 205 businesses and homes.		County funding, EDA, and FEMA	CED
Strathmore	1400-33 Strathmore SRTS Federal - Construct curb gutter sidewalk along east side of Road 230 from Avenue 196. Install two Rectangular Rapid Flashing Beacons on Avenue 196 at Road 230	2014/2015		CIP
	No. 15 Strathmore-Frazier Creek - Construct a 40 acre detention basin, pump facility and storm drain system to manage flood waters east of the Friant-Kern Canal. Frazier valley that frequently floods the Strathmore community and surrounding farmland, typically threatening 210 businesses and homes. The basin will also serve as a groundwater recharge system.		EDA and FEMA	CED

TABLE 35-1 (Continued)
Planned Infrastructure Projects

Community or Hamlet	Project	Fiscal Year	Funding Sources [1]	Reference [2]
Terra Bella	1400-53 Bike and Pedestrian Trails - Design only. Project will connect school sites to residential neighborhoods. Design and construction of 2 crosswalks	2014/2015		CIP
	TUL12-122 - Widen SR-65 from 2 to 4 lanes from Avenue 88 to Avenue 124		RIP/R	RTP
Tipton	CT-RTP07-005 - Widen SR-99 from 4 to 6 lanes from south of Tipton to Avenue 200		IIP, RIP	RTP
Traver	1400-20 Traver Canal Bridge Rd D39 - Replace existing 2-lane bridge with new 2-lane bridge	2016/2017		CIP
	1400-54 Complete Streets Policy	2014/2015		CIP
	1400-55 Traver Elementary School Safety Improvements - Install A/C 10' wide pathway on Merritt Drive, 6th to Canal Drive. Install 180' of curb, gutter, and sidewalk on Canal Drive. Install driver feedback signs on Merritt Drive	2014/2015		CIP
	No. 1 Traver Stormwater Drainage Project - Construction of stormwater drainage project, including ponding basin/park through partnership with local school district and/or businesses. Provides infrasture needed to kickstart local business expansion, provide flood control, groundwater recharge, and enhance safe routes to school.		EDA/Safe Routes to School, USDA and FEMA	CED
	No. 7 Traver Water Capacity Improvement Study - Develop plan for the expansion of water service, storage and filtering to meet existing and future water needs of community and business development, as well as identify potential funding source for ongoing maintenance and operation. The study will encourage future residential development, highway commercial growth and provide enhanced community sustainability.		FEMA, EDA, state sources, private	CED
	TUL02-121 - Widen SR-99 from 4 to 6 lanes from Goshen OH to Fresno County (Route 201)		IIP, 1B, Demo	RTP
Yettem	1400-31 Yettem Button Flood Control - An alternative that intercepts and/or diverts flood waters from the Button Ditch upstream of Yettem	2014/2015		CIP
	No. 4 Yettem-Button Ditch - Construct 3 miles of a ditch and culvert system to reduce flood impacts to the community of Yettem, an area that historically floods during significant events.		County funding, EDA, and FEMA	CED
Various	No. 5 Community flood control pump replacement program - Purchase 25 new pumps in order to provide critical protection to small communities and rural areas during flood events. Some of the existing pumps distributed countywide are near or have exceeded their service life. The purchase will employ green technology standards, reduce air pollution and develop reliable flood water pumping capability in emergency conditions.		County funding, FEMA, EDA, state sources, Local Air District	CED
Various	No. 6 Flood Control Master Plan Update - Update the Tulare County Flood Control Master Plan which has not been updated since 1971. The Master Plan will study the overall hydrology of the County and identify flood control needs that have changed due to growth and business development during the past half century. Updating this Master Plan will allow the County to plan strategically for flood mitigation projects proactively instead of reactively; apply modern sustainability and groundwater recharge principles; and provide upstream/downstream collaboration with local cities.		County funding, FEMA, EDA, state sources	CED

TABLE 35-1 (Continued)
Planned Infrastructure Projects

Community or Hamlet	Project	Fiscal Year	Funding Sources [1]	Reference [2]
Various	No. 12 Dry Creek-North of Lake Kaweah - Construct a series of weirs in Dry Creek upstream of Lake Kaweah. Project to control periodic flooding of farmland that historically has caused $1.5-$3 million in flood damages to area communities and farmland. Project will also help sustain farmland by preventing widespread systemic erosion.		EDA, FEMA	CED
All	No. 14 Unincorporated Areas of Tulare County - Implementation of SB 244 regarding the investigation, analysis, and development of implementation plans for infrastructure for the disadvantaged communities within Tulare County.		EDA, Caltrans	CED

1) EDA = Economic Development Agency, FEMA = Federal Emergency Management Agency, RIP = Regional Improvement Program, R = Measure R, IIP = Interregional Improvement Program, 1B = Proposition 1B,
2) CIP = Capital Improvement Plan, CED = Comprehensive Economic Development, RTP = Regional Transportation Plan

TABLE 35-2
Infrastructure Deficiencies

Community	Wastewater	Water	Stormwater	Streetlights	Sidewalks	ADA Curb Ramps	Fire Infrastructure
Alpaugh	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	No deficiencies
Cutler	Deficiencies	Deficiencies	Potential deficiencies	No deficiencies	Deficiencies	Deficiencies	No deficiencies
Ducor	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Earlimart	Deficiencies	Deficiencies	Potential deficiencies	No deficiencies	Deficiencies	Deficiencies	No deficiencies
East Orosi	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	No deficiencies
Lemon Cove	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
London	Deficiencies	Deficiencies	Deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies
Orosi	Deficiencies	Deficiencies	Potential deficiencies	No deficiencies	Deficiencies	Deficiencies	No deficiencies
Pixley	Deficiencies	Deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	No deficiencies
Plainview	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	No deficiencies
Poplar-Cotton Center	Potential deficiencies	Potential deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	No deficiencies
Richgrove	Deficiencies	Deficiencies	Deficiencies	No deficiencies	No deficiencies	No deficiencies	No deficiencies
Springville	Deficiencies	Deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Strathmore	Deficiencies	Deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	No deficiencies
Sultana	Deficiencies	Deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	No deficiencies
Terra Bella	Deficiencies	Deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	No deficiencies
Three Rivers	Potential deficiencies	Deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Tipton	Deficiencies	Deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	No deficiencies
Traver	Potential deficiencies	Potential deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Woodville	Deficiencies	Deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies

TABLE 3-2 (Continued)
Infrastructure Deficiencies

Hamlet	Wastewater	Water	Stormwater	Streetlights	Sidewalks	ADA Curb Ramps	Fire Infrastructure
Allensworth	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Delft Colony	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	No deficiencies
Lindcove	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Monson	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Seville	Potential deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Teviston	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Tonyville	Potential deficiencies	Potential deficiencies	Deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies
Waukena	Potential deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
West Goshen	Potential deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Yettem	Potential deficiencies	Potential deficiencies	Deficiencies	No deficiencies	Deficiencies	Deficiencies	No deficiencies
Matheny Tract	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies

1) Alpaugh – The drinking water is provided by Alpaugh Joint Powers Authority (AJPA). Recent data related to water quality is unavailable. The March 2006 Municipal Service Reviews (Group 1) identifies the following infrastructure needs and deficiencies:

    - Alpaugh's water problems have long been documented, however, since its formation, the AJPA has received over $4 million in grants and loans to improve the community's water supply and distribution system.
    - Alpaugh's water supply is currently derived from a single well (Well #10), and uses Well #9, owned and operated by the AID, as a backup in case Well #10 fails to function. The AJPA expects to have an additional well drilled in the future, at which time Well #10 would function as the Authority's backup well.
    - While AJPA has struggled over recent years to supply customers with safe, affordable drinking water, the AJPA appears to be making steps in the right direction by obtaining funding necessary for a complete overhaul of its water system. While the Authority is unable to support additional connections at this time, ongoing system improvements will improve the system capacity and level of service and allow for additional service connections in the future.
    - Assuming 290 equivalent dwelling units (EDUs) in order to meet Tulare County Improvement Standards, the AJPA water system would need to be capable of delivering a combined flow rate (from all source and storage facilities) of 1,030 GPM (500 GPM fire flow and 530 GPM domestic demand) for a period of two hours while maintaining a minimum pressure of 25 PSI to each lot served. The pumping efficiency of the AJPA water system is unknown, and therefore it cannot be determined at this time if the water system meets the requirements of the Tulare County Improvement Standards.

    Wastewater treatment is provided by septic systems and information is unavailable regarding any leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are streetlights, sidewalks, and ADA curb ramps located in parts of the community concentrated in the central portion, however the remaining parts of the community are deficient. Alpaugh does include its own fire station, and fire hydrants exist in the area which provide sufficient coverage.

2) Cutler – The drinking water and wastewater services are provided by Cutler Public Utilities District (PUD). Testing conducted between 2004 and 2009 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did indicate 1,2-dibromo-3-chloropropane and nitrate levels over the legal and health limits, as well as alpha particle activity and arsenic levels over the health limits. No Environmental Protection Agency (EPA) violations were reported since 2004. However, more recent data is not available, therefore potential deficiencies may exist. The May 2006 Municipal Service Reviews (Group 2) identifies the following infrastructure needs and deficiencies:

Domestic Water

- Two test wells have been drilled, have proven successful, and the District has awarded a contract for drilling of the first (well #8) of two new wells. The District is also securing funding for a water system rehabilitation project, and a blending tank project.
- Water supplied from one of the new wells (well #9) would be mixed with water derived from two existing wells (wells #3 and #4) which are currently inactive due to high nitrate levels as a part of the blending tank project. By mixing the water supply from wells that produce acceptable water quality with those which have contaminant levels which exceed maximum levels, the District's water supply capabilities will be increased, while bringing the water quality to within acceptable standards before entering the distribution system.
- Lovell High School, which is operated by the Cutler-Orosi Joint Unified School District, has requested water capacity from the Cutler PUD. The District plans to provide the school with water service pending the approval and implementation of the blending tank project. The school is located at the northwest quadrant of Avenue 392 and State Route 63, which is currently outside of the Cutler PUD boundary and SOI. It is anticipated that the District would provide water service to the school on a contractual basis.
- District staff has indicated that they are working with Alta Irrigation District officials to study the feasibility of constructing a regional water treatment facility that would use water from the Kings River by exchange out of the Friant-Kern Canal. The regional facility would potentially provide domestic water to the City of Dinuba, Cutler, Orosi, and other unincorporated communities in the region. A feasibility study would be a three to five year process, and project implementation could be ten to fifteen years out.
- The amount of developable land available, including the availability of infrastructure, are two factors that have limited community growth from occurring, including affordable housing objectives, and commercial enterprise. The District's plans to construct several upcoming water system improvement projects will significantly increase its ability to provide service to proposed development projects.

Sanitary Sewer

- According to District staff, the District's sanitary sewer collection system is very old and pipe leaks and breaks cause significant problems including groundwater inflow/infiltration and cross contamination with groundwater. The District should consider the preparation and implementation of a pipeline replacement program, perhaps as a part of a sanitary sewer master plan.
- The average dry weather flow at the WWTF is approximately 1.40 MGD, with a historical high flow of 1.89 MGD. Flow at the WWTF is greater during winter months than in summer months due to inflow/infiltration of storm water into the collection system during winter months, and ex-filtration during dry summer months. The District will be able to more accurately predict the remaining capacity at the WWTF once repairs are made to leaking pipes throughout the collection system.
- The Cutler PUD and Orosi PUD are working with the Tulare County Agency to secure funding that will be used to correct deficiencies that would increase the capacity of the WWTF. Proposed improvements will modernize the facility and add capacity to bring the serviceable operational limits to 2.4 MGD.

The area is prone to flooding but does have stormwater infrastructure. It is not clear whether the public stormwater infrastructure is sufficient and a potential deficiency is identified. There are streetlights located throughout the community which appear sufficient. There are also sidewalks and ADA curb ramps located throughout the community, however there are some areas in the western and southern parts of the community that are deficient. Cutler does include its own fire station, and fire hydrants exist in the area which provide sufficient coverage.

3) Ducor - The drinking water is provided by Ducor Community Services District (CSD). Testing conducted between 2004 and 2009 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did indicate nitrate levels over the legal and health limits, as well as alpha particle activity and lead over the health limits. Environmental Protection Agency (EPA) violations were noted for coliform bacteria levels over the MCL (2007-2008), failure to report information to the public or state agency in the Consumer Confidence Report (2004), and failure to regularly monitor nitrate (2005). The October 2011 Municipal Service Reviews (Group 4) identifies the following infrastructure needs and deficiencies:

- A January 26, 2009 compliance order issued by Environmental Health indicates that test samples extracted from Well No. 4 had exceeded the Nitrate MCL allowed. The order directed the DCSD to provide notice of this violation to district customers on a quarterly basis for as long as the well remained in violation. The order also directed the DCSD to provide sample Nitrate test results on a quarterly basis (the law requires community water systems to provide Nitrate test results on an annual basis if not in violation) and that the District prepare a plan, complete with timeline, to address the high Nitrate levels. The plan was to be submitted to Environmental Health by June 30, 2009. A copy of this plan was not found in the District's Environmental Health file.
- One January 31, 2009, the DCSD responded to the aforementioned compliance order and indicated that in response to the order, the DCSD Board held an emergency meeting where it was decided that Well No. 4 would be taken offline until a new well could be secured. In order to fund the process of securing a new well site and drilling the well, the DCSD submitted an application for a Safe Drinking Water State Revolving Fund (SRF) grant, contracted engineers to prepare an engineer's report that offers recommendations (this report is part of the SRF preliminary planning process), procured the services of Self-Help Enterprises for grant application and technical assistance and intended to explore additional funding options through the state Proposition 84 USDA Rural Development program. The DCSD also expressed its intention to adhere to all customer noticing and well testing requirements. An application for Proposition 50 funding was submitted in September of 2009.
- As a result of the compliance order and the subsequent action taken by the DCSD Board of Directors, the District currently relies entirely on Well No. 5 for all system water supplies. Well No.5 must be pumped many hours each day 7 days per week. The over reliance on Well No. 5 has weakened its pump, increasing the need for repairs and maintenance.
- The District has indicted that Well No. 5 has higher levels of Hydrogen Sulfate than did Well No. 4. As a result, overall system water supplies now have a higher concentration of treatment chemicals, predominantly sodium-hypochlorite.
- The latest district Consumer Confidence Report (CCR), mailed out to district customers

June 1, 2010, indicates that the systems single operational well is producing water that meets all safety and health standards.

- However, the overreliance on Well No. 5, resulting from the Nitrate contamination and subsequent shutdown of Well No. 4, hinders the DCSD's ability to effect its legal responsibility, outlined in H & S Section 116555 (a) (3), to ensure that a reliable and adequate supply of pure, wholesome, healthful, and potable drinking water is supplied. According to information provided by the Community Water Center, who has conducted outreach and organizational efforts within the community of Ducor, the high level of treatment chemicals introduced into the water supply in order to address the high levels of Hydrogen Sulfate in Well No. 5 give system water a foul smell, strange texture and white tinge, making the water undrinkable and forcing customers to rely on bottled water. Additionally, the DCSD system has had to shutdown 4 of its 5 wells, a trend that points to the high probability that Well No. 5 will become similarly compromised or cease to be productive, a scenario made more likely by overuse of the well. As with district population trends, this creates a vulnerability to a crises situation in which residents could be exposed to health hazards for a prolonged period of time and/or saddled with an economic burden that customers can ill-afford.
- It is determined that although the DCSD does provide a reliable supply of water that's distributed with adequate pressure to customer taps, the quality of the water itself is sub-par and, with the added expense of bottled water, forces district customers to allot a substantial portion of their income to the purchase of water supplies, approximately 10% of their total income compared to the 1.5 % affordability threshold recommended by the EPA, according to a Pacific Institute study of Central Valley unincorporated communities served by small water systems. The percentage spent by households varies from community to community and may be higher or lower than 10%. In order to address the issue of continuously needing secure new well sites while preemptively addressing the inevitable replacement of Well No. 5, the District must examine methods of using alternative water supplies such as treated surface water. Treated surface water provided by the Terra Bella Irrigation District (TBID) is the most feasible approach. This partnership can take place through a Joint Powers Authority agreement or district consolidation.

Wastewater treatment is provided by septic systems and information is unavailable regarding any leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are streetlights, sidewalks, and ADA curb ramps located in the area and concentrated in the central part of the community. The outlying and surrounding areas of the community lack sufficient infrastructure which is considered a deficiency. Ducor does not include its own fire station and the nearest fire station is in Terra Bella, approximately 6 miles away which is considered a deficiency. Fire hydrants exist in the area which provide sufficient coverage.

4) Earlimart – The drinking water and wastewater services are provided by the Earlimart Public Utilities District (PUD). Testing conducted between 2004 and 2009 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did indicate arsenic levels over the legal and health limits, as well as 1,2-dibromo-3-chloropropane and radium-228 over the health limits. Environmental Protection Agency (EPA) violations were noted for

coliform bacteria levels over the MCL (2004, 2005, and 2007) and failure to monitor coliform bacteria (2005). The March 2006 Municipal Service Reviews (Group 1) identifies the following infrastructure needs and deficiencies:

Domestic Water

- It is likely that the District will need to continue to repair and/or replace older pipelines in the water system. Additionally, it is likely that the District will need to supplement its water supply to support additional development within its SOI (i.e. the addition of wells to the system).
- It is recommended that LAFCO complete a comprehensive review of any water system planning reports prior to any SOI updates to ensure that proper facilities planning has taken place for any proposed SOI expansion area.

Sanitary Sewer

- The District has applied for a $750,000 grant to install a new sewer line. The District will need to match the grant with $250,000. An additional 15" trunk line will be added under Washington Street to Road 128 towards the plant, to the west of Earlimart. The District indicated that no additional development is to be approved prior to the installation of the new trunk line.
- Although there is remaining capacity, the District indicated that the WWTF was constructed in 1956 and needs upgrading including electrical upgrades. Intermediate upgrades to the plant occurred in 1973 and 1986.
- It is recommended that LAFCO complete a comprehensive review of any sanitary sewer system and/or WWTF planning reports prior to any SOI updates to ensure that proper facilities planning has taken place for any proposed SOI expansion area including funding mechanisms for infrastructure improvements.

The area is prone to flooding but does have stormwater infrastructure. It is not clear whether the public stormwater infrastructure is sufficient and a potential deficiency is identified. There are streetlights located throughout the community which appear sufficient. There are sidewalks and ADA curb ramps sufficiently located in the northeast part of the community, but coverage is not sufficient in the remaining areas of the community. Earlimart does include its own fire station, and fire hydrants exist in the area which provide sufficient coverage.

5) East Orosi – The drinking water and wastewater services are provided by the East Orosi Community Services District (CSD). Testing conducted between 2004 and 2009 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did indicate nitrate levels over the legal and health limits, as well as alpha particle activity and arsenic over the health limits. Environmental Protection Agency (EPA) violations were noted for coliform bacteria and nitrate levels over the MCL (2005-2008), failure to report information to the public or state agency in the Consumer Confidence Report (2004), failure to monitor coliform bacteria (2004-2005), and failure to regularly monitor nitrate (2004-2005). The October 2011 Municipal Service Reviews (Group 4) identifies the following infrastructure needs and deficiencies:

- The District's Sanitary Survey conducted in January of 2011 by Tulare Environmental

Health found that the EOCSD's source and distribution facility are capable of providing a reliable water supply and recommended that a water supply permit be issued subject to an ongoing water quality monitoring schedule, clearing of vegetation near wells 01 and 02 and near their respective storage tanks and replacement of Well 01 vent pipe screen with fine mesh screen.

- EOCSD's December 2010 sample test results for bacteriological contaminates (required each month) resulted in a single positive sample for total Coliforms, one absent sample, and (3) positive repeat samples. A notice of violation was rendered to the EOCSD of the positive results. The notice directed EOCSD management to provide the legally required notice to district customers advising them of this total Coliform violation. Proof of customer notice must be submitted to Tulare Environmental Health. The EOCSD's Environmental Health File does not contain proof of customers notice.
- Chemical sample test results, which determine Nitrate levels, are required to be submitted on an annual basis; however, once in violation, community water system operators must submit test results to Tulare County Environmental Health on a quarterly basis. In addition, water system operators must notify customers of the violation and submit proof of notice to Tulare Environmental Health. Records indicate May 2009 sample test results showed Nitrate levels exceeding the maximum level contaminants (MCL) allowed by law. A December 10, 2009 notice of violation for failure to provide quarterly sample test results was provided by Tulare Environmental Health requesting that management submit chemical Nitrate testing results for both wells 01 and 02. A July 20, 2010 letter provided by Tulare Environmental Health indicates that the District was in violation of the aforementioned proof of notice requirement in the first 2 quarters of 2010; this notice seems to stem form the May 2009 Nitrate MCL violation. A July 20, 2010 notice of violation once again indicates sample test results exceeded Nitrate MCL and a subsequent January 27, 2011 notice of violation for failure to provide quarterly sample test results was also provided. Proof of customer notice for this specific violation was not found.
- The California Safe Drinking Water Act requires each public water system operators to prepare a Consumer Confidence Report (CCR) on an annual basis and mail/deliver a copy to each customer by July 1 of the year following the year for which the CCR is prepared. Proof of CCR distribution must be provided to Tulare Environmental Health. The CCR contains a key defining the terms used in the report, list of common contaminants found in drinking water, tables listing raw sample test results followed by a brief description of common contaminant sources. The abovementioned Nitrate violations were not identified in the 2006-2009 CCRs. A July 15, 2010 notice of violation provided by Tulare Environmental Health to the EOCSD indicates that the EOCSD failed to provide proof that a CCR was prepared and distributed for the 2009 calendar year. A similar notice was also submitted on July 15, 2009 for the 2008 CCR. Proof of 2008 and 2009 distribution was found in the EOCSDs file, which signifies that these CCRs were not provided to customers in a timely manner.
- A Compliance Order provided by Tulare Environmental Health, dated April 15, 2010, cites the following EOCSD violations of law: system operating a well that produces water not in compliance with primary drinking water standards (H & S Code Section 116555 (a) (1)), failure to ensure a pure, wholesome, healthful and potable supply of water (H & S 116555 (a) (3) and Nitrate levels exceeding the MCL allowed by law (CCR 64431 (a)). The order

requests the EOCSD provide a plan to address the violations, complete with timeline, and sets forth compliance requirements, including the aforementioned quarterly submittal of chemical sample test results and notices of violation to District customers on a quarterly basis.

- A January 2008 Tulare Environmental Health notice advises the District to continue to adhere to all reporting requirements, sustain efforts to address nitrate violations, and continue to provide customer notice requirements so long as violations continue. This notice indicates that the District has been in violation of Nitrate MCLs allowed by law since at least 2008.
- In accordance with the State's Safe Drinking Water Act, each water supplier must have a certified operator on staff. A Tulare Environmental Health notice of violation indicates that as of 12-9-2009, the EOCSD is in violation of this provision and does not have a certified operator on staff.
- CCR's were prepared for the years 2006, 2007, 2008 and 2009 (no further CCRs were found in the EOCSD Environmental Health file). Sample data is provided, but no explanation is provided regarding what raw data means.
- The EOCSD office consists of a mobile home that sits on land donated by a local property owner. Both day-to-day operations and district public meetings are conducted in the mobile home. It is estimated that the mobile home can only accommodate approximately 5 people at one time. It is determined that a mobile home only able to accommodate 5 people at one time is an inadequate facility in which to hold public meetings, particularly for a district containing 386 customers.
- Based on the records examined, it is determined that the EOCSD water system is chronically in violation of maximum Nitrate levels allowed by law. It is further determined, based on the multiple notices of violation for failure to provide sample test results, CCRs, and customer notices of violation, that it is very likely system customers are not even aware of the serious contamination issues facing their water system. Without being properly informed, district customers cannot safeguard against the health hazards posed by water contamination thereby putting their health and safety at risk.
- Staffs' determinations are further substantiated by a series of news reports that have recently examined potable water quality in small Tulare County communities, East Orosi included. A Fresno Bee article published March 16, 2011 details a recent study conducted by the Oakland think tank, Pacific Institute. The study found that it would cost approximately $150 million to address Valley-wide water contamination issues. The study also determined that low-income residents living within communities served by small water systems use approximately 4.6 % of their income for water supplies (this includes both system user fees and bottled water); the federal standard for affordability is 1.5%. The study further found that regulatory agencies do not adequately inform customers when system contamination does occur. A news report that aired on KMPH Fox 26, a local Fox affiliate, also examined the issue of poor water quality within the Valley's small unincorporated communities. In timely fashion, the news report focused on the community of East Orosi. An EOCSD customer interviewed explained that she has been dealing with high Nitrate levels in her water since 2002 and must purchase bottled water for drinking and cooking, an expense that drastically drains her financial resources. Another EOCSD

customer interviewed explained that there is no alternative for water used to shower and that system water commonly causes rashes and severe discomfort.

- It is also determined that the scenario described above, in which the District's exclusive reliance on outside funding sources creates an undue economic burden on district customers and/or exposes them to severe health risks, seems to already be taking place. State and federal grants/loans only offer short-term solutions and simply mask the larger structural forces behind continual service/infrastructure needs and deficiencies. This makes clear that a new approach must be pursued. Consolidation of the EOCSD with the various CSD's and Public Utilities Districts (PUDs) in the Cutler-Orosi region is a logical and highly feasible option.

The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are streetlights located throughout the community, however their coverage does not appear sufficient in the southern part of the community. There are no sidewalks and ADA curb ramps, therefore the community is deficient in these areas. East Orosi does not include its own fire station, however, the nearby community of Cutler-Orosi has a fire station. Fire hydrants exist in the area which provide sufficient coverage.

6) Lemon Cove – The drinking water and wastewater services are provided by the Lemon Cove Sanitary Sewer District. Testing conducted between 2004 and 2009 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did indicate nitrate levels over the legal and health limits, as well as radium-228, alpha particle activity, arsenic, and perchlorate over the health limits. Environmental Protection Agency (EPA) violations were noted for nitrate levels over the MCL (2004-2008). Test wells were also sampled in December 2014 which again indicated nitrate levels were over the legal and health limits. Agencies have applied for state and federal funding to rectify the problem. The May 2006 Municipal Service Reviews (Group 2) identifies the following infrastructure needs and deficiencies:

Domestic Water

- The water system has no permanently installed treatment at this time, and there is no backup water supply on the District's system.
- According to the District's 2004 Consumer Confidence Report, water samples taken in December 2004 contained nitrate levels of 55 mg/L, which exceeds the maximum contaminant level (MCL) of 45 mg/L. The Lemon Cove Sanitary District has been issued a compliance order (No. 04-95) to address the elevated nitrate levels.
- The water system storage volume of 35,000 gallons would be capable of delivering a source flow of approximately 280 GPM for a period of two hours, indicating that the pumping efficiency of the District's only well would need to be 500 GPM in order to meet the requirements of the Tulare County Improvement Standards. Prior to granting any SOI expansions, it is recommended that LAFCO verify that there is adequate water system capacity to meet any anticipated increased demands. It is also recommended that the District work to develop a backup water supply.
- The District would need to expand its water supply and distribution system to support any significant development projects proposed within its SOI.

Sanitary Sewer

- The District would need to expand the capacity of its WWTF to support any significant development projects proposed within its SOI.

The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are streetlights located in the northern part of the community which appear sufficient. However, the southern part of the community lacks streetlights which is considered a deficiency. There are some sidewalks located in the northern part of the community, however these are not sufficient. In addition, the southern part of the community lacks sidewalks. There are no ADA curb ramps, therefore the community is deficient in all these areas. Lemon Cove does include its own fire station. Several fire hydrants exist in the area, however coverage is not sufficient which is considered a deficiency.

7) London – The drinking water and wastewater services are provided by the London Community Services District (CSD). Testing conducted between 2004 and 2009 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did not indicate any levels over the legal limits, however combined uranium, alpha particle activity, arsenic, and 1,2-dibromo-3-chloropropane levels were over the health limits. Environmental Protection Agency (EPA) violations were noted for failure to monitor coliform bacteria (2004 and 2006) and follow up and routine tap sampling (2005). The May 2006 Municipal Service Reviews (Group 2) identifies the following infrastructure needs and deficiencies:

Domestic Water

- District staff has indicated that the water system was constructed in 1952 and experiences minor leaks. Water system leaks have the potential for causing cross contamination problems. The London CSD received Proposition 13 funding in the amount of $98,156 to prepare an infrastructure rehabilitation feasibility study to detect and evaluate leaks and determine the feasibility of replacing the distribution system. The District is currently pursuing funding through the State Revolving Fund Program for construction of a new domestic water well and hydro-pneumatic tank, along with distribution system improvements.
- The total pumping efficiency of the District's water supply sources is unknown. Prior to granting any SOI expansions, it is recommended that LAFCO verify that there is adequate water system capacity to meet any anticipated increased demands.
- It is likely that the District would need to expand its water supply and improve the distribution system to support any significant development projects proposed within its SOI.

Sanitary Sewer

- Order No. 96-172 prescribes that the monthly average discharge flow shall not exceed 0.3 MGD. Available data indicates that the current flow at the WWTF is 0.20 MGD. The District's Engineer noted that improvements completed in 2000 with USDA Rural Development funding increased the plant's capacity to 0.50 MGD. The London CSD should work with the RWQCB to get the District's WDR Order updated.
- According to WDR Order No. 96-172, the London CSD has not assessed growth in the

community and has not predicted future flows. As such, the London CSD has not made any plans on increasing the capacity of the WWTF for future flows.

The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are streetlights located throughout the community and coverage appears sufficient. There are some sidewalks located in the community, however coverage is not sufficient which is considered a deficiency. In addition, there are no ADA curb ramps, therefore the community is deficient in this area. London does not include its own fire station and the nearest fire station is the Kings River fire station, approximately 6 miles away which is considered a deficiency. Fire hydrants exist in the area which provide sufficient coverage.

8) Orosi – The drinking water and wastewater services are provided by the Orosi Public Utilities District (PUD). Testing conducted between 2004 and 2009 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did not indicate any levels over the legal limits, however 1,2-dibromo-3-chloropropane, arsenic, bromoform, and radium-228 were shown over the health limits. No Environmental Protection Agency (EPA) violations were noted since 2004. However, more recent data is not available, therefore potential deficiencies may exist. The May 2006 Municipal Service Reviews (Group 2) identifies the following infrastructure needs and deficiencies:

Domestic Water

- A test well has been drilled, has proven successful, and the District has awarded a contract for the drilling of a new well (Well #10). The District also indicated a need to replace older asbestos cement distribution piping with larger diameter ductile iron piping, and that improvements will be implemented on a phased basis and dependent upon available funding.
- District staff has indicated that they are working with Alta Irrigation District officials to study the feasibility of constructing a regional water treatment facility that would use water from the Kings River by exchange out of the Friant-Kern Canal. The regional facility would potentially provide domestic water to the City of Dinuba, Cutler, Orosi, and other unincorporated communities in the region. A feasibility study would be a three to five year process, and project implementation could be ten to fifteen years out.

Sanitary Sewer

- According to District staff, the District's sanitary sewer collection system is very old and pipe leaks and breaks cause significant problems including groundwater inflow/infiltration and cross contamination with groundwater. The District is implementing a phased sewer collection system rehabilitation/replacement project, and has awarded a contract for the construction of the phase 1 improvements.
- The Cutler PUD and Orosi PUD are working with the Tulare County Agency to secure funding that will be used to correct deficiencies that would increase the capacity of the WWTF. Proposed improvements will modernize the facility and add capacity to bring the serviceable operational limits to 2.4 MGD.

The area is prone to flooding but does have stormwater infrastructure. It is not clear whether the

public stormwater infrastructure is sufficient and a potential deficiency is identified. There are streetlights located throughout the community and coverage appears sufficient. There are sidewalks and ADA curb ramps located throughout most of the community, however coverage is sparse in some areas and these are considered deficient. Orosi does not include its own fire station, however, the nearby community of Cutler has a fire station. Fire hydrants exist in the area which provide sufficient coverage.

9) Pixley - The drinking water and wastewater services are provided by the Pixley Public Utilities District (PUD). The 2010 Consumer Confidence Report did indicate arsenic levels over the Maximum Contaminant Levels (MCLs). The March 2006 Municipal Service Reviews (Group 1) identifies the following infrastructure needs and deficiencies:

Domestic Water

- As indicated by the District's Engineer, three of the existing four wells exceed the acceptable arsenic level for drinking water that became effective January 2006, and the water supply system will require treatment or replacement of wells to meet current water quality standards.
- According to the District Engineer, there is only sufficient capacity in the water system to meet existing domestic demands without considering fire flow requirements. The District Engineer indicated that no additional connections could be supported by the water system when considering fire flows and the possibility of the maximum producing well being out of service.
- As indicated by the District Engineer, a water master plan that includes a capital facilities plan needs to be developed to address current and future needs. The District Engineer noted that the existing water system includes many 4-inch and 6-inch diameter lines, which may not be suitable for peak and fire flows. Since land within the District's SOI that is zoned for development (by the Tulare County General Plan) will rely on domestic water service from the Pixley PUD, the master planning boundary should be consistent with the District's SOI.

Sanitary Sewer

- The Wastewater Treatment Facility Upgrade and Expansion Project – Project Feasibility Report (Provost & Pritchard, February 2005) outlines a major reconstruction proposal for the District's WWTF. The improved WWTF would be capable of treating 0.5 MGD.
- As indicated by the District Engineer, a sewer master plan that includes a capital facilities plan needs to be developed to address current and future needs. The District Engineer noted that the adequacy of the existing sewer system to accept additional flows is not known. Since land within the District's SOI that is zoned for development (by the Tulare County General Plan) will rely on sanitary sewer service from the Pixley PUD, the master planning boundary should be consistent with the District's SOI.

The area is prone to flooding and does have some public stormwater infrastructure. Data is not available to determine whether the stormwater infrastructure is sufficient and a potential deficiency is identified. There are streetlights, sidewalks, and ADA curb ramps located throughout the community, however coverage is not sufficient and a deficiency is identified. Pixley does include

its own fire station, and fire hydrants exist in the area which provide sufficient coverage.

10) Plainview – The drinking water services are provided by the Plainview Mutual Water Company (MWC). Testing conducted between 2004 and 2009 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did not indicate any levels over the legal limits, however alpha particle activity, radium-228, 1,2-dibromo-3-chloropropane, and arsenic levels were over the health limits. Environmental Protection Agency (EPA) violations were noted for monitoring and reporting disinfection byproduct rule total haloacetic acids and total trihalomethanes (2004-2005). Wastewater treatment is provided by septic systems and information is unavailable regarding any leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. Streetlights are provided in some areas of the community but are lacking in others, therefore the community is deficient in these areas. There are no sidewalks and ADA curb ramps, therefore the community is deficient in all these areas. Plainview does not include its own fire station, however, the nearby community of Strathmore has a fire station. Fire hydrants exist in the area which provide sufficient coverage.

11) Poplar-Cotton Center – The drinking water and wastewater services are provided by the Poplar Community Services District (CSD). Testing conducted between 2004 and 2009 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did indicate nitrate levels over the legal and health limits, as well as alpha particle activity and radium-228 over the health limits. No Environmental Protection Agency (EPA) violations were reported since 2004. However, more recent data is not available, therefore potential deficiencies may exist. The March 2007 Municipal Service Reviews (Group 3) identifies the following infrastructure needs and deficiencies:

Domestic Water

- The District's water system is in good operating condition, and has available capacity to connect additional users however additional capacity would likely be needed to accommodate build-out of the District's SOI. A complete assessment by the District Engineer should be completed prior to the approval of additional connections to ensure that adequate distribution system pressures can be achieved.

Sanitary Sewer

- Based upon information provided by the District's Engineer, developments which have recently been approved within the existing District Boundary will use the remaining capacity at the WWTF. Based upon this realization, the District would need to expand its WWTF to support any additional development projects proposed within its District Boundary and/or SOI.

The area is prone to flooding and does have some public stormwater infrastructure. Data is not available to determine whether the stormwater infrastructure is sufficient and a potential deficiency is identified. There are streetlights located throughout the community and coverage appears sufficient in the southern part of the community. However, streetlight coverage is not sufficient for the northern part of the community and a deficiency is identified. There are sidewalks and ADA

curb ramps located in the western part of the community that appear sufficient. However, coverage is not sufficient in the remaining parts of the community and deficiencies are identified. Poplar-Cotton Center does not include its own fire station, however, the nearby city of Porterville has a fire station. Fire hydrants exist in the area which provide sufficient coverage.

12) Richgrove – The drinking water and wastewater services are provided by the Richgrove Community Services District (CSD). Testing conducted between 2004 and 2007 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did indicate arsenic levels over the legal and health limits, as well as alpha particle activity, radium-226, radium-228, and 1,2-dibromo-3-chloropropane over the health limits. Environmental Protection Agency (EPA) violations were noted for coliform bacteria over the Maximum Concentration Levels (MCLs) (2006) and failure to monitor coliform bacteria (2006). The March 2007 Municipal Service Reviews (Group 3) identifies the following infrastructure needs and deficiencies:

Domestic Water

- The total supply source available for the District's water system is unknown. Prior to granting any SOI amendments that would increase demand for water services provided the District, the District's engineer should provide evidence that the increase in demand would not result in substandard pressures, or inadequate supply capacity for the remainder of the system.
- There is a project planned to install treatment on the well that is currently not in operation. It potentially will add capacity to the District's water system, and could also serve as a backup well should one of the existing wells be out of service.

Sanitary Sewer

- Order No. 83-088 prescribes that the monthly average discharge flow shall not exceed 0.22 MGD. According to the Wastewater User Charge Survey Report FY 2005-06 (Cal EPA State Water Resources Control Board, May 2006), the average dry weather flow at the WWTF is 0.25 MGD. Based upon this information, it is determined that the District's WWTF is currently operating above its permitted capacity, indicating that additional connections to the District's sewer system cannot be supported at this time.
- The District recently completed a "Wastewater Treatment Facility Performance and Capacity Study" (Provost & Pritchard, September 2005) in order to evaluate wastewater treatment options to bring the plant into compliance regarding flow to the plant, and to address other WWTF related issues.
- The "Wastewater Treatment Facility Performance and Capacity Study" identifies potential grant sources for the implementation of the proposed improvements, planned to occur in three phases. The potential grant sources identified in the study are small community wastewater grants, community development block grants, and grant assistance provided by the economic development administration.
- Without increasing the capacity of its WWTF, the District will be unable to support any additional connections to its sewer system. Expansion of the District's UDB and/or SOI should not occur until adequate capacity is made available at the District's WWTF.

The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are streetlights, sidewalks, and ADA curb ramps located throughout the community and coverage appears to be sufficient. Richgrove does include its own fire station, and fire hydrants exist in the area which provide sufficient coverage.

13) Springville – The drinking water and wastewater services are provided by the Springville Public Utilities District (PUD). Testing conducted between 2004 and 2008 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did not indicate any levels over the legal limits, however dichloroacetic acid, total haloacetic acids, chloroform, bromodichloromethane, and total trihalomethanes were over the health limits. Environmental Protection Agency (EPA) violations were noted for excess turbidity at 0.3 nephelometric turbidity unit (NTU) (2005-2006). The March 2007 Municipal Service Reviews (Group 3) identifies the following infrastructure needs and deficiencies:

Domestic Water

- Prior to granting any SOI amendments that would increase demand for water services provided by the District, the District's engineer should provide evidence that the increase in demand would not result in substandard pressures, or inadequate supply capacity for the remainder of the system.
- Based upon the requirements of the Tulare County Improvement Standards, it is estimated that the District's water system is operating at approximately 30% of its capacity, and is capable of supporting about 950 additional equivalent dwelling units. It should be noted that there could be special circumstances (i.e. distribution system pressure constraints) that could significantly affect this result, and a complete assessment should be completed by the District Engineer prior to the approval of additional connections. The water system would need to be tested at actual system pressure to determine the actual amount of available capacity for domestic and fire flow.
- Based upon information provided by the District Engineer, the District is currently pursuing the addition of more storage to its water system in an effort to optimize the water rights capabilities of the District.

Sanitary Sewer

- The District imposed a sewer connection moratorium back in 1980 due to the limited capacity of its WWTF, effectively ending most new development within its boundaries which include the commercial and residential town center of Springville along Highway 190.
- In 1996, the RWQCB issued Cease and Desist Order No. 96-196 requiring the Springville PUD to complete improvements to provide additional capacity at its WWTF. A compliance date of October 1, 1998 was established by the RWQCB. To date, the Springville PUD has been unable to comply with the requirements of the Cease and Desist Order due to funding shortfalls, and other setbacks. The Cease and Desist Order is still in effect as of September 2006. The District is in partial compliance with the RWQCB; non-compliance is related to the disposal of wastewater.
- The District has plans to add disposal capacity to its WWTF by constructing a wastewater reclamation line over two miles in length to a property near Highway 190 and Globe Drive.

The treated effluent would be stored on the property, and reused for agricultural irrigation purposes.

- Based upon correspondence from the District, it is estimated that the currently proposed project could support an additional 185 connections with allocations being based on capacity. District staff has indicated that there is currently a waiting list with 131 requests for sewer connections. This is an indication that additional capacity, above and beyond the currently proposed project would likely be needed in order to accommodate projected growth through year 2025.
- The District has issued permits to a few residents within the District Boundary to place septic tanks on the property with the provision that they would connect to the District's sewer system once additional capacity becomes available.
- Other residences will be allowed to stay with septic tanks as the Springville PUD does not have sewer lines available in all areas of the District, such as Rio Vista Drive.
- Once additional capacity is made available at the District's WWTF, it is recommended that the District work to provide sanitary sewer pipelines in areas of the District where the infrastructure does not currently exist. Priority should be given to residents within the existing Boundary of the District, prior to expanding the District's Boundary for additional service provisions.

While Springville does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are streetlights, sidewalks, and ADA curb ramps located in the central part of the community, however the remaining parts of the community are identified as deficient. Springville does include its own fire station, and fire hydrants exist in the area, however coverage is not sufficient for the southern part of the community which is considered a deficiency.

14) Strathmore – The drinking water and wastewater services are provided by the Strathmore Public Utilities District (PUD). Testing conducted between 2004 and 2009 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did indicate nitrate and aluminum levels over the legal and health limits, as well as dichloroacetic acid, total haloacetic acids, trichloroacetic acid, arsenic, radium-228, alpha particle activity, chloroform, bromodichloromethane, and total trihalomethanes levels over the health limits. Environmental Protection Agency (EPA) violations were noted for monitoring and reporting disinfection byproduct rule total trihalomethanes and total haloacetic acid (2005-2006). The March 2007 Municipal Service Reviews (Group 3) identifies the following infrastructure needs and deficiencies:

Domestic Water

- Prior to granting any SOI amendments that would increase demand for water services provided by the District, the District's engineer should provide evidence that the increase in demand would not result in substandard pressures, or inadequate supply capacity for the remainder of the system.
- As indicated by the District's Engineer, pending developments near Avenue 196 and SR-65 would max out the District's water system capacity, and further expansion of water service would require the District to acquire additional water rights.

Sanitary Sewer

- An assessment of the District's collection system identifying any potential constraints should be completed by the District engineer prior to approving any proposed SOI amendments.

The area is prone to flooding and does have some public stormwater infrastructure. Data is not available to determine whether the stormwater infrastructure is sufficient and a potential deficiency is identified. There are streetlights located throughout the community and coverage is sufficient in most areas, however the southern and eastern parts of the community are deficient. There are also sidewalks and ADA curb ramps located throughout the community, however coverage is not sufficient and deficiencies are identified. Strathmore does include its own fire station, and fire hydrants exist in the area which provide sufficient coverage.

15) Sultana – The drinking water is provided by the Sultana Community Services District (CSD). The 2007 Annual Compliance Report reported two (2) Maximum Contaminant Level (MCL) violations for total coliform. The October 2011 Municipal Service Reviews (Group 4) identifies the following infrastructure needs and deficiencies:

- Well No. 2 (South) has not been used for approximately 8 years, but can be put into service at any time if Well No. 3 (Main) ever becomes contaminated or compromised.
- Over the last 7 years, at least 2 other wells have been abandoned due to contamination (contaminants unknown).
- Nitrates can be associated with septic systems, agricultural use of fertilizers and concentrated animal facilities. At least two dairies are located within the District's boundaries and the District is surrounded by agricultural uses, making the system vulnerable to high Nitrate levels. The District's 2009 Consumer Confidence Report (CCR) reiterates that leaks in the distribution plumbing, the presence of underground petroleum tanks, known contamination plumes, agricultural activity and sewer and drainage lines are the primary threats to Well No. 3 (Main) and Well No. 2. The 2009 CCR further indicates that the Sultana area has a history of DBCP contamination, a pesticide banned in the 1970s, but that the most recent sample test results for DBCP were non-detect.
- In order to protect the system from vulnerabilities, the latest CCR indicates that the well system should be kept clean and free of weeds and debris to prevent contamination. The report further directs that cement surface seals need to be checked for cracks and immediately repaired or sealed if needed.
- Sample test results for Nitrates are to be submitted each year. If a well sample is found to have at least 50% of the maximum contaminate level (MCL) allowed, which is 45 parts per million (ppm), the District must submit quarterly test results until the issue is resolved. The District must also provide notice of the violation to customers on a quarterly basis and proof of this notice must be submitted to Environmental Health, also on a quarterly basis. The District was notified that Well No. 2 samples exceeded the 50% threshold in 2006 and 2007. Proof of customer notification for these violations were not found in the District's Environmental Health file. The record shows that annual Nitrate testing results were not submitted for the year 2005. The 2009 CCR indicates that test samples showed Nitrate levels well below the 50% threshold.

- The County's Environmental Health Department provided notice of violation to the District for exceeding total Coliform MCL on 5 separate occasions in the last 5 years (bacteriological samples are tested on a monthly basis). No evidence was found in the District's Environmental Health file indicating whether a notice of this violation was mailed to district customers as required by law.
- Based on the information available, the system's well, storage, and distribution apparatus are reliable and not in need of major repair, only standard maintenance as suggested in the District's 2009 CCR. The water provided seems to be of good quality with minimal contamination, especially when compared to similar size districts surrounded by similar land uses.
- It is also determined; however, that based on the dairy operations within district boundaries and the agricultural uses that surround it, the system is highly vulnerable to contamination, in particular Nitrates. This is evidenced by the number of district wells that have been abandoned over the last 7 years due to contamination. Although the District can rely on Well No. 2 if Well No. 3 (Main) is forced offline, as more wells are abandoned, the number of feasible well sites diminishes. In the future, this could put district customers in a situation where they must rely on bottled water for consumption and boiled water for all other uses while the prolonged process of securing a new well site takes place. Accordingly, the SCSD must consider long-term solutions that will expand water supplies available to the District.

Wastewater treatment is provided by the Cutler Public Utilities District (PUD). The May 2006 Municipal Service Reviews (Group 2) identifies the following infrastructure needs and deficiencies:

- According to District staff, the District's sanitary sewer collection system is very old and pipe leaks and breaks cause significant problems including groundwater inflow/infiltration and cross contamination with groundwater. The District should consider the preparation and implementation of a pipeline replacement program, perhaps as a part of a sanitary sewer master plan.
- As of March 2006, the Cutler-Orosi WWTF is operating under a Cease and Desist Order according to the RWQCB file. The RWQCB indicated that the Cutler-Orosi JPWA has complied with the requirements of the Cease and Desist Order, and an order to rescind the Cease and Desist Order is expected to be completed in April 2006.
- The average dry weather flow at the WWTF is approximately 1.40 MGD, with a historical high flow of 1.89 MGD. Flow at the WWTF is greater during winter months than in summer months due to inflow/infiltration of storm water into the collection system during winter months, and ex-filtration during dry summer months. The District will be able to more accurately predict the remaining capacity at the WWTF once repairs are made to leaking pipes throughout the collection system.
- The Cutler PUD and Orosi PUD are working with the Tulare County Agency to secure funding that will be used to correct deficiencies that would increase the capacity of the WWTF. Proposed improvements will modernize the facility and add capacity to bring the serviceable operational limits to 2.4 MGD.

The area is prone to flooding and does have some public stormwater infrastructure. Data is not

available to determine whether the stormwater infrastructure is sufficient and a potential deficiency is identified. There are streetlights, sidewalks, and ADA curb ramps located throughout the community, however coverage is not sufficient and deficiencies are identified. Sultana does not include its own fire station, however, the nearby community of Cutler-Orosi has a fire station. Fire hydrants exist in the area and coverage appears to be sufficient.

16) Terra Bella – The drinking water is provided by the Terra Bella Irrigation District. Testing conducted between 2004 and 2009 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did indicate nitrate and manganese levels over the legal and health limits, as well as dichloroacetic acid, total haloacetic acids, arsenic, radium-228, alpha particle activity, chloroform, bromoform, dibromochloromethane, bromodichloromethane, and total trihalomethanes levels over the health limits. Environmental Protection Agency (EPA) violations were noted for total haloacetic acids over the Maximum Contaminant Level (MCL) (2005-2006). The March 2007 Municipal Service Reviews (Group 3) identifies the following infrastructure needs and deficiencies:

- The District operates a separate water system that has a primary function of providing irrigation water to the outlying rural areas of the community. This water is untreated. There are also domestic water connections to the District's rural (irrigation) water system that primarily serve rural residential homes related to agricultural. The water supplied by this system does not meet Federal drinking water standards, and is therefore considered to be nonpotable.
- The District sends out a quarterly letter to all residents which receive untreated tap water indicating that the water does not meet Federal drinking water standards, is considered to be non-potable, and shall not be used for drinking or cooking. The potable water source for such connections is considered to be bottled water.

Wastewater treatment is provided by the Terra Bella Sewer Maintenance District. The May 2006 Municipal Service Reviews (Group 2) identifies the following infrastructure needs and deficiencies:

- Based upon available information, at this time, there is very little capacity available for additional connections to the District's sewer system. Additional capacity will be needed in order to accommodate projected growth through year 2025.
- Without significant improvements to its WWTF to increase capacity, it is unlikely that the District would be able to provide sewer service to any significant development projects proposed with its current SOI, or any proposed SOI expansion areas.
- The District should begin planning for expansions to its WWTF, as current flows are above 90% of the plant's capacity. Ideally, capital improvement planning should begin when actual flows reach 75% of available capacity. This allows District's time to secure funding for and implement capital improvements to WWTFs before reaching capacity.

The area is prone to flooding and does have some public stormwater infrastructure. Data is not available to determine whether the stormwater infrastructure is sufficient and a potential deficiency is identified. There are streetlights, sidewalks, and ADA curb ramps located throughout the community and concentrated in the central part, however deficiencies are identified in the

remaining parts of the community. Terra Bella does include its own fire station, and fire hydrants exist in the area which provide sufficient coverage.

17) Three Rivers – The drinking water is provided by the Three Rivers Community Services District (CSD). The 2007 Annual Compliance Report reported one (1) monitoring violation for nitrates. The October 2011 Municipal Service Reviews (Group 4) identifies the following infrastructure needs and deficiencies:

- The Three Rivers CSD reported no infrastructure deficiencies.
- The District does not plan to expand or acquire new infrastructure in the foreseeable future.
- Upgrade and maintenance of equipment and supplies or capacity expansion associated with district services does not require costly capital expenditures like those associated with sewer or potable water service. Additionally, equipment and supplies used to provide services are not susceptible to sudden failure or being compromised in any other way. It is determined that the District's facilities and infrastructure are in adequate condition and that the District's current capacity is sufficient to serve the District's existing population. It is further determined that future increased demand can be accommodated in a timely and adequate manner based on the limited services the District provides.

Wastewater treatment is provided by septic systems and information is unavailable regarding any leaching and potential deficiencies may exist. While Three Rivers does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are streetlights located in a small part of the community, however the remaining areas are deficient. There are no sidewalks and ADA curb ramps, therefore the community is deficient in these areas. Three Rivers does include its own fire station, and fire hydrants exist in the central part of the community, however coverage is not sufficient for the remaining parts of the community which is considered a deficiency.

18) Tipton – The drinking water and wastewater services are provided by the Tipton Community Services District (CSD). Testing conducted between 2004 and 2008 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did indicate aluminum levels were over the legal and health limits, as well as arsenic, lead, and radium-228 levels over the health limits. No Environmental Protection Agency (EPA) violations were reported since 2004. However, more recent data is not available, therefore potential deficiencies may exist. The March 2006 Municipal Service Reviews (Group 1) identifies the following infrastructure needs and deficiencies:

Domestic Water

- The Tipton CSD has two wells that are currently inactive; one is currently nonoperational due to oil contamination and the other has been abandoned as a result of nitrate contamination.
- It is recommended that LAFCO complete a comprehensive review of any water system planning reports prior to any SOI updates to ensure that proper facilities planning has taken place for any proposed SOI expansion area.

- Assuming 560 equivalent dwelling units (EDUs) in order to meet Tulare County Improvement Standards, the Tipton CSD water system would need to be capable of delivering a combined flow rate (from all source and storage facilities) of 2,200 GPM (1,500 GPM fire flow and 700 GPM domestic demand) for a period of two hours while maintaining a minimum pressure of 25 PSI to each lot served. The District's water system is capable of delivering a source flow 1,500 GPM, indicating that the system falls short of meeting the Tulare County Improvement Standards. The District Engineer indicated that a new well is going out for bid, and will be online in the near future. An additional well will likely bring the water system into compliance with the Tulare County Improvement Standards.
- A capacity calculation performed in accordance with General Order 103, published by the California Public Utilities Commission, indicates that the District's water system is operating at or near its capacity.
- The District's budget for fiscal year 2004-05 indicates that the District received a grant/loan in the amount of $1,833,865. The District's 2004-05 budget allocates funds for several water system improvements including well drilling, water line replacement, a pipeline replacement program, and maintenance and improvements to existing well sites.

Sanitary Sewer

- It is anticipated that the District's WWTF will be operating at or near its permitted capacity within a 20-year planning period (approximately year 2025). The District has not received any grants for the construction of wastewater facility improvements. It is recommended that the District research State and Federal grants and/or loans that may be available to help finance improvements to the District's WWTF, including the installation of a flow meter. Clean Water Grants, State Revolving Fund Loans, and Small Community Grants are examples.

The area is prone to flooding and does have some public stormwater infrastructure. Data is not available to determine whether the stormwater infrastructure is sufficient and a potential deficiency is identified. There are streetlights located throughout the community and coverage generally appears sufficient except for a few small areas that lack coverage. There are sidewalks and ADA curb ramps located in various parts of the community, however coverage is not sufficient and deficiencies are identified. Tipton does include its own fire station, and fire hydrants exist in the area which provide sufficient coverage.

19) Traver – The drinking water and wastewater services are provided by Tulare County. Water quality data is unavailable, however testing of other systems nearby indicate nitrate levels over the Maximum Contaminant Level (MCL). Therefore, potential deficiencies are identified. The area is prone to flooding and does have some public stormwater infrastructure. Data is not available to determine whether the stormwater infrastructure is sufficient and a potential deficiency is identified. The community has streetlights located throughout the community, but they don't appear to be sufficient for the northeastern side of the community and a deficiency is identified. There are several sidewalks and ADA curb ramps, however these are not sufficient for the entire community and deficiencies are identified. Traver does not include its own fire station and the nearest fire station is the Kings River fire station, approximately 6 miles away which is considered a deficiency.

Fire hydrants exist in the area which provide sufficient coverage.

20) Woodville – The drinking water and wastewater services are provided by the Woodville Public Utilities District (PUD). Testing conducted between 2004 and 2009 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did not indicate any levels over the legal limits, however alpha particle activity levels were over the health limits. Environmental Protection Agency (EPA) violations were noted for failure to regularly monitor nitrate (2004). The March 2007 Municipal Service Reviews (Group 3) identifies the following infrastructure needs and deficiencies:

Domestic Water

- Assuming 500 equivalent dwelling units (EDUs), in order to meet Tulare County Improvement Standards the Woodville PUD water system would need to be capable of delivering a combined flow rate (from all source and storage facilities) of 1,160 GPM (500 gpm fire flow, and 660 gpm domestic demand) for a period of two hours while maintaining a minimum pressure of 25 PSI to each lot served; The District's water system is capable of delivering a combined source flow of 1,500 gpm, indicating that the District's water system meets the requirements of the Tulare County Improvement Standards. Prior to granting any SOI amendments that would increase demand for water services provided by the District, the District's engineer should provide evidence that the increase in demand would not result in substandard pressures, or inadequate supply capacity for the remainder of the system.
- Based upon a calculation performed in accordance with General Order 103, published by the California Public Utilities Commission, it is estimated that the District's water system is capable of supporting approximately 350 additional equivalent dwelling units. It should be noted that there could be special circumstances (i.e. distribution system pressure constraints) that could significantly affect this result, and a complete assessment should be completed by the District Engineer prior to the approval of additional connections.

Sanitary Sewer

- Treatment and disposal of wastewater bio-solids are regulated by a broad and complicated body of regulations developed by the EPA, and are commonly referred to as the 503B rule. According to the Engineer for the Woodville PUD, the District is not currently in compliance with the 503B rule pertaining to sludge handling. The District has plans to construct sludge drying beds in 2007 and 2008 in order to achieve compliance with the 503B rule.
- The District should begin planning for expansions to its WWTF when actual flows reach 75% of the plant capacity. This will allow the District time to secure funding for and implement capital improvements to its WWTF before reaching its capacity.

The area is prone to flooding and does have some public stormwater infrastructure. Data is not available to determine whether the stormwater infrastructure is sufficient and a potential deficiency is identified. There are streetlights located throughout the community that generally appear to be sufficient except for a few isolated areas that lack streetlights. There are several sidewalks and ADA curb ramps, however these are not sufficient for the entire community and deficiencies are identified. Woodville does not include its own fire station and the nearest fire station is in

Porterville, approximately 9 miles away which is considered a deficiency. Fire hydrants exist in the area which provide sufficient coverage.

21) Allensworth – The drinking water is provided by Allensworth Community Services District (CSD). Testing was conducted between 2004 and 2009 and provided to the Environmental Working Group (EWG) by the California Department of Public Health, however only violation data is available. Environmental Protection Agency (EPA) violations were noted for arsenic levels over the Maximum Contaminant Levels (MCLs) (2008), failure to report information to the public or state agency in the Consumer Confidence Report (2006), failure to monitor coliform bacteria (2004 and 2008), failure to regularly monitor nitrate (2006), and failure to regularly monitor arsenic (2008). The October 2011 Municipal Service Reviews (Group 4) identifies the following infrastructure needs and deficiencies:

- The District is required to conduct bacteriological contaminant testing of water samples on a monthly basis (monthly testing involves several water samples). According to the District's Environmental Health file, from September 2007 to November of 2008 only a single sample tested positive for bacteriological contaminants. Likewise, a single sample returned with positive results in both 2009 and 2010. Notice of violation was submitted by Tulare Environmental Health for total Coliform on January 2011. Results of repeat samples or proof of customers' notification of the 2011 violation were not found in the District's Environmental Health file. Notice of violation was also provided in October 2008 for failing to submit Bacteriological sample test results (testing occurs each month).
- Records indicate that the District's water system is continuously in violation of the maximum levels set for Arsenic. Most recently (December 2010), an Environmental Health compliance order was provided to the District for violation of maximum Arsenic levels. The order directs the District to notify all district customers of the violation on a quarterly basis, submit proof of customers' notification on a quarterly basis, and submit sample test results to the Tulare Environmental Health Department on a quarterly basis. This order must be followed for as long as the system remains in violation. The order further directs the District to consider various avenues to address the problem and to prepare an action plan, complete with timeline, and submit the plan to the Environmental Health.
- On December 29, 2010, the ACSD Board adopted Resolution 2010-1109, which imposes a moratorium on new water connections and on the drilling of new wells within district boundaries. According to the resolution, the moratorium was prompted by the high cost associated with pumping groundwater from lower depths as a result of decreased groundwater levels coupled with the District's financial inability to drill new wells and therefore meet existing rate payer demand.
- It is determined that the ACSD's system is highly vulnerable to Arsenic contamination, as evidenced by the fact that system wells were drilled at their current location (3 miles outside the District's bounds) specifically to avoid naturally occurring excessive levels of Arsenic as well as the numerous notices of violation for excessive Arsenic levels submitted by Tulare Environmental Health. It is further determined that the present groundwater supplies available to the District are inadequate. Unless the incredibly high cost of securing new well sites is passed on to a customer pool that can ill-afford higher rates, decreased groundwater levels coupled with the District's poor financial condition make it highly

probable that, absent state or federal grants/loans, the system will experience complete failure in the near future.

- As mentioned above, the December 2010 Environmental Health compliance order directs the District to prepare a plan, complete with timeline, to address the Arsenic contamination issue. It is determined that the scope of solutions contained in the action plan also encompass the groundwater level challenge facing the District and the low-income condition of its customer pool.

Wastewater treatment is provided by septic systems and information is unavailable regarding any leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are streetlights located in the community but coverage is not sufficient, therefore a deficiency is identified. There are no sidewalks and ADA curb ramps, therefore the community is deficient in these areas. Allensworth does not include its own fire station and the nearest fire station is in Alpaugh, approximately 7 miles away which is considered a deficiency. Fire hydrants exist in the area, however coverage is not sufficient in the north and south parts of the community which is considered a deficiency.

22) Delft Colony – The drinking water and wastewater services are provided by Tulare County. Testing conducted between 2004 and 2008 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did indicate manganese levels over the legal and health limits, as well as alpha particle activity and arsenic over the health limits. Environmental Protection Agency (EPA) violations were noted for coliform bacteria over the Maximum Contaminant Level (MCL) (2004), failure to monitor coliform bacteria (2004-2005), and failure to regularly monitor nitrate (2007). The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are streetlights and sidewalks located in the community but coverage is not sufficient, therefore deficiencies are identified. There are no ADA curb ramps, therefore the community is deficient. Delft Colony does not include its own fire station, however, the Kings River fire station is nearby. Fire hydrants exist in the area which provide sufficient coverage.

23) Lindcove – The drinking water is provided by private and/or community wells. Water quality of private wells is not regulated by the State of California, however the Groundwater Ambient Monitoring & Assessment (GAMA) Domestic Well Project sampled well water from 181 domestic wells in Tulare County in 2006. Wells tested near Lindcove were above Maximum Contaminant Levels (MCLs) or Notification Levels, tested greater than 10 mg/L of nitrate, and total coliform was detected. Wastewater treatment is provided by septic systems and information is unavailable regarding any leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Lindcove does not include its own fire station, however, the nearby community of Lemon Cove has a fire station. No fire hydrants exist in the area which is considered a deficiency.

24) Monson – The drinking water is provided by private and/or community wells. Water quality of private wells is not regulated by the State of California, however the Groundwater Ambient Monitoring & Assessment (GAMA) Domestic Well Project sampled well water from 181 domestic wells in Tulare County in 2006. Wells tested near Monson were above Maximum Contaminant

Levels (MCLs) or Notification Levels, tested greater than 10 mg/L of nitrate, and total coliform was detected. Wastewater treatment is provided by septic systems and information is unavailable regarding any leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are two (2) streetlights located in the community which are not sufficient. In addition, there are no sidewalks and ADA curb ramps, therefore the community is deficient in all these areas. Monson does not include its own fire station, however, the nearby city of Dinuba has a fire station. No fire hydrants exist in the area which is considered a deficiency.

25) Seville – The drinking water and wastewater services are provided by Tulare County. Water quality data is unavailable, however testing of other systems nearby indicate nitrate levels over the legal and health limits, as well as alpha particle activity and arsenic levels over the health limits. Therefore, potential deficiencies are identified. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are three (3) streetlights and one (1) ADA curb ramp located in the community which are not sufficient. In addition, there are no sidewalks, therefore the community is deficient in all these areas. Seville does not include its own fire station and the nearest fire station is in the community of Cutler-Orosi, approximately 6.5 miles away which is considered a deficiency. In addition, no fire hydrants exist in the area which is also considered a deficiency.

26) Teviston – The drinking water is provided by Teviston Community Services District (CSD). Testing conducted between 2004 and 2008 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did not indicate any levels over the legal limits, however alpha particle activity was over the health limit. Environmental Protection Agency (EPA) violations were noted for failure to report information to the public or state agency in the Consumer Confidence Report (2006 and 2008) and failure to regularly monitor nitrate (2007). The March 2006 Municipal Service Reviews (Group 1) identifies the following infrastructure needs and deficiencies:

    - It is recommended that the District plan for future water system improvements as the current system reaches its capacity, perhaps through a meter plan, or updated water system study. Potential funding sources should also be identified during the planning process.

    Wastewater treatment is provided by septic systems and information is unavailable regarding any leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are streetlights located in the community, however coverage is not sufficient. There are no sidewalks and ADA curb ramps, therefore the community is deficient in all these areas. Teviston does not include its own fire station, however, the nearby community of Pixley has a fire station. Fire hydrants exist in the area, however coverage is not sufficient in the western and southern parts of the community which is considered a deficiency.

27) Tonyville – The drinking water is provided by Lindsay-Strathmore Irrigation District (LSID). LSID typically provides treated surface water from the Friant-Kern Canal, however this water may be contaminated with disinfectant byproducts, such as trihalomethanes which is considered a potential

deficiency. The March 2007 Municipal Service Reviews (Group 3) identifies the following infrastructure needs and deficiencies:

- The LSID does not have any domestic/irrigation planning reports or studies, or a capital improvement program. The District typically prepares a pipeline replacement plan on an annual basis.
- The remaining domestic connections (approximately 800), receive chlorinated but untreated and unfiltered water. Due to 1996 amendments to the Surface Water Treatment Rule of the Safe Drinking Water Act, non-filtered water is now considered to be non-potable. Therefore, the untreated/unfiltered water delivered to approximately 800 homes is not considered potable under federal legislation, however, existing homes at the time of enactment of the legislation were considered to be grandfathered in, and though they receive water, bottled water is formally considered as the potable water source for these homes.
- The District is under constant pressure to provide domestic service while at the same time not being able to provide the majority of homes in the District with drinking water that meets all State and Federal drinking water standards. For this reason, requests for domestic water service from the LSID are either referred to the City of Lindsay or the Strathmore Public Utility District (PUD), as the LSID is unable to support any additional domestic connections at this time. If domestic water service cannot be provided by the City of Lindsay or the Strathmore PUD, any new homes within the District can dig their own wells or form a private mutual water company with other residences.
- Due to the District's difficulties in providing domestic water that meets State and Federal drinking water standards, it is recommended that the District continue to refer all new domestic water connections to the City of Lindsay or the Strathmore PUD. The District should also consider converting existing domestic water connections to either City supported, or Strathmore PUD supported connections, as geographically and administratively feasible to do so.

Wastewater services are provided by Tulare County and information is unavailable regarding any potential deficiencies that may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are streetlights located throughout the community that appear sufficient. There are no sidewalks and ADA curb ramps, therefore the community is deficient in these areas. Tonyville does not include its own fire station and the nearest fire station is in the city of Lindsay, approximately 6 miles away which is considered a deficiency. Fire hydrants exist in the area which provide sufficient coverage.

28) Waukena – The drinking water is provided by Tulare County. Water quality data is unavailable, therefore potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There is one (1) streetlight, two (2) sidewalks, and one (1) ADA curb ramp in the community which are not sufficient, therefore the community is deficient in all these areas. Waukena does not include its own fire station and the nearest fire station is in the city of Tulare, approximately 13.5 miles away which is considered a deficiency. In addition, no fire hydrants exist

in the area which is considered a deficiency.

29) West Goshen – The drinking water is soon to be provided by Cal Water. Testing conducted in 2013 and reported by Cal Water did not indicate any levels over the legal limits. However, more recent data is not available, therefore potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. West Goshen does not include its own fire station, however, the nearby community of Goshen has a fire station. No fire hydrants exist in the area which is considered a deficiency.

30) Yettem – The drinking water and wastewater services are provided by Tulare County. Water quality data is unavailable, however testing of other systems nearby indicate nitrate levels over the legal and health limits, as well as alpha particle activity and arsenic levels over the health limits. Therefore, potential deficiencies are identified. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are three (3) streetlights located in the community that appear to be sufficient. There are no sidewalks and ADA curb ramps, therefore the community is deficient in these areas. Yettem does not include its own fire station, however, the nearby community of Cutler-Orosi has a fire station. Fire hydrants exist in the area which provide sufficient coverage.

31) Matheny Tract -Omni Means Report (September 2014)

The Pratt Mutual Water Company (PMWC) water system was originally installed in the early 1960s. The system is currently operated under the California State Department of Health Services (DHS) Water Permit No. 03-88-019, dated August 11, 1988. The water system is classified as a Community water system. PMWC operates and maintains the Matheny Tract Community Water System, which is located southwest of the City of Tulare. The system presently serves approximately 276 un-metered services.

The water supply for PMWC is provided by three shallow wells that have been in service for several decades. Well No's 1 and 2 were drilled in 1961 to depths of 325 feet and 250 feet respectively. Well #3 was drilled in 1976 to a depth of 400 feet. All well sites have hydro‐ pneumatic tanks and feed directly into the distribution system. Water is chlorinated at the active well sites. There is no emergency backup power supply at any of the well sites.

PMWC has received multiple Notices of Violation from the California DHS for system violations and failure to comply with reporting requirements. In 1999 and 2000, multiple violations were issued to PMWC for exceeding the Maximum Contaminant Levels (MCL) for total coli form and nitrate. PMWC was required to add chlorination facilities to each of the active wells as a result of the violations.

In 2002, Well #2 was condemned by DHS due to high nitrate levels. Well #2 is the shallowest well and may be influenced by septic systems and agricultural operations in the area. The two wells that remain in service have nitrate levels below the MCL.

In recent years, the groundwater elevation has dropped causing water shortages. On multiple occasions, the Community was temporarily without water service. Consequently, pumps in the active wells were lowered to accommodate the lower groundwater elevation. In December of 2003, PMWC requested a moratorium from further development in the Community to restrict any additional demands on the system.

PMWC has also experienced an increasing number of problems with the distribution system. The occurrence of water main leakage and breakages requiring repair have increased during the last several years. The distribution system continues to have multiple problems including needed repairs, aged and under-sized water mains, sub-standard fire hydrants, and an inadequate number of isolation valves.

The water system has increasingly experienced problems associated with water quality and supply over the last few years. The PMWC has been issued violations for being out of compliance with state and federal drinking water standards and permit requirements. The arsenic levels in the source water needs to be reduced. The DHS requirements effective in January of 2006 require arsenic levels to be less than:

10 ug/L based on water quality testing records.

The PMWC water system must be improved to provide water that is in compliance with drinking water standards with sufficient capacity to serve the Community. There are two primary health concerns that need to be addressed:

1. Arsenic concentrations in excess of the MCL.
2. Unreliable water supply that does not provide adequate flow and system pressure.

Reliable water supply needs to be established for the Community. The Community has experienced periods of water outages due to a declining water table, which has resulted in lowering of the pumps. The system capacity was reduced when Well #2 was shut down and now depends on two of the original three wells to meet water demands. As a result, the existing wells are less capable of providing adequate system pressures. When Well #2 was shutdown the southern portion of the water system was left vulnerable to a breakage in the 6-inch water main, which is the only source of water. In addition, no backup power or water supply is available for the two operating wells.

Many problems in the PMWC water system need to be addressed, including water quality, supply and distribution. The system is currently out of compliance with the new limits on arsenic. PMWC needs a reliable water supply that meets the drinking water standards. The objective of the proposed project is to provide potable water to the Matheny Tract Community that meets all Title 22 requirements including arsenic and nitrate standards.

As discussed previously, the City of Tulare and Self-Help Enterprises, a local non-profit housing group, obtained State funding to improve the Matheny Tract's water infrastructure so it can be connected to the City of Tulare's water infrastructure. This system is anticipated to be connected in 2014.

Sanitary Sewer

Matheny Tract is currently unsewered and operates on a system of individual septic systems. The Community was developed and most homes were built in the 1930s and 1940s. Existing on-site septic systems are generally old and require a lot of maintenance on the part of low-income residents. There are two main parts of a septic system: the tank and the drainfield. The septic tank allows solid materials to settle and for bacteria to break them down. Liquid, or effluent, are passed on to the drainfield, where waste materials are broken down by bacteria in the soil.

As septic systems become antiquated, as many are in Matheny Tract, maintenance and repairs of the service line is costly. Proper maintenance for septic systems, such as regular septic tank pumping and inspections along with proper use of disposal (i.e., what is and what is not put down the drain), prolongs the life of the septic system. However, the cost of pumping septic tanks to maintain functionality presents a financial burden to the low-income residents of Matheny Tract where pumping costs can be upwards of $300 per occurrence. At some point it makes more sense to hook up to a city sewer system if it is available and feasible. The City of Tulare wastewater treatment plant is located less than a mile from Matheny Tract, and a Tulare sewer collection line of sufficient size to serve the Community was recently installed in Pratt Street.

PROJECT SELECTION

Making improvements to sidewalks has been identified by Matheny residents as one of the highest priorities. Public workshops have responded to this strong desire for improved sidewalks by appropriating significant funding the past several years for sidewalk improvements as indicated by a self imposed transportation tax for countywide transportation improvements (Measure R). In addition, the 2012 General Plan adopted by the Tulare County Board of Supervisors contains the following goals and policies related to sidewalk improvements:

- PF2.7 Improvement Standards in Communities
- LU7.3 Friendly Streets
- HS9.1 Healthy Communities
- HS9.2 Walkable Communities
- TC 5.5 Consider Non - Motorized Modes in Planning and Development

This document has been prepared to address public concerns as well as these goals and policies contained in the Tulare County General Plan. There are three primary sidewalk issues within Matheny Tract that are addressed in this Plan. They are:

1. Existing sidewalks that are in poor condition that need to be replaced;
2. Locations where new sidewalks need to be constructed because no sidewalks currently exist; and,
3. Maintenance.

Due to the large number of locations where no sidewalks currently exist, it will take a sustained effort over many years and a significant amount of funding to address all of the sidewalk

needs within the Community. Without a Transportation Infrastructure Plan, these funding needs will continue to be un addressed for years to come; however, with Transportation Infrastructure Plan in place, applying for local, state and federal funding will be much more accessible for the grant applicant.

PRIORITY OF LOCATIONS FOR NEW SIDEWALKS

During the Public Workshops, Community input was given to determine how to prioritize the locations to build new sidewalks. The criteria for determining the locations to construct new sidewalks where none currently exist are as follows:

Priority A: Locations along major collectors (Pratt Street and Addie Avenue) with a higher number of pedestrians.

Priority B: Locations along a collector or local roadway adjacent/near:

1) A school/transit bus stop;
2) More dense residential center(s); and,
3) Commercial center with a higher number of pedestrians.

Priority C: All other locations (i.e., residential areas).

Based on this priority system, Figure 35-1 indentifies prioritized locations for roadway (curb, gutter & sidewalk) within the Community.

COSTS FOR NEW SIDEWALKS

The costs for constructing new sidewalks within Matheny Tract will vary greatly depending on the specific location. Most of the areas that do not have sidewalks also do not have curb & gutter. Installing curb & gutter and adequate drainage facilities is usually necessary before sidewalks can be installed and the cost for this infrastructure will be much higher than the actual cost of the sidewalk. In addition, some locations will require considerable grading for the new sidewalks to be constructed which will greatly increase the overall cost.

For purposes of this report, the following assumptions were used to estimate the costs for new sidewalks (5feet wide):

- Cost per Linear Foot of New Sidewalk Only: $30/linear foot.
- Cost for Curb & Gutter/Drainage/Grading per Linear Foot of New Sidewalk:
- $20/linear foot (depends on drainage requirements)
- Use average of $80/linear foot for purposes of this report.
- Total Cost per Linear Foot of New Sidewalk and Curb & Gutter: $50/linear ft

Figure 35-1
Prioritized Locations

Based on this unit cost, the total estimated cost to construct sidewalks along both sides of all existing streets where a sidewalk does not currently exist is approximately $3,700,000.

Specifically, the *Matheny Tract Sidewalks and Safe Routes to Bus Stops Improvement Project* (shown in Figure 35-2) proposes to construct approximately 39,650 linear feet of 5 - foot wide concrete sidewalk with curb and gutter along both sides of the following street segments in Matheny Tract:

- Wade Avenue between Pratt Street (Road 96) and Casa Street (0.74 mi.);
- Beacon Avenue between Pratt Street and I Drive (0.95 mi.);
- Addie Avenue between Pratt Street and I Drive (0.97 mi.);
- Pratt Street between Addie Avenue and Wade Avenue (0.18 mi.);
- Luton Street between Addie Avenue and Wade Avenue (0.18 mi.);
- S. Canal Street between Addie Avenue and Wade Avenue (0.18 mi.);
- Canal Street between Addie Avenue and Wade Avenue (0.18 mi.); and,
- Casa Street between Addie Avenue and Wade Avenue (0.18 mi.).

New storm drain and roadway reconstruction is proposed along the following street segments in Matheny Tract:

- Addie Avenue between Pratt Street and Luton Street (0.25 mi.);
- Addie Avenue between Canal Street and Casa Street (0.24 mi.);
- Luton Street between Addie Avenue and Wade Avenue (0.18 mi.); and,
- Casa Street between Addie Avenue and Wade Avenue (0.18 mi.).

In addition, 12 new drainage inlets (DI) are proposed at various locations along these street segments. ADA standard ramps shall be placed at all intersections that include new sidewalks.

COSTS FOR NEW STREET LIGHTS

The costs for installation of 18 new street lights is a result of environmental mitigation required as a result of a Community Benefits Agreement between Matheny Tract Committee and Colony Energy Tulare, LLC, drafted October 4, 2012. In summary, the following was agreed upon between the two parties involved in discussions regarding mitigation measures of the proposed development:

- Developer shall arrange for installation of, or provide funding to the County of Tulare for installation of, 4 street lights in South Matheny Tract and provide funding or reimbursement to the County of Tulare for operation of such street lights for a 10-year period; and,
- Developer shall also provide funding or reimbursement to the County of Tulare for operation of 14 street lights in North Matheny Tract for a 10-year period.

Figure35-2
Matheny Tract Sidewalks and Safe Routes to Bus Stop Improvement Project

At Community Workshop #2, the residents were asked to identify key locations within Matheny Tract where they desired installation of new street lights within Matheny Tract. These locations were refined to include locations at intersections, at the end of cul-de-sacs, at curved roads and along corridors with no existing streets lights. Based upon recent street light installation costs, which include hooking up to power, it is estimated that these streetlights will cost approximately $15,000 each or$270,000 for 18 street lights.

TRANSPORTATION AND INFRASTRUCTURE FUNDING MATRIX

The Transportation and Infrastructure Funding Matrix, shown in Table 35-3, provides a list of transportation and infrastructure projects that have been identified as a result of this Plan. Based upon input gathered at three Community Workshops and analysis of existing and proposed conditions, Table 35-3 identifies major projects recommended for implementation in Matheny Tract such as curb, gutter and sidewalk installation, roadway rehabilitation, drainage improvements,

development of a storm water facilities, including underground pipes, drainage inlets, ponding basin, installation of 18 street lights, and other projects such as bus stops/amenities (benches, shelters, trash receptacles, etc.), landscaping/dust control and bike lanes.

In addition to identification of transportation and infrastructure improvements, Table 35-3 provides information regarding alternative type (community preferred or recommended), short term (1-5 years), mid-term (6-10 years) or long term (11-20 years) costs in today's dollar, federal funding sources (FHWA and FTA), state funding sources (Caltrans, grants), local funding sources (gas tax, Measure R for roads/non-vehicular travel), and other funding sources (environmental mitigation, various grants and assessments).

It should be noted that Table 35-3 provides only a partial list of funding sources available for residents of Matheny Tract. These cost estimates include approximately $4,432,000 for roadway improvements, $3,782,000 for curb, gutter & sidewalk improvements and $5,892,000 for drainage improvements for total improvements of approximately $14.1 million.

ADDITIONAL FUNDING RECOMMENDATIONS

As a result of the *Matheny Tract Transportation and Infrastructure Plan*, it is evident that Matheny Tract needs to develop a comprehensive Storm Water Management Plan (SWMP). As a result of the need to install a sidewalk network and mitigate drainage impacts in Matheny Tract, it was determined that limited water shed infrastructure exists in North Matheny and it is non-existent in South Matheny. Lack of adequate drainage results in roadway safety concerns, structural road maintenance issues, flooding, environmental impacts and property damage.

In addition to physical problems that result from lack of storm water drainage, the community is limited to available funding opportunities. For example, transportation grants such as ATP only allow funding for storm water improvements that connect to an existing system. Therefore, without existing storm water infrastructure, it is difficult to justify transportation funding for new storm drain facilities. However, this plan has identified a "backbone" storm water drainage plan for North and South Matheny that includes new storm drains, drainage inlets, ponding basin, fencing, land purchase etc.

Table 35-3

TABLE 8: TRANSPORTATION AND INFRASTRUCTURE FUNDING MATRIX

								MAP-21					Caltrans			Local			Other				
Priority	Improvement	Cost Estimate	Community Preferred Alternative	Recommended Alternative	1-5Year Cost	6-10 Year Cost	11-20 Year Cost	CMAQ	TE	SRTS	TAP	Section 5307/5311	SRTS	ATP[1]	RIA	Sales/Gas Tax	Measure R (Roads)	Measure R (Bike/Ped.)	Environ. Mitigation	CDBG Grants	CDBG Grants	Misc. Grants	USDA Loan Assessments
A	Avila Ave, Pam St																						
	--Roadway	$1,474,685	*	*	$487,455	$495,752	$491,478	*	*	*	*			*		*	*			*			*
	--Curb, Gutter & Sidewalk	$1,273,500	*	*	$406,250	$253,000	$48,400			*	*		*	*		*		*					*
	--Drainage	$1,960,000	*	*	$421,000	$1,071,300	$467,240				*			*		*					*	*	*
B	Beacon Ave, Cotton St, S. Conn St, Conn St, Case St, Mathany Ave, Prine Dr																						
	--Roadway	$1,764,388	*	*	$304,625	$1,302,652	$400,718	*	*	*	*			*		*	*			*			*
	--Curb, Gutter & Sidewalk	$1,496,250	*	*	$1,007,210	$301,152	$87,788			*	*		*	*		*							*
	--Drainage	$2,346,000	*	*	$906,000	$1,180,360	$559,640				*			*		*					*	*	*
C	Wade Ave, Beacon Ave, Conn St, Case St, I Dr																						
	--Roadway	$1,192,203	*	*	$65,640	$876,674	$250,640	*	*	*	*			*		*	*			*			*
	--Curb, Gutter & Sidewalk	$1,011,750	*	*	$820,625	$72,400	$18,225			*	*		*	*		*							*
	--Drainage	$1,585,200	*	*	$324,000	$1,368,320	$892,880				*			*		*					*	*	*
A	Street Lights at 18 Locations[2]	$270,000	*	*	$270,000														*				
Other	Bus Stop Benches/Amenities[2]	$30,000	*	*	$10,000	$10,000	$10,000					*				*		*					*
	Landscaping/Dust Control[2]	$250,000		*	$45,938	$45,938	$68,813	*	*							*	*						*
	Bike Lanes[2]	$750,000	*	*	$250,000	$250,000	$250,000			*	*		*	*	*	*		*					*

[1] ATP Grant Application for $4.8 Million submitted on May 15, 2014 (3-5 Year Cost Priority A, B & C).

36. POTENTIAL FUNDING SOURCES

36.1 General

Previous chapters of this report identify the infrastructure needs of each Community and Hamlet as well as any planned and programmed projects that would provide this infrastructure. The purpose of this chapter is to describe potential funding sources that may make extension of services and infrastructure to these communities financially feasible.

36.2 Potential Funding Sources

Principal funding sources to provide infrastructure include taxes, benefit assessments, bonds, and exactions (including impact fees). The following is a list of funding options to address existing deficiencies and/or expansion of infrastructure for new development:

- User rate increases
- Revenue bonds
- Tax allocation bonds
- Certificates of Participation (COP)
- General obligation bonds
- Infrastructure financing district (IFD)
- Mello-Roos Community Facilities District (CFD)
- Assessment district (AD)

There are other funding opportunities as listed in Table 36-1. Most of the available funding sources relate to clean drinking water, community water systems, and water treatment and quality. Several of them pertain specifically to disadvantaged communities.

TABLE 36-1
Potential Funding Sources

Agency	Program (year passed or created)	Funding Provided (in million $)	Funding Remaining/Available (in million $)	Limitations/Barriers on Use of Funds for Drinking Water Treatment (capital or O&M)
Water				
California Department of Public Health (CDPH)	Safe Drinking Water State Revolving Fun (SDWSRF) (1996) (grants and loans)	Generally $100-$150: Low-interest loans and some grants to support water systems with technical, managerial, and financial development and infrastructure improvements.	$130-$150 (revolving funds) (annually)	* 20% to 30% of annual federal contribution can be used for grants. The remainder must be committed to loans. * Funds can be used only for capital costs. Cannot be used for O&M. * Only loans (not grants) for privately owned water systems. * Some funds available for feasibility and planning studies for eligible projects/systems. * Can only be used for Public Water Systems (not domestic wells or State Small Systems).
	Proposition 84 (2006) (grants)	$180: Small community improvements.	$0 (Over subscribed)	* Funds can be used only for capital costs. Cannot be used for O&M. * Some funding available for feasibility and planning studies for eligible projects/systems. * Can only be used for Public Water Systems not domestic wells or State Small Systems.
		$60: Protection and reduction of contamination of groundwater sources. $50: Matching funds for federal DWSRF.	$0 (Fully allocated) Will be fully committed with the current year grant but not yet liquidated	
		$10: Emergency and urgent projects.	$7	* Used to address sudden unanticipated emergency situations such as fires, earthquakes, and mud slides that damage critical water infrastructure. May fund short-term mitigations such as hauled water.
	Proposition 50 (2002) (grants) (fully allocated)	$50: Water security for drinking water systems.	$0 (Fully allocated)	* Can only be used for capital costs. Cannot be used for O&M. * Can only be used for Public Water Systems, not domestic wells or State Small Systems.
		$69: Community treatment facilities and monitoring programs.	$0 (Fully allocated)	
		$105: Matching funds for federal grants for public water system infrastructure improvements.	$0 (Fully allocated, mostly liquidated)	
State Water Resources Control Board (State Water Board)	Clean Water State Revolving Fund (Expanded Use Program) (CWSRF) (1987) (loans)	$200-$300 per year: Water quality protection projects, wastewater treatment, nonpoint source contamination control, and watershed management.	$50 per agency per year; can be waived	Eligible Uses: Stormwater treatment and diversion, sediment and erosion control, streatm restoration, land acquisition. Drinking water treatment generally not eligible except under certain Expanded Use scenarios. Capital cost only. O&M not eligible.
	Small Community Groundwater Grants (Prop 40) (2004, amended 2007) (grants)	$9.5: Assist small disadvantaged communities (<20,000pp) with projects where the existing groundwater supply exceeds maximum contaminant levels, particularly for arsenic or nitrate.	$1.4 remaining $0.3 available to encumber; $1.1 available to appropriate	$ can go to local government or NGO. Must demonstrate financial hardship. Can only provide alternate water supply. No O&M costs. Program not currently active due to staff resource limitations.
	State Water Quality Control Fund: Cleanup and Abatement Account (2009)	$10 in 2012 (varies annually): Projects to a) clean up waste or abate its effects on waters of the state, when there is no viable responsible party, or b) address a significant unforeseen water pollution problem (regional water boards only). Funds can be allocated to: Public Agencies, specified tribal governments, and not-for-profit organizations that serve disadvantaged communities.	$10, but varies	Eligible Uses: Emergency cleanup projects; projects to clean up waste or abate its effects on waters of the state; regional water board projects to address a significant unforeseen water pollution problem. Recipient must have authority to clean up waste. Under certain circumstances this fund has been used to provide drinking water O&M for limited durations.
	Integrated Regional Water Management (IRWM) (2002)	$380 (Prop 50): Planning ($15) and implementation ($365) projects related to protecting and improving water quality.	$0 (Fully committed)	
	Small Community Wastewater Grant Program	$380 (Prop 50): Planning ($15) and implementation ($365) projects related to protecting and improving water quality.	$0 (Fully committed)	

TABLE 36-1 (Continued)
Potential Funding Sources

Agency	Program (year passed or created)	Funding Provided (in million $)	Funding Remaining/Available (in million $)	Limitations/Barriers on Use of Funds for Drinking Water Treatment (capital or O&M)
Water				
State Water Resources Control Board (State Water Board)	Water Recycling Funding Program (2008) (grants)	$5 for construction.	$0 (Fully committed)	* Provide for treatment and delivery of municipal wastewater to users that replace the use of local water supply with recycled water. * Provide treatment and reuse of groundwater contaminated due to human activity; and provide local water supply benefits. * Provide for the treatment and disposal of municipal wastewater to meet waste discharge requirements imposed for water pollution control. * Projects that do not have identifiable benefits to the state or local water supply.
California Department of Water Resources (DWR)	Integrated Regional Water Management	$600 remaining (Prop 84): Regional water planning and implementation.	$28 (Central Coast projects)	Must be consistent with an adopted IRWM Plan and other program requirements. For capital investment only.
	Contaminant treatment or removal technology pilot	Up to $5 per grant	$15 available	Eligible applicants are public water systems under the regulatory jurisdiction of CDPH and other public entities. For capital investment only.
	Safe Drinking Water Bond Law (Prop 81) (1988)	Up to $74 to be awarded to current priority list. $0.025 max per project.	Remaining balance to be determined	Provides funding for projects that investigate and identify alternatives for drinking water system improvements.
	Drinking water disinfecting projects using UV technology and ozone treatment	$0.05 minimum, up to $5 per grant.	$19 remaining	Eligible applicants are public water systems under the regulatory jurisdiction of CDPH. For capital investment only.
iBank (CA Infrastructure and Development Bank)	Infrastructure State Revolving Fund (ISRF) Program (2000) (loans)	$0.25 to $10 per project to finance water infrastructure that promotes job opportunities. Eligible projects include construction or repair of publicly owned water supply, treatment, and distribution systems.	$52.6 million approved to date for Water Supply, Water Treatment and Distribution. Applications continually accepted.	Finances system capital improvements only. Must show job creation. Special loan tier for DACs was discontinued.
United States Housing and Urban Development Department (HUD)	Community Development Block Grants (CDBG) (1974) (grants)	Grants of various sizes, generally $0.25 to $100, for the construction or reconstruction of streets, water and sewer facilities, neighborhood centers, recreation facilities, and other public works.	Annually	Not less than 70% of CDBG funds must be used for activities that benefit low- and moderate-income persons. In addition, each activity must meet one of the following national objectives for the program: benefit low- and moderate-income persons, prevention or elimination of slums or blight, or address community development needs having a particular urgency because existing conditions pose a serious and immediate threat to the health or welfare of the community for which other funding is not available.

TABLE 36-1 (Continued)
Potential Funding Sources

Agency	Program	Funding Provided (in million $)	Funding Remaining/Available (in million $)	Description
Other Infrastructure				
Department of Conservation's Division of Land Resource Protection and Strategic Growth Council	Sustainable Communities Planning Grants and Incentives Program	$66.945: Dispersed to agencies in three funding cycles.	$0 (Fully allocated) Tulare County was awarded over $1.3 in Round 2 for Sustainable Highway Corridor Plan ($0.384) and AAA Water and MT Sewer Project ($0.94)	Competitive grants to cities, counties, and designated regional agencies to promote sustainable community planning and natural resource conservation. The grant program supports development, adoption, and implementation of various planning elements. It offers a unique opportunity to improve and sustain the wise use of infrastructure and natural resources through a coordinated and collaborative approach.
United State Department of Agriculture Rural Development	Community Facilities Direct Loan and Grant Program	Agencies can apply for the following types of funding: low interest direct loans, grants, or a combination of the two	N/A	Funds can be used to purchase, construct, and/or improve essential community facilities, purchase equipment and pay related project expenses. Examples of essential community facilities include: * Health care facilities such as hospitals, medical clinics, dental clinics, nursing homes or assisted living facilities * Public facilities such as town halls, courthouses, airport hangars or street improvements * Community support services such as child care centers, community centers, fairgrounds or transitional housing * Public safety services such as fire departments, police stations, prisons, police vehicles, fire trucks, public works vehicles or equipment * Educational services such as museums, libraries or private schools * Utility services such as telemedicine or distance learning equipment * Local food systems such as community gardens, food pantries, community kitchens, food banks, food hubs or greenhouses
	Emergency Community Water Assistance Grants	Water transmission line grants up to $150,000 are for construction of waterline extensions, repairs to breaks or leaks in existing water distribution lines, and related maintenance necessary to replenish water supply. Water Source grants up to $500,000 are for construction of a new water source, intake and/or treatment facility.	N/A	This program helps eligible communities prepare for, or recover from, an emergency that threatens the availability of safe, reliable drinking water for households and businesses. The following events qualify: *Drought or flood *Earthquake *Tornado or hurricane *Disease outbreak *Chemical spill, leak or seepage *Other disasters

TABLE 36-1 (Continued)
Potential Funding Sources

Agency	Program	Funding Provided (in million $)	Funding Remaining/Available (in million $)	Description
Other Infrastructure				
United State Department of Agriculture Rural Development	Water and Waste Disposal Loan and Grant Program	Agencies can apply for long-term, low-interest loans. If funds are available, grants may be combined with a loan if necessary to keep user costs reasonable.	N/A	Funds may be used to finance the acquisition, construction or improvement of: *Drinking water sourcing, treatment, storage and distribution *Sewer collection, transmission, treatment and disposal *Solid waste collection, disposal and closure *Storm water collection, transmission and disposal In some cases, funding may also be available for related activities such as: *Legal and engineering fees *Land acquisition, water and land rights, permits and equipment *Start-up operations and maintenance *Interest incurred during construction *Purchase of existing facilities to improve service or prevent loss of service *Other costs determined to be necessary for completion of the project *For a complete list, see 7 CFR Part 1780.7 and 1780.9
	Water and Waste Disposal Predevelopment Planning Grants	Maximum of $30,000 or 75% of the predevelopment planning costs. At least 25% of the project cost must come from the applicant or third party sources. In-kind contributions do not count toward this minimum.	N/A	Grants may be used to pay part of the costs of developing a complete application for USDA Rural Development Water & Waste Disposal direct loan/grant and loan guarantee programs.

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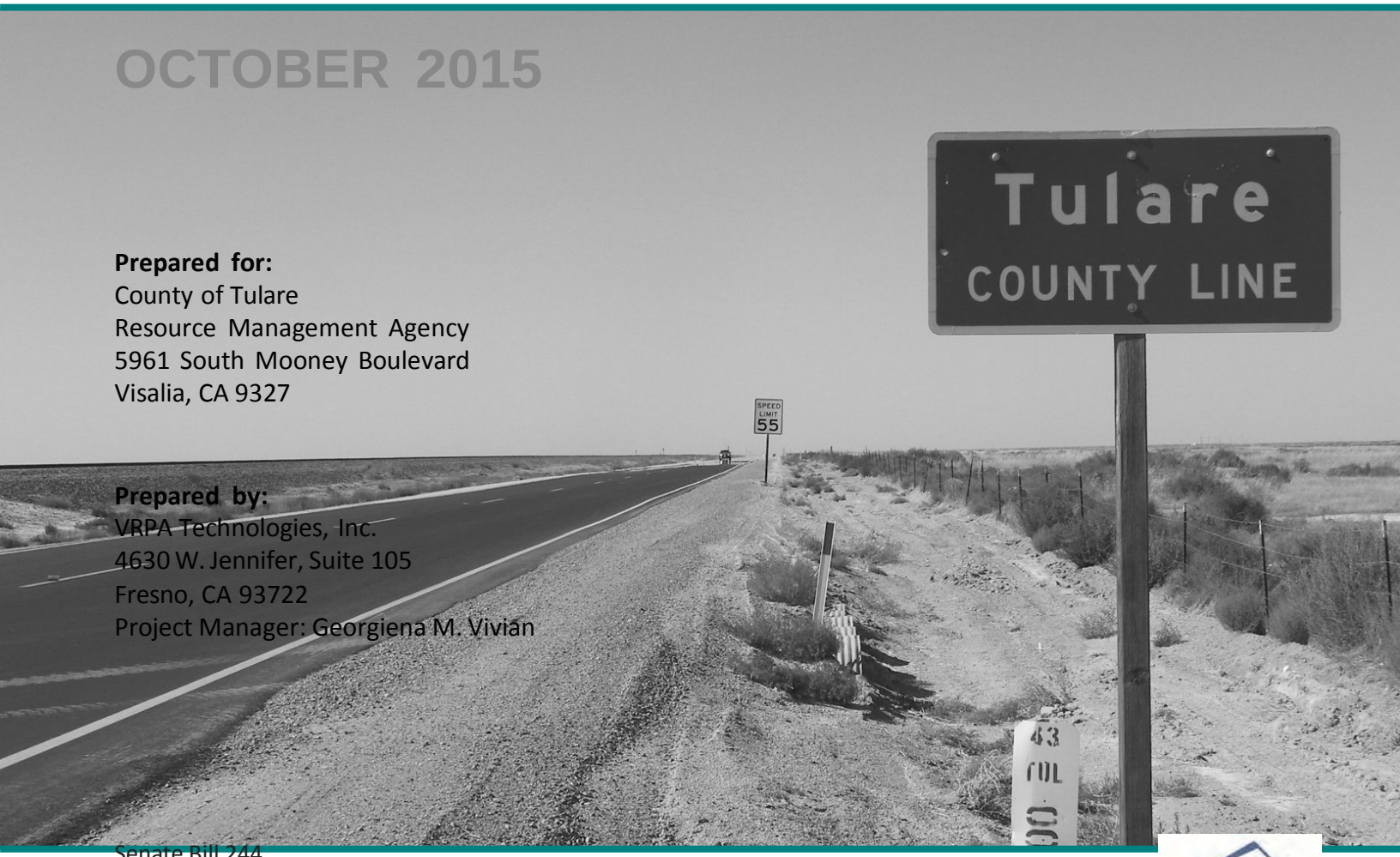
SENATE BILL 244 DISADVANTAGED COMMUNITIES ASSESSMENT:

PART II: OTHER DISADVANTAGED COMMUNITIES

OCTOBER 2015



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1. INTRODUCTION

1.1 Senate Bill 244

Senate Bill 244 (Wolk, 2011) (SB 244) was signed into law in October 2011 by Governor Jerry Brown and it affects Local Agency Formation Commissions (LAFCOs), cities, and counties in California. Disadvantaged unincorporated communities (DUCs) and their infrastructure needs and deficiencies (specifically water, wastewater, stormwater, and fire protection) are the focus of the legislation. As it pertains to a county's jurisdiction, a DUC is defined as a "legacy" community that meets the following criteria:

- ✓ An inhabited area[1] that contains 10 or more dwelling units in close proximity to each other
- ✓ Is geographically isolated and has existed for more than 50 years
- ✓ Has a median household income that is 80% or less than the statewide median household income

The purpose of SB 244 is to identify the infrastructure deficits that exist within DUCs and address the barriers to meeting the infrastructure needs.

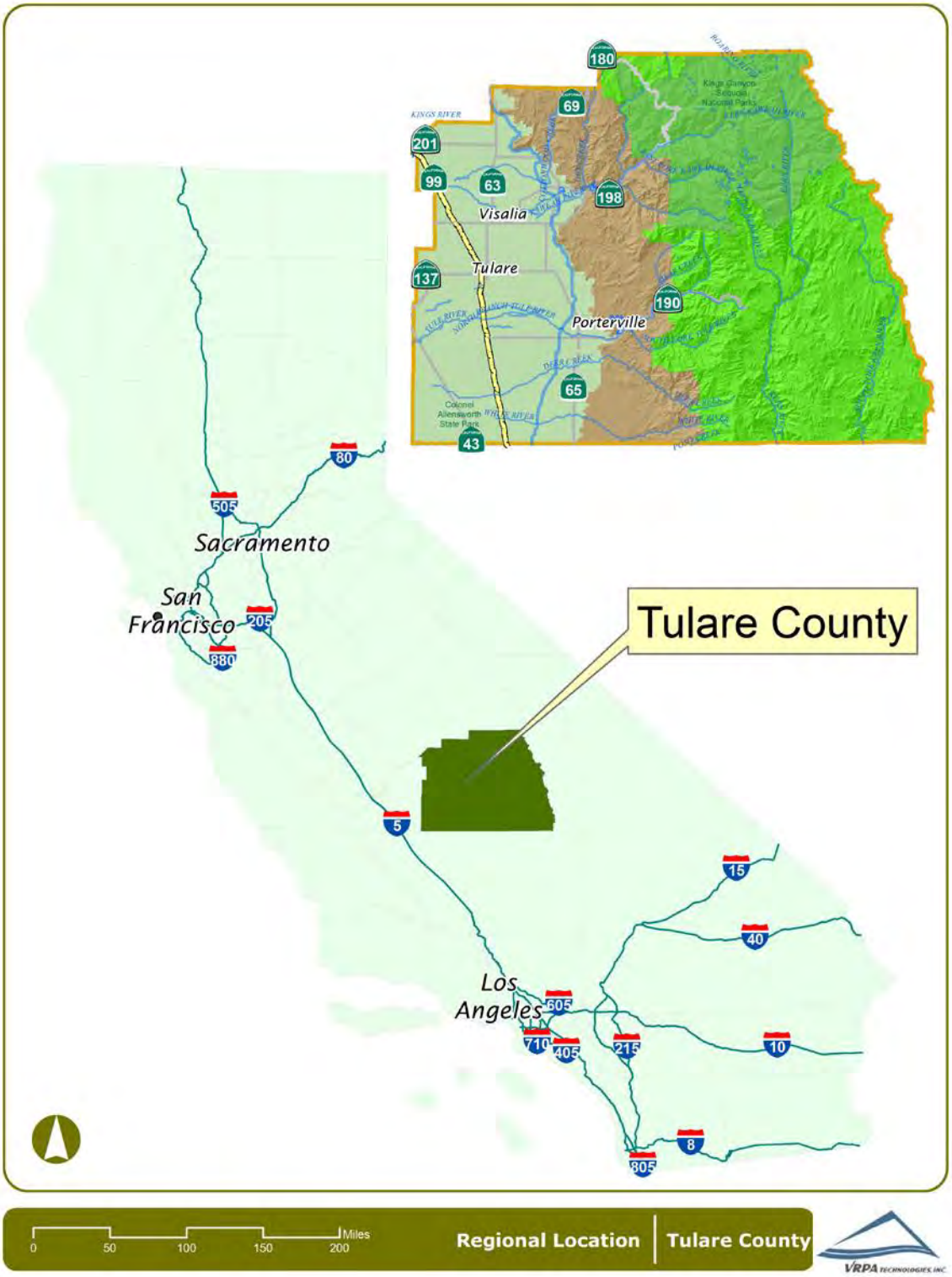
Located in the heart of the San Joaquin Valley, Tulare County (Figure 1-1) is home to over 400,000 residents with eight incorporated cities and a multitude of unincorporated communities. Tulare County's Planning Division is responsible for the County's long-range planning, including updating the County's General Plan and Housing Element. As part of the 2009 Update of the Tulare County Housing Element. The County's long-range planning includes goals and policies related to infrastructure concepts and the improvement and development of public facilities in urbanized and developing areas providing for adequate services to allow for function and growth. A major constraint to development of affordable housing for Tulare County is the lack of sufficient infrastructure and basic municipal services. Through Action Program 9: Housing Related Infrastructure Needs, the County continues to identify housing related infrastructure needs such as domestic water, wastewater, storm drainage, and street lights. In April 2014, Tulare County completed its inventory of existing infrastructure for the County's disadvantaged unincorporated communities and hamlets. The completed report, Tulare County Housing Element Action Program 9 Existing Infrastructure, is Part I of the County's response to SB 244 legislation. This report continues the County's commitment to Action Program 9 and SB 244 requirements.

1.2 Requirements

SB 244 legislation has found that hundreds of DUCs in California lack access to basic community infrastructure such as sidewalks, safe drinking water, and adequate waste water processing. These DUCs range from remote settlements throughout the State to neighborhoods that have been surrounded by, but are not part of, the State's fast-growing cities. Lack of investment in community infrastructure threatens residents health and safety and fosters economic, social, and educational inequality. Addressing the complex legal, financial, and political barriers that contribute to regional inequity and infrastructure deficits will result in a more efficient delivery system of services and infrastructure including, but not limited to sewer, water and structural fire protection. Investment in these infrastructure services will in turn result in the enhancement and protection of public health and safety for these DUCs.

1 An inhabited area refers to a territory in which 12 or more registered voters reside.

Figure 1-1 Tulare County Regional Location



The specific requirements vary for LAFCOs, cities, and counties. LAFCOs are now required to consider DUCs when performing Municipal Service Reviews (MSRs). When cities are updating their spheres of influence (SOI), LAFCOs must also consider the existing infrastructure and needs of DUCs within the SOI. In addition, SB 244 places restrictions on LAFCOs' ability to approve city annexations greater than 10 acres when a DUC is adjacent to the area.

For cities, SB 244 requires they identify DUCs within their SOI and address their infrastructure needs. If the city approves an annexation greater than 10 acres and the area is adjacent to a DUC, the DUC must be annexed as well. Counties are also required to identify DUCs within their jurisdiction and address infrastructure needs. Both cities and counties are also now required to review and update the land use element of their general plans before the adoption of their next Housing Element. For each DUC, the city and county must provide a description and a map of each community. An analysis of the water, wastewater, stormwater, and fire protection infrastructure and needs must also be provided. Finally, the cities and counties must identify potential funding alternatives to extend these services to those DUCs that lack infrastructure.

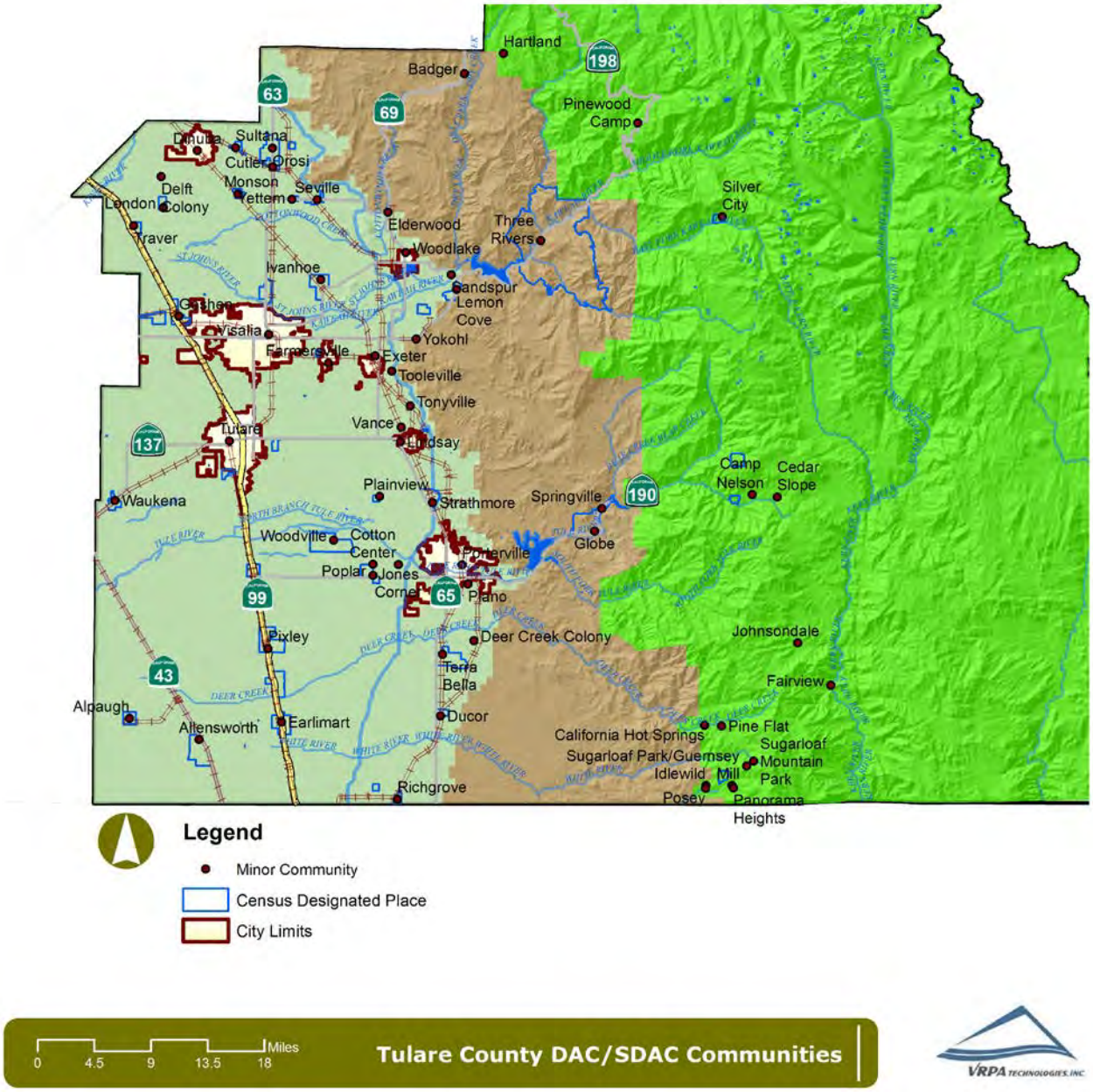
1.3 Tulare County's Approach

After review of the legislation, Tulare County has selected to exceed the minimum requirements imposed by SB 244. Chapter 2 of this report identifies the presence and location of existing infrastructure for each DUC. In addition to review of the water, wastewater, stormwater, and fire protection infrastructure, Tulare County reviewed the streetlight, sidewalk, and ADA curb ramp infrastructure. The location of streetlights, sidewalks, ADA curb ramps, and fire hydrants were mapped and listed in a matrix for each DUC. The emergency response times were calculated to each DUC from the nearest Tulare County fire station. All of the existing infrastructure work was performed in GIS software to assist the County in future mapping and analysis of the DUCs. Chapter 3 discusses the planned projects expected to provide new and/or enhanced infrastructure as well as the unmet infrastructure needs of each DUC. Chapter 4 identifies potential funding sources that could assist in providing needed infrastructure to the DUCs.

1.4 Identification of DUCs

The forty-five (45) DUCs analyzed in this report are listed below. There are an additional thirty-two (32) communities analyzed as part of Part 1: Housing Element Action Program 9 which are included in a separate report. Tulare County has three distinct planning area regions: valley, foothill, and mountain. The listing below separates the identified DUCs into the planning area region in which they are located. Figure 1-2 shows the planning area regions and the DUCs. The majority of Tulare County's DUCs and all of its cities can be found in the Valley planning area. The foothills and mountains form the eastern half of the County.

Figure 1- 2 DUC Communities by Planning Area



Valley

The Valley area is geographical area located below the 600-foot elevation contour line and is bordered to the east by the foothills.

1) Calgro – Located in the northwestern part of Tulare County at the northeast corner of SR-63 and SR-201. Its name is an acronym for the California Growers Wineries. The nearest city is Dinuba to the northwest.

2) Citro – Located in the central part of Tulare County near the junction of SR-216 and SR-198. The nearest city is Woodlake to the west.

3) Deer Creek Colony – Located in the southern part of Tulare County on the valley floor. The nearest city is Porterville to the north.

4) East Porterville – CDP located in the south central part of Tulare County along SR-190. Its population was 7,331 at the 2010 Census. According to Census data, there were 1,637 households and the median age was 25.4 years. The nearest city is Porterville, directly to the west.

5) El Monte Mobile Home – Located in the northwest part of Tulare County on the valley floor. The nearest city is Dinuba, directly to the east.

6) Hawkins – Located in the central part of Tulare County on the valley floor. The nearest city is Lindsay, directly to the southwest.

7) Higby – Located in the western part of Tulare County on the valley floor. The nearest city is Visalia, directly to the north.

8) Hypericum – Located on the western part of Tulare County on the valley floor. The nearest city is Farmersville to the north.

9) Jones Corner – Located in the southern part of Tulare County on the valley floor. The nearest city is Porterville, directly to the east.

10) Jovista – Located in the southwestern part of Tulare County on the valley floor. The nearest city is Porterville to the north.

11) Lort – Located in the central part of Tulare County on the valley floor. The nearest city is Exeter to the south.

12) Naranjo – Located in the northwest part of Tulare County on the valley floor along SR-216. The nearest city is Woodlake to the west.

13) Paige – Located in the western part of Tulare County on the valley floor. The nearest city is Tulare to the east.

14) Peral – Located in the northwest part of Tulare County along SR-63. The nearest city is Visalia to the south.

15) Ponca – Located in the central part of Tulare County on the valley floor. The nearest city is Porterville, directly to the north.

16) Sandspur – Located in the central part of Tulare County near the junction of SR-198 and SR-216. The nearest city is Woodlake to the west.

17) Taurusa – Located in the northwest part of Tulare County on the valley floor. The nearest city is Visalia to the south.

18) Tooleville – CDP located in the central part of Tulare County on the valley floor. Its population was 339 at the 2010 Census. According to Census data, there were 78 households and the median age was 22.4 years. The nearest city is Exeter, directly to the west.

19) Vance – Located in the central part of Tulare County on the valley floor. The nearest city is Lindsay to the south.

20) Venida – Located in the central part of Tulare County along SR-65. The nearest city is Exeter to the south.

21) West Venida – Located in the central part of Tulare County along SR-65. The nearest city is Exeter to the south.

22) Worth – Located in the central part of Tulare County along SR-190. The nearest city is Porterville to the west.

23) Yokohl – Located in the central part of Tulare County along SR-198. The nearest city is Exeter to the southwest.

24) Zante – Located in the central part of Tulare County along SR-65. The nearest city is Porterville, directly to the south.

Foothill

The Foothill region includes geographical areas generally above the 600-foot elevation contour and is bounded on the east by the federally-owned parks in the Sierra Nevada Mountains and on the west by privately-owned lands of the San Joaquin Valley floor (Valley).

25) Badger – Located in the northern part of Tulare County along State Route (SR) 245 near the Sierra Nevadas. It has an estimated population of 140. The nearest city is Dinuba to the southwest. Most recently, the community is known for its religious groups (a Hindu school, Hare Krishna festival, and Subud spiritual group).

26) Elderwood – Located in the northwest part of Tulare County near the junction of SR-201 and SR-245. The nearest city is Woodlake to the south.

27) Globe – Located in the central part of Tulare County along SR-190. The nearest city is Porterville to the west.

Mountain

Located east of the Foothill region, the Mountain region generally coincides with the western boundary of the federal land jurisdictions of the National Park Service including Sequoia National Park, U.S. Forest Service including Giant Sequoia National Monument, and the Bureau of Land Management. Privately owned lands in the Mountain region are estimated at 40,000 acres.

28) Balance Rock – Located in the southern part of Tulare County near the Sierra Nevadas. It was named after Balance Rock, a geographic feature in the area. The nearest city is Porterville to the northwest.

29) California Hot Springs – Census designated place (CDP) located in the southern part of Tulare County in the Sierra Nevadas. Its population was 37 at the 2010 Census. According to Census data, there were 22 households and the median age was 60.5 years. The nearest city is Porterville to the northwest.

30) Camp Nelson – CDP located in the central part of Tulare County in the Sierra Nevadas. Its population was 97 at the 2010 Census. According to Census data, there were 55 households and the median age was 60.2 years. The nearest city is Porterville to the west.

31) Cedar Slope – CDP located in the central part of Tulare County along SR 190 in the Sierra Nevadas. The 2010 Census reported the community was uninhabited, however aerial imagery indicates the presence of residential structures. The nearest city is Porterville to the west.

32) Fairview – Located in the southern part of Tulare County in the Sierra Nevadas. The nearest city is Porterville to the northwest.

33) Hartland – CDP located in the northern part of Tulare County near the Sierra Nevadas. Its population was 30 at the 2010 Census. According to Census data, there were 14 households and the median age was 39.5 years. The nearest city is Woodlake to the southwest.

34) Idlewild – CDP located in the southern part of Tulare County near the Sierra Nevadas. Its population was 43 at the 2010 Census. According to Census data, there were 17 households and the median age was 50.4 years. The nearest city is Porterville to the northwest.

35) Johnsondale – Located in the southern part of Tulare County in the Sierra Nevadas. It was named after Walter Johnson of the Mount Whitney Lumber Company. The nearest city is Porterville to the northwest.

36) Kennedy Meadows – CDP located in the southeastern part of Tulare County in the Sierra Nevadas. Its population was 28 at the 2010 Census. According to Census data, there were 15 households and the median age was 61.0 years. It has become a major stopping point for northbound hikers on the Pacific Crest Trail. The nearest city is Porterville to the west.

37) Panorama Heights – CDP located in the southern part of Tulare County near the Sierra Nevadas. Its population was 41 at the 2010 Census. According to Census data, there were 22 households and the median age was 58.3 years. The nearest city is Porterville to the northwest.

38) Pine Flat – CDP located in the southeastern part of Tulare County in the Sierra Nevadas. Its population was 166 at the 2010 Census. According to Census data, there were 81 households and the median age was 54.3 years. The nearest city is Porterville to the northwest.

39) Ponderosa – CDP located in the central part of Tulare County in the Sierra Nevadas. Its population was 16 at the 2010 Census. According to Census data, there were 9 households and the median age was 65.3 years. The nearest city is Porterville to the west.

40) Posey – CDP located in the southern part of Tulare County near the Sierra Nevadas. Its population was 10 at the 2010 Census. According to Census data, there were 5 households and the median age was 52.0 years. The nearest city is Porterville to the northwest.

41) Silver City – CDP located in the central part of Tulare County in the Sierra Nevadas. The 2010 Census reported the community was uninhabited, however aerial imagery indicates the presence of residential structures. The nearest city is Woodlake to the west.

42) Sugarloaf Mountain Park – CDP located in the southern part of Tulare County in the Sierra Nevadas. The 2010 Census reported the community was uninhabited, however aerial imagery indicates the presence of residential structures. The nearest city is Porterville to the northwest.

43) Sugarloaf Park/Guernsey Mill – Located in the southern part of Tulare County in the Sierra Nevadas. The nearest city is Porterville to the northwest.

44) Sugarloaf Village – CDP located in the southern part of Tulare County in the Sierra Nevadas. Its population was 10 at the 2010 Census. According to Census data, there were 5 households and the median age was 71.0 years. The nearest city is Porterville to the northwest.

45) Wilsonia – CDP located in the northern part of Tulare County in the Kings Canyon National Park. Its population was 5 at the 2010 Census. According to Census data, there were 3 households and the median age was 56.5 years. The Wilsonia Historic District is a neighborhood of cabins listed on the National Register of Historic Places. The nearest city is Woodlake to the southwest.

2. EXISTING INFRASTRUCTURE

2.1 General Information

The Disadvantaged Unincorporated Communities (DUCs) are located all over Tulare County, with some residing in the remote areas of the mountainous eastern portion and others residing on the valley floor near the Cities, Hamlets, and larger unincorporated communities. Many of these DUCs lack infrastructure such as public sewer and water systems, storm drainage, ADA compliant curb ramps, sidewalks, and street lights. Table 2-1 identifies whether these types of infrastructure are present within each of the DUCs.

2.2 Domestic Water & Wastewater

The domestic water and sewer data presented on the maps in this chapter are based on a variety of sources. All of the community services districts (CSD's) and water companies within Tulare County were contacted to provide data on services within their boundaries. Data gaps were filled through review of aerial imagery, as well as contact with local businesses residing within each of the communities. Most of these communities were determined to lack domestic water and sanitary sewer systems. They receive drinking water from individual or community wells with wastewater services provided by septic systems.

Drinking water supplied by a public or municipal source is typically treated to ensure that the water is safe to drink. When a public or municipal source is not available, drinking water is most often obtained from a private domestic well with well owners responsible for testing the water quality to ensure that it is safe to drink. The State Water Resources Control Board (State Water Board) established in the Groundwater Ambient Monitoring and Assessment (GAMA) Program in 2000 to address public concerns over groundwater quality. As part of the GAMA Program, a voluntary groundwater monitoring project was established to provide water quality information to private (domestic) well owners. The Domestic Well Project sampled a total of 181 wells in Tulare County in 2006. Water Board staff completed testing on wells primarily located in the valley and foothill areas of the County at no cost to the well owner. The GAMA data report for the Tulare County Focus Area can be found in Appendix A. VRPA Technologies used the GeoTracker GAMA website, http://geotracker.waterboards.ca.gov/gama/gamamap/public, to obtain general information about domestic wells and their testing results for the DUCs. Additional details can be found in Section 3.3, Remaining Infrastructure Needs, of this report.

Table 2-1 Existing Infrastructure in DUCs

Disadvantaged Unincorporated Community (DUC)	Public Sewer Available	Public Water Available	Public Stormwater Available	Existing Streetlights	Existing Sidewalks	Existing ADA Curb Ramps	Existing Fire Hydrants
Valley							
Calgro	No	No	No	Yes	No	No	No
Citro	Yes	Yes	No	No	No	No	No
Deer Creek Colony	Yes	Yes	No	No	No	No	Yes
East Porterville, CDP	No	No	Yes	Yes	Yes	Yes	Yes
El Monte Mobile Home	No	Yes	No	Yes	No	No	No
Hawkins	No	Yes	No	No	No	No	No
Higby	Yes	Yes	No	No	No	No	No
Hypericum	No	No	No	No	No	No	No
Jones Corner	No	No	No	Yes	Yes	No	Yes
Jovista	No	No	No	No	No	No	No
Lort	No	No	No	No	No	No	No
Naranjo	No	Yes	Yes	Yes	No	No	No
Paige	No	No	No	Yes	No	No	No
Peral	No	No	No	No	No	No	No
Ponca	No	No	No	*Partial**	*Partial**	*Partial**	Yes
Sandspur	Yes	Yes	Yes	No	No	No	No
Taurusa	No	No	No	No	No	No	No
Tooleville, CDP	Yes	Yes	Yes	Yes	No	No	No
Vance	Yes	Yes	No	Yes	Yes	Yes	No
Venida	No	No	No	No	No	No	No
West Venida	No	No	No	No	No	No	No
Worth	No	No	No	No	No	No	No
Yokohl	No	No	No	No	No	No	No
Zante	No	No	No	No	No	No	No
Foothill							
Badger	No	No	No	No	No	No	No
Elderwood	No	No	No	No	No	No	No
Globe	No	*Partial**	No	No	No	No	No
Mountain							
Balance Rock	No	No	No	No	No	No	No
California Hot Springs, CDP	*Partial**	*Partial**	No	*Partial**	*Partial**	No	No
Camp Nelson, CDP	No	Yes	No	No	No	No	No
Cedar Slope, CDP	No	Yes	No	No	No	No	No
Fairview	No	No	No	No	No	No	No
Hartland, CDP	No	No	No	No	No	No	No
Idlewild, CDP	No	No	No	No	No	No	No
Johnsondale	No	Yes	No	Yes	No	No	No
Kennedy Meadows, CDP	No	No	No	No	No	No	No
Panorama Heights, CDP	No	No	No	No	No	No	No
Pine Flat, CDP	Yes	Yes	No	No	No	No	No
Ponderosa, CDP	No	Yes	No	No	No	No	No
Posey, CDP	No	No	No	No	No	No	No
Silver City	No	No	No	No	No	No	No
Sugarloaf Mountain Park, CDP	No	No	No	No	No	No	No
Sugarloaf Park/Guernsey Mill, CDP	No	No	No	No	No	No	No
Sugarloaf Village, CDP	No	No	No	No	No	No	No
Wilsonia	No	No	No	No	No	No	No

**Partial - Infrastructure is available in some areas of the community, but lacking in others, deficiencies are noted. Refer to Section 3.3 of this report for additional, detailed information for each community.*

2.3 Storm Drainage

A storm drainage system is designed to drain excess rain and groundwater (from roads, sidewalks, etc.) to some point where it is discharged into a channel, ponding basin, or piped system. The system itself typically consists of pipes connecting inlets and is facilitated by curbs and gutters, manholes, and sumps. The operation of the system consists of runoff being collected in the inlets and transported by pipes to a discharge location. Manholes provide access to storm drain pipes for inspection and cleanout. A sump is a shallow, artificial pond designed to infiltrate storm water through permeable soils into the groundwater aquifer. It does not typically discharge to a detention basin.

Storm drainage systems should be designed so they have adequate capacity to accommodate runoff that enters the system for the design frequency and should also be designed considering future development. An inadequate roadway drainage system could result in the following:

- ✓ Water overflowing the curb and entering adjacent property leading to damage
- ✓ Accelerated roadway deterioration and public safety concerns may occur due to excessive water accumulation on roadways
- ✓ Over saturation of the roadway structural section due to immersion will lead to pavement deterioration

VRPA Technologies surveyed existing storm drainage systems within each community. Most of the communities lack a storm drainage system and several of them located on the valley floor are prone to flooding periodically. Communities located in the eastern part of Tulare County where the terrain is not flat also lack storm drainage systems, however these systems are rarely necessary given the natural flow of water runoff.

2.4 ADA Curb Ramps

The Americans with Disabilities Act (ADA) of 1990 included design requirements for persons with disabilities in the public rights-of-way. Curb ramps are an important part of making sidewalks and street crossings accessible to people with disabilities (especially those who use wheelchairs). An ADA compliant curb ramp is a short ramp cutting through or built up to a curb. It consists of the ramp itself which is sloped to allow wheelchair access from the street to the sidewalk and flared sides that bring the curb to the level of the street.

Curb ramps are most typically found at intersections, but can also be located near on-street parking, transit stations and stops, and midblock crossings. Title II regulations require curb ramps at existing and new facilities.

VRPA Technologies surveyed existing ADA curb ramps within each community. Most of the communities lack ADA compliant curb ramps.

2.5 Sidewalks

Sidewalks are typically separated from a roadway by a curb and accommodate pedestrian travel. They improve mobility for those with disabilities and are also an important part of walking routes to schools. They provide the space for pedestrians to travel within the public right-of-way while being separated from vehicles and bicycles.

The 2010 California Building Code identifies a clear width minimum of 48 inches for sidewalks. This clear width minimum is the walkway width that is completely free of obstacles and not necessarily the sidewalk width. However, the 48 inch minimum does not provide sufficient passing space or space for two-way travel. Therefore, the guidelines state that for sidewalks less than 5 feet in clear width, passing lanes (wide enough for wheelchairs) shall be provided at 200-foot intervals. However, the clear width may be reduced to 3 feet if the enforcing agency determines that compliance with the 4-foot clear sidewalk width would create an unreasonable hardship due to right-of-way restrictions, natural barriers, or other existing conditions.

VRPA Technologies surveyed existing sidewalks within each community but did not distinguish between those that were ADA compliant and noncompliant. The majority of sidewalks were constructed prior to current ADA guidelines and are assumed to be non ADA compliant facilities. Such noncompliant facilities would require complete reconstruction to be considered ADA compliant.

2.6 Street Lights

Street lights are typically located at the edge of roadways on top of utility poles. They are illuminated at night and improve the visibility and safety of the roadway and sidewalk by increasing motorist visibility and improving nighttime pedestrian security. They can also reduce nighttime pedestrian crashes by increasing the awareness of drivers relative to pedestrians.

VRPA Technologies surveyed existing street lights within each community. Many of the communities lack public street lights.

2.7 Fire Infrastructure and Response Times

The Tulare County Fire Department provides services within the County that includes responding to fires, medical emergencies, motor vehicle accidents, technical rescues, and other life threatening or dangerous conditions. There are 27 fire stations located throughout Tulare County which are made up of more than 400 personnel.

The Tulare County Fire Department is considered a career fire department because its staff is composed of paid personnel versus volunteers. The National Fire Protection Agency (NFPA) 1710 standard applies to career departments and states the following goals:

- 1 minute to turn-out
- 4 minutes for the first engine company to arrive
- 8 minutes for the first full-alarm assignment for at least 90% of all fire calls

Table 2-2 shows the nearest fire station, roadway distance between station and community, and calculated fire response times for each DUC. Insurance Services Office (ISO) recommends a first-due engine company be located within 1.5 miles of its district and a ladder-service company within 2.5 miles. As shown in Table 2-2, there are many communities located further than 2.5 miles from the nearest fire station which leads to much longer response times to these areas. Other factors that affect response times are road and traffic conditions, weather, and reaction times.

Most of the DUCs in Tulare County do not have a fire station or fire infrastructure (e.g. fire hydrants, fire control panels, Knox-boxes, gas shutoffs, and water meters) existing within their boundaries.

Methodology for Determining Fire Response Times

Fire response timing data for each DUC was unavailable from the Tulare County Fire Department. In order to determine the response times, the nearest fire station was first identified for each community. The shortest roadway path between the fire station and the community was then identified and the driving distance in miles was calculated. This distance was then input into a formula developed by the RAND Corporation.

The RAND Corporation has conducted extensive studies of fire response times, which have been validated several times by various agencies. The studies determined that the average speed is 35 miles per hour (mph) for a fire apparatus responding with emergency lights and siren. This average speed assumes average terrain, traffic, weather, and slowing for intersections. Based upon its studies, RAND developed a formula for calculating response times which was applied in this chapter to determine fire response times to each of the communities (Table 2-2 shows the results):

$T = 0.65+1.7D$
[T = time in minutes to the nearest 1/10 of a minute
0.65 = a vehicle-acceleration constant for the first 0.5 mile traveled
1.7 = a vehicle-speed constant validated for response distances ranging from 0.5 miles to 8.0 miles.
D = distance]

It should be noted that the NFPA uses this formula in its 1142 standard.

Table 2-2 Existing Fire Infrastructure in DUCs

Disadvantaged Unincorporated Community (DUC)	Nearest Fire Station	Distance	Fire Response Time (Rounded)	Existing Fire Hydrants
Valley				
Calgro	Cutler-Orosi Fire Station	3	6	No
Citro	Lemon Cove Fire Station	1.5	4	No
Deer Creek Colony	Terra Bella Fire Station	3.5	7	Yes
East Porterville	Doyle Colony Fire Station	1	3	Yes
El Monte Mobile Home	Dinuba Fire Station	3	6	No
Hawkins	Lindsay Fire Station	5	10	No
Higby	Visalia Fire Station	3.5	7	No
Hypericum	Visalia Fire Station	6.5	12	No
Jones Corner	West Olive Fire Station	2	5	Yes
Jovista	Richgrove Fire Station	5.5	10	No
Lort	Exeter Fire Station	3.5	7	No
Naranjo	Woodlake Fire Station	2.5	5	No
Paige	Tulare Fire Station	6	11	No
Peral	Ivanhoe Fire Station	6.5	12	No
Ponca	Doyle Colony Fire Station	3	6	Yes
Sandspur	Lemon Cove Fire Station	2	5	No
Taurusa	Ivanhoe Fire Station	5	10	No
Tooleville	Exeter Fire Station	2	5	No
Vance	Lindsay Fire Station	4	8	No
Venida	Exeter Fire Station	3	6	No
West Venida	Exeter Fire Station	3.5	7	No
Worth	Doyle Colony Fire Station	3.5	7	No
Yokohl	Exeter Fire Station	5.5	10	No
Zante	Strathmore Fire Station	2.5	5	No
Foothill				
Badger	Badger Fire Station	2.5	5	No
Elderwood	Woodlake Fire Station	5	10	No
Globe	Springville Fire Station	3	6	No
Mountain				
Balance Rock	Posey Fire Station	2	5	No
California Hot Springs	California Hot Springs Fire Station	3.5	7	No
Camp Nelson	Camp Nelson Fire Station	0.5	2	No
Cedar Slope	Camp Nelson Fire Station	4.5	9	No
Fairview	California Hot Springs Fire Station	29	50	No
Hartland	Badger Fire Station	8.5	16	No
Idlewild	Posey Fire Station	4.5	9	No
Johnsondale	California Hot Springs Fire Station	21	37	No
Kennedy Meadows	Kennedy Meadows Fire Station	2	5	No
Panorama Heights	Posey Fire Station	0.5	2	No
Pine Flat	California Hot Springs Fire Station	1	3	No
Ponderosa	Camp Nelson Fire Station	10	18	No
Posey	Posey Fire Station	4	8	No
Silver City	Three Rivers Fire Station	25	44 *	No
Sugarloaf Mountain Park	Posey Fire Station	5.5	10	No
Sugarloaf Park	Posey Fire Station	4	8	No
Sugarloaf Village	Posey Fire Station	3	6	No
Wilsonia	Badger Fire Station	16	28	No

* Fire response times may be even longer during certain seasons due to roadway conditions as well as weather.

The maps and tables on the following pages identify the presence and location of existing infrastructure in each DUC. The listing below separates the identified DUCs into the planning area region in which they are located.

Valley

1) Calgro
2) Citro
3) Deer Creek Colony
4) East Porterville
5) El Monte Mobile Home
6) Hawkins
7) Higby
8) Hypericum
9) Jones Corner
10) Jovista
11) Lort
12) Naranjo
13) Paige
14) Peral
15) Ponca
16) Sandspur
17) Taurusa
18) Tooleville
19) Vance
20) Venida
21) West Venida
22) Worth
23) Yokohl
24) Zante

Foothill

25) Badger
26) Elderwood
27) Globe

Mountain

28) Balance Rock
29) California Hot Springs
30) Camp Nelson
31) Cedar Slope
32) Fairview
33) Hartland
34) Idlewild
35) Johnsondale
36) Kennedy Meadows
37) Panorama Heights
38) Pine Flat
39) Ponderosa
40) Posey
41) Silver City
42) Sugarloaf Mountain Park
43) Sugarloaf Park/Guernsey Mill
44) Sugarloaf Village
45) Wilsonia

Figure 2-1 Inventory of Services in Calgro

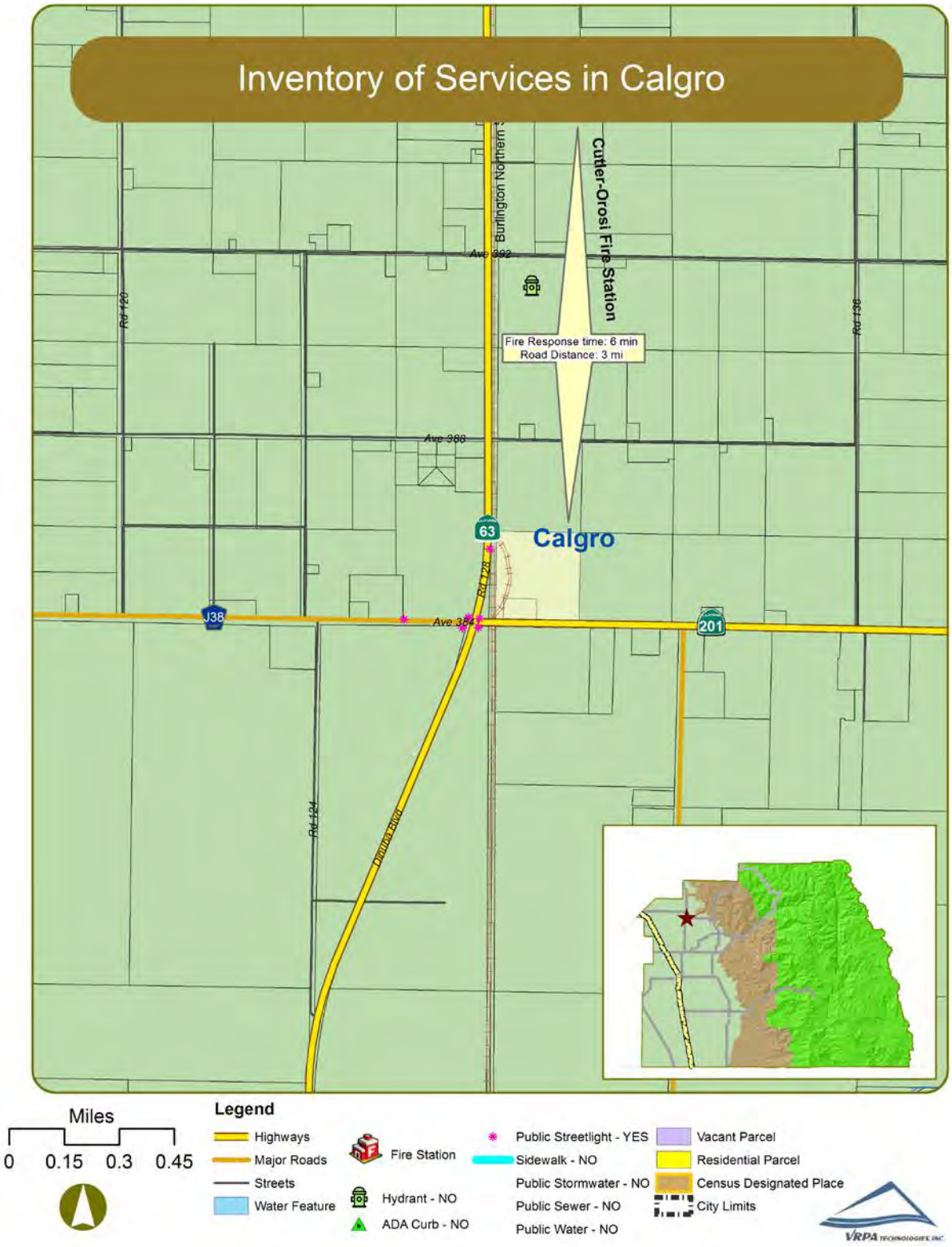


Table 2-3 Streetlight Site Inventory in Calgro

Streetlight Locations				
Community	**Main Road**	**Crossroad**	**Side**	**Corner**
Calgro	Ave 384	between Road 124 and Road 128	N	--
Calgro	SR 210 (Ave 384)	SR 210 (Rd 128)	--	S/W
Calgro	SR 210 (Ave 384)	SR 210 (Rd 128)	--	S/E
Calgro	SR 210 (Ave 384)	SR 210 (Rd 128)	--	N/E
Calgro	SR 210 (Ave 384)	SR 210 (Rd 128)	--	N/W
Calgro	SR 63 (Rd 128)	between Avenue 384 and Avenue 388	E	--

Figure 2-2 Inventory of Services in Citro

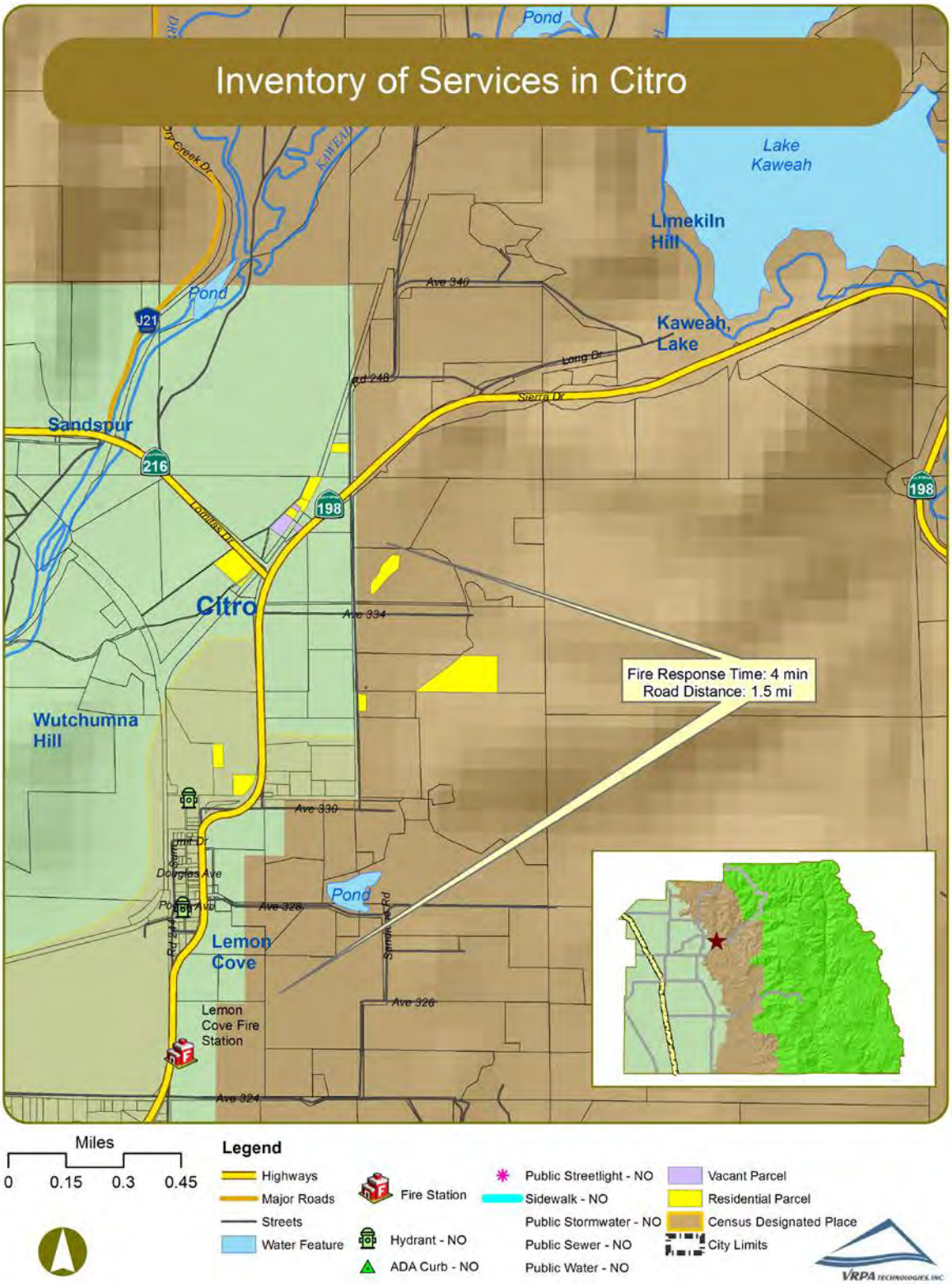


Figure 2-3 Inventory of Services in Deer Creek Colony

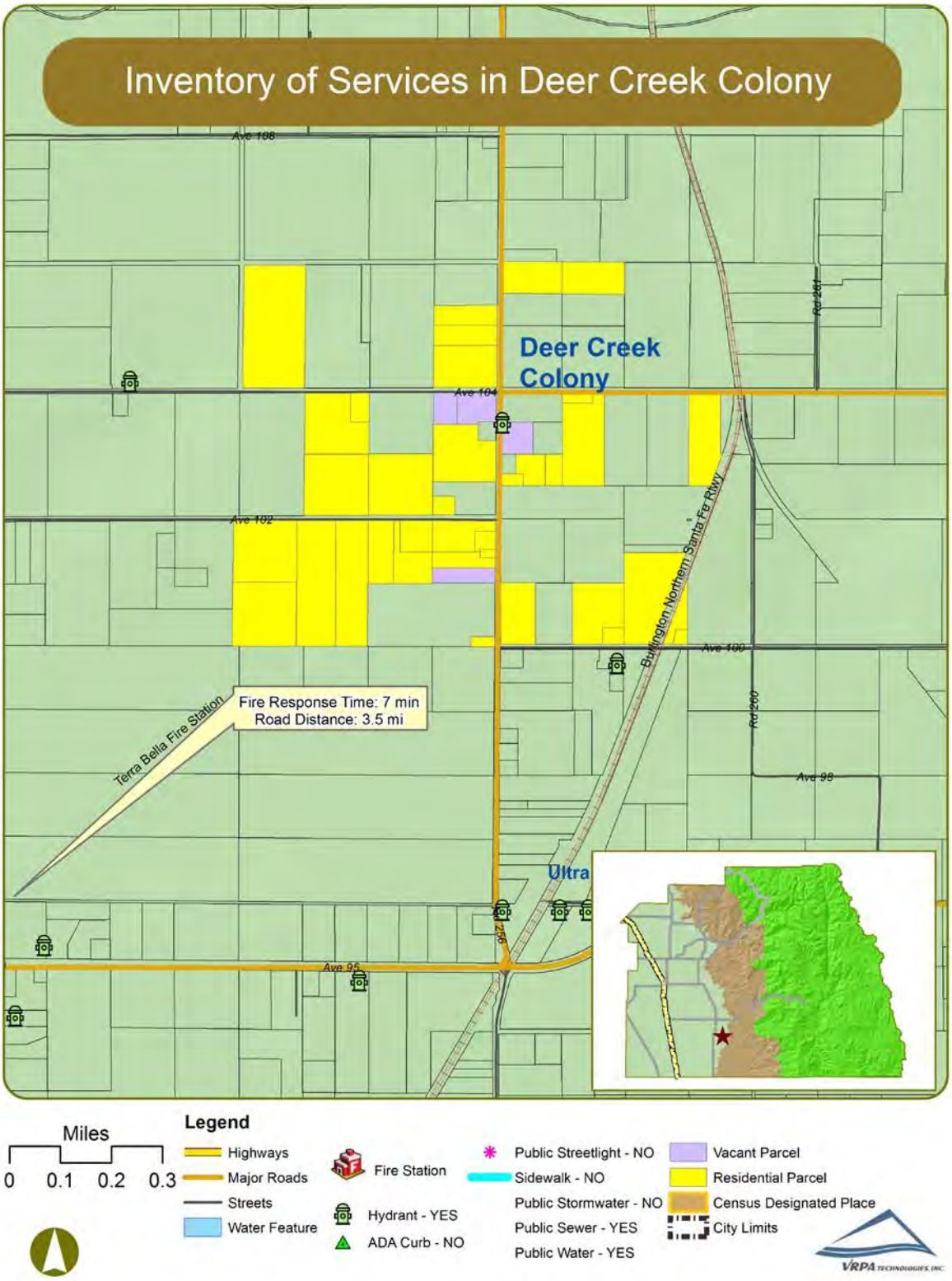


Table 2-4 Fire Hydrant Site Inventory in Deer Creek Colony

Fire Hydrant Locations					
Community	Main Road	Crossroad	Side	Corner	Location Detail
Deer Creek Colony	Road 256	between Avenue 102 and Avenue 104	E	--	--

Figure 2-4 Inventory of Services in East Porterville

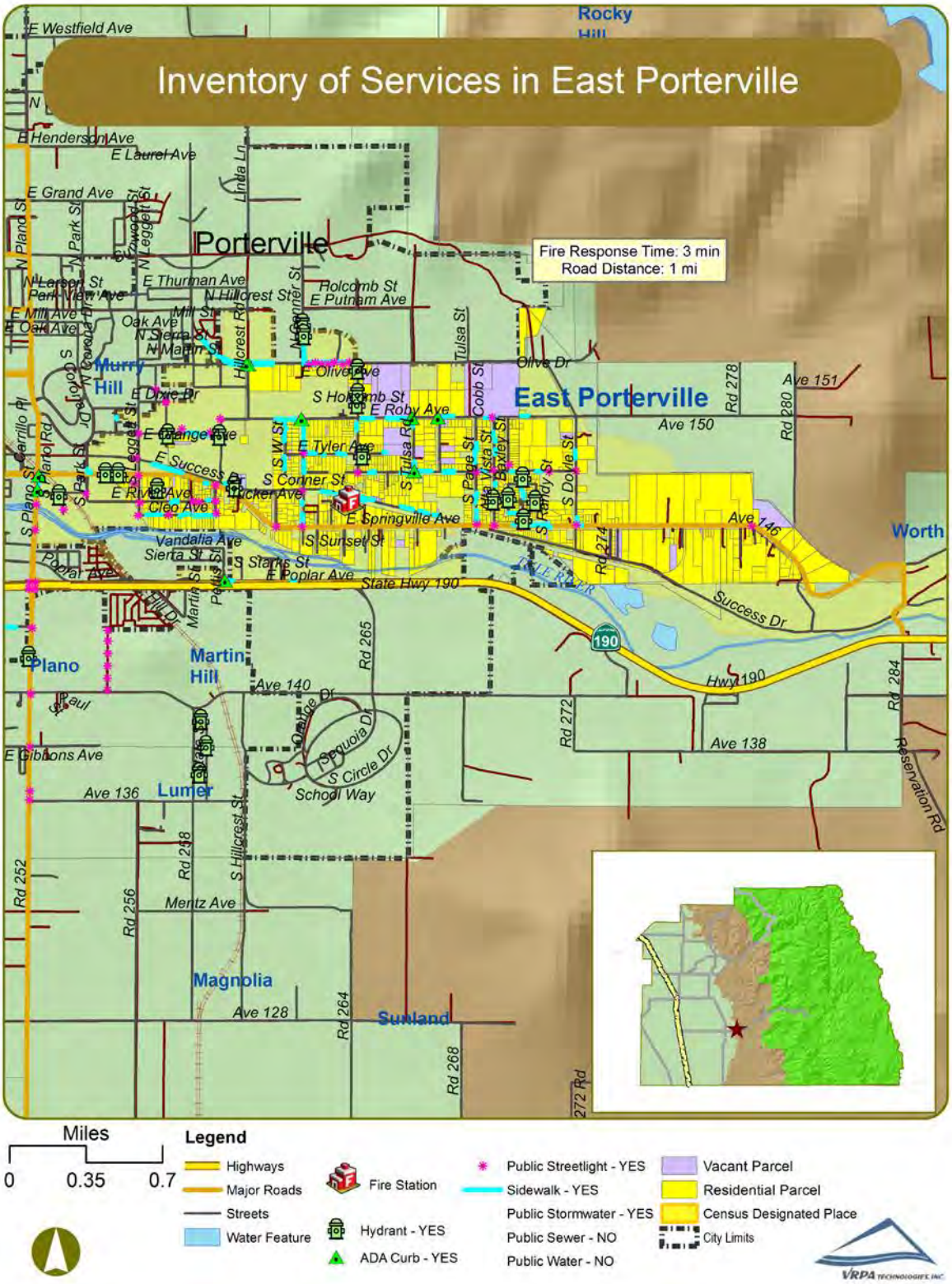


Table 2-5 Streetlight Site Inventory in East Porterville

Streetlight Locations				
Community	Main Road	Crossroad	Side	Corner
East Porterville	Ave 146	at curve	--	S/E
East Porterville	Cleo Ave	S Leggett St	--	S/W
East Porterville	Cleo Ave	between Leggett St and Ruth St	N	--
East Porterville	Cleo Ave	S Ruth St	--	S/W
East Porterville	E Crabtree Ave	between Bennett St and Doyle St	S	--
East Porterville	E Crabtree Ave	Bennett St	--	S/E
East Porterville	E Crabtree Ave	Alta Vista St	--	N/W
East Porterville	E Crabtree Ave	S Page St	--	S/E
East Porterville	E Crabtree Ave	S Holcomb St	--	S
East Porterville	E Date Ave	S Leggett St	--	S/W
East Porterville	E Date Ave	S Ruth St	--	N/E
East Porterville	E Olive Ave	S Hillcrest St	--	S/E
East Porterville	E Olive Ave	between Conner St and Holcomb St	N	--
East Porterville	E Olive Ave	between Conner St and Holcomb St	N	--
East Porterville	E Olive Ave	between Conner St and Holcomb St	N	--
East Porterville	E Olive Ave	between Conner St and Holcomb St	S	--
East Porterville	E Olive Ave	between Conner St and Holcomb St	S	--
East Porterville	E Olive Ave	between Conner St and Holcomb St	S	--
East Porterville	E Olive Ave	between Conner St and Holcomb St	S	--
East Porterville	E Olive Ave	S Holcomb St	--	S/E
East Porterville	E Orange Ave	Ruth St	--	S/W
East Porterville	E Orange Ave	S Maurer St	--	N/E
East Porterville	E Orange Ave	between Ruth St and Maurer St	N	--
East Porterville	E Poplar Ave	Pettis St	--	N/W
East Porterville	E River Ave	between Leggett St and Ruth St	S	--
East Porterville	E River Ave	between Leggett St and Ruth St	S	--
East Porterville	E Roby Ave	Alta Vista St	--	S/W
East Porterville	E Roby Ave	Ruth St	--	N/W
East Porterville	E Springville Ave	S Bennett St	--	S/W
East Porterville	E Springville Ave	S Conner St	--	N/W
East Porterville	E Springville Ave	S Page St	--	N/E
East Porterville	E Springville Ave	S 'W' St	--	N/W
East Porterville	E Success Dr	S Leggett St	--	N/W
East Porterville	E Success Dr	between Leggett St and Ruth St	--	S/E
East Porterville	E Tyler Ave	Holcomb St	--	N/E
East Porterville	S Larson St	between Leggett St and Ruth St	E	--
East Porterville	S Park St	E River Ave	--	S/W
East Porterville	S Plano St	E Date Ave	--	S/E
East Porterville	S Plano St	between Leggett St and Ruth St	E	--
East Porterville	S Plano St	between Leggett St and Ruth St	E	--
East Porterville	S Plano St	between Leggett St and Ruth St	E	--
East Porterville	S Ruth St	Cleo Ave	E	--
East Porterville	S Ruth St	E River Ave	E	S/E

Table 2-6 Sidewalk Site Inventory in East Porterville

Sidewalk Locations				
Community	Street	From *	To *	Side
East Porterville	Alta Vista St	E Crabtree Ave	E Roby Ave	E
East Porterville	Alta Vista St	E Crabtree Ave	E Roby Ave	E
East Porterville	Alta Vista St	E Crabtree Ave	E Roby Ave	W
East Porterville	Alta Vista St	E Crabtree Ave	E Springville Ave	E
East Porterville	Baxley St	E Richard Ave	E Cleo Ave	W
East Porterville	Baxley St	E Richard Ave	E Cleo Ave	E
East Porterville	Cleo Ave	S Leggett St	S Ruth St	S
East Porterville	Cleo Ave	S Leggett St	S Ruth St	S
East Porterville	Cleo Ave	S Leggett St	S Ruth St	N
East Porterville	Cleo Ave	S Leggett St	S Ruth St	S
East Porterville	Cleo Ave	S Leggett St	S Ruth St	N
East Porterville	Cleo Ave	S Leggett St	S Ruth St	N
East Porterville	E Bennett St	E Richard Ave	E Cleo Ave	E
East Porterville	E Bennett St	E Richard Ave	E Cleo Ave	W
East Porterville	E Bennett St	E Springville Ave	E Cleo Ave	W
East Porterville	E Bennett St	E Springville Ave	E Cleo Ave	E
East Porterville	E Cleo Ave	Baxley St	Bennett St	S
East Porterville	E Cleo Ave	Baxley St	Bennett St	S
East Porterville	E Crabtree Ave	Baxley St	Bennett St	S
East Porterville	E Crabtree Ave	Bennett St	S Doyle St	S
East Porterville	E Crabtree Ave	S Holcomb St	S McCoy Ln	N
East Porterville	E Crabtree Ave	S Holcomb St	S McCoy Ln	S
East Porterville	E Crabtree Ave	S Page St	Alta Vista St	N
East Porterville	E Crabtree Ave	S Rocky Hill St	S Pagel St	N
East Porterville	E Crabtree Ave	S Rocky Hill St	S Pagel St	S
East Porterville	E Crabtree Ave	S Rocky Hilll St	S Tulsa Rd	N
East Porterville	E Crabtree Ave	S Tulsa Rd	S McCoy Ln	S
East Porterville	E Dale Ave	S Park St	S Leggett St	N
East Porterville	E Dale Ave	S Plano St	S Park St	S
East Porterville	E Date Ave	S Leggett St	S Ruth St	S
East Porterville	E Date Ave	S Leggett St	S Ruth St	S
East Porterville	E Olive Ave	Hillcrest Rd	N Comet St	S
East Porterville	E Olive Ave	Hillcrest Rd	N Comet St	N
East Porterville	E Olive Ave	N Comet St	S Holcomb St	N
East Porterville	E Olive Ave	N Comet St	S Holcomb St	S
East Porterville	E Olive Ave	Oak Ave	Ruth St	S
East Porterville	E Olive Ave	Ruth St	Hillcrest Rd	S
East Porterville	E Olive Ave	Ruth St	Hillcrest Rd	N
East Porterville	E Orange Ave	Ruth St	S Maurer St	N
East Porterville	E Orange Ave	Ruth St	S Maurer St	S
East Porterville	E River Ave	S Ruth St	S Leggett St	N
East Porterville	E River Ave	S Ruth St	S Leggett St	S
East Porterville	E River Ave	S Ruth St	S Leggett St	N
East Porterville	E Roby Ave	Alta Vista St	Baxley St	S
East Porterville	E Roby Ave	BNaxley St	S Doyle St	N
East Porterville	E Roby Ave	S Hillcrest St	S 'W' St	S
East Porterville	E Roby Ave	S Holcomb St	S Tulsa Rd	S

Table 2-6 Sidewalk Site Inventory in East Porterville (continued)

Sidewalk Locations				
Community	Street	From *	To *	Side
East Porterville	E Roby Ave	S Holcomb St	S Tulsa Rd	S
East Porterville	E Roby Ave	S Holcomb St	S Tulsa Rd	S
East Porterville	E Roby Ave	S Page St	Alta Vista St	S
East Porterville	E Roby Ave	S Rocky Hill St	S Page St	N
East Porterville	E Roby Ave	S Tulsa Rd	S Holcomb St	S
East Porterville	E Roby Ave	S Tulsa Rd	S Rocky Hill St	S
East Porterville	E Roby Ave	S 'W' St	S Conner St	S
East Porterville	E Springville Ave	E Doyle St	Bennett St	N
East Porterville	E Springville Ave	E Doyle St	Bennett St	S
East Porterville	E Springville Ave	E Doyle St	Bennett St	N
East Porterville	E Springville Ave	S Doyle St	Bennett St	N
East Porterville	E Springville Ave	S Doyle St (Rd 272)	Rd 274	N
East Porterville	E Success Dr	Ruth St	E Success Dr	N
East Porterville	E Success Dr	S Comer St	E Springville Ave	S
East Porterville	E Success Dr	S Comer St	E Springville Ave	S
East Porterville	E Success Dr	S Comer St	E Springville Ave	S
East Porterville	E Success Dr	S Comer St	E Springville Ave	S
East Porterville	E Success Dr	S Comer St	E Springville Ave	N
East Porterville	E Success Dr	S Comer St	E Springville Ave	N
East Porterville	E Success Dr	S Comer St	E Springville Ave	N
East Porterville	E Success Dr	S Comer St	E Springville Ave	N
East Porterville	E Success Dr	S Comer St	E Springville Ave	N
East Porterville	E Tyler Ave	S Comer St	S Holcomb St	N
East Porterville	E Tyler Ave	S Comer St	S Holcomb St	S
East Porterville	E Tyler Ave	S Comer St	S Holcomb St	S
East Porterville	E Tyler Ave	S Comer St	S Holcomb St	N
East Porterville	E Tyler Ave	S Holcomb St	cul-de-sac	N
East Porterville	N Comer St	E Olive Ave	E Putnam Ave	E
East Porterville	N Tulsa Rd	E Crabtree Ave	E Roby Ave	E
East Porterville	S Comer St	E Roby Ave	100' south	W
East Porterville	S Comer St	E Roby Ave	E Tyler Ave	E
East Porterville	S Comer St	E Roby Ave	E Tyler Ave	E
East Porterville	S Comer St	E Springville Ave	E Success Dr	W
East Porterville	S Comer St	E Springville Ave	E Success Dr	W
East Porterville	S Comer St	E Springville Ave	E Success Dr	W
East Porterville	S Comer St	E Tyler Ave	E Crabtree Ln	E
East Porterville	S Comer St	E Tyler Ave	E Crabtree Ln	E
East Porterville	S Doyle St	E Crabtree Ave	E Roby Ave	W
East Porterville	S Doyle St	E Crabtree Ave	E Springville Ave	E
East Porterville	S Holcomb St	E Roby Ave	E Olive Ave	W
East Porterville	S Holcomb St	E Tyler Ave	E Roby Ave	W
East Porterville	S Page St	E Crabtree Ave	E Roby Ave	W
East Porterville	S Page St	E Crabtree Ave	E Roby Ave	E
East Porterville	S Page St	E Crabtree Ave	E Roby Ave	W
East Porterville	S Page St	E Springville Ave	E Crabtree Ave	E
East Porterville	S Page St	E Springville Ave	E Crabtree Ave	E
East Porterville	S Page St	E Springville Ave	E Crabtree Ave	E
East Porterville	S Page St	E Springville Ave	E Crabtree Ave	W
East Porterville	S Park St	E Dale Ave	E Success Dr	E

Table 2-6 Sidewalk Site Inventory in East Porterville (continued)

Sidewalk Locations				
Community	Street	From *	To *	Side
East Porterville	S Plano St	E River Ave	E Dale Ave	E
East Porterville	S Plano St	E River Ave	E Dale Ave	E
East Porterville	S Randy St	E Richard Ave	E Cleo Ave	W
East Porterville	S Sierra Vista St	Andres Ct	E Isham Ave	E
East Porterville	S Tulsa Rd	E Roby Ave	E Crabtree Ave	W
East Porterville	S 'W' St	E Roby Ave	E TylerAve	W
East Porterville	S 'W' St	E Roby Ave	E TylerAve	E
East Porterville	S 'W' St	E Roby Ave	E TylerAve	W
East Porterville	S 'W' St	E Tyler Ave	E Success Dr	W
East Porterville	St Hwy 190	Martin St	Rd 265	N
East Porterville	St Hwy 190	Martin St	Rd 265	N

* Sidewalk may be present for only a portion of the noted segment.

Table 2-7 ADA Curb Ramp Site Inventory in East Porterville

ADA Curb Ramp Locations				
Community	Main Road	Crossroad	Side	Corner
East Porterville	E Crabtree Ave	S Tulsa Rd	--	N/E
East Porterville	E Date Ave	S Leggett St	--	N/E
East Porterville	E Olive Ave	S Hillcrest St	--	S/E
East Porterville	E Olive Ave	S Hillcrest St	--	S/W
East Porterville	E Poplar Ave	Pettis St	--	N/W
East Porterville	E Roby Ave	Alta Vista St	--	S/E
East Porterville	E Roby Ave	S Conner St	--	S/W
East Porterville	E Roby Ave	S Rocky Hill St	--	S/W
East Porterville	E Roby Ave	S Tulsa Rd	--	S/W
East Porterville	E Springville Ave	S Bennett St	--	NW
East Porterville	E Springville Ave	S Bennett St	--	N/E
East Porterville	E Springville Ave	S Doyle St	--	N/E
East Porterville	E Tyler Ave	S Conner Ave	--	N/E
East Porterville	S Plano St	E Date Ave	--	S/E
East Porterville	S Plano St	E River Ave	E	N/E

Table 2-8 Fire Hydrant Site Inventory in East Porterville

Fire Hydrant Locations					
Community	Main Road	Crossroad	Side	Corner	Location Detail
East Porterville	Alta Vista St	between Springville Ave and Crabtree Ave	W	--	--
East Porterville	Baxley St	between Cleo Ave and Richard Ave	E	--	--
East Porterville	Bennett St	between Springville Ave and Cleo Ave	E	--	--
East Porterville	Bennett St	between Richard Ave and Crabtree Ave	E	--	--
East Porterville	between Date Ave and River Ave	east of Leggett St	--	--	centrally located within parcel
East Porterville	Conner St	between Olive Ave and Putnam Ave	E	--	--
East Porterville	Date Ave	between Park St and Leggett St	N	--	--
East Porterville	Date Ave	between Park St and Leggett St	N	--	--
East Porterville	Holcomb St	between Roby Ave and Olive Ave	W	--	--
East Porterville	Holcomb St	between Roby Ave and Olive Ave	E	--	--
East Porterville	Holcomb St	between Roby Ave and Olive Ave	E	--	--
East Porterville	Orange Ave	Maurer St	--	S/E	--
East Porterville	Orange Ave	at bend at Roby Ave	S	--	--
East Porterville	Randy St	between Cleo Ave and Richard Ave	W	--	--
East Porterville	River Ave	between Plano St and Larson St	S	--	--
East Porterville	Success Dr	Hillcrest Private Rd	N	--	--
East Porterville	Tyler Ave	east of Holcomb St	S	--	--

Figure 2-5 Inventory of Serviced in El Monte Mobile Village

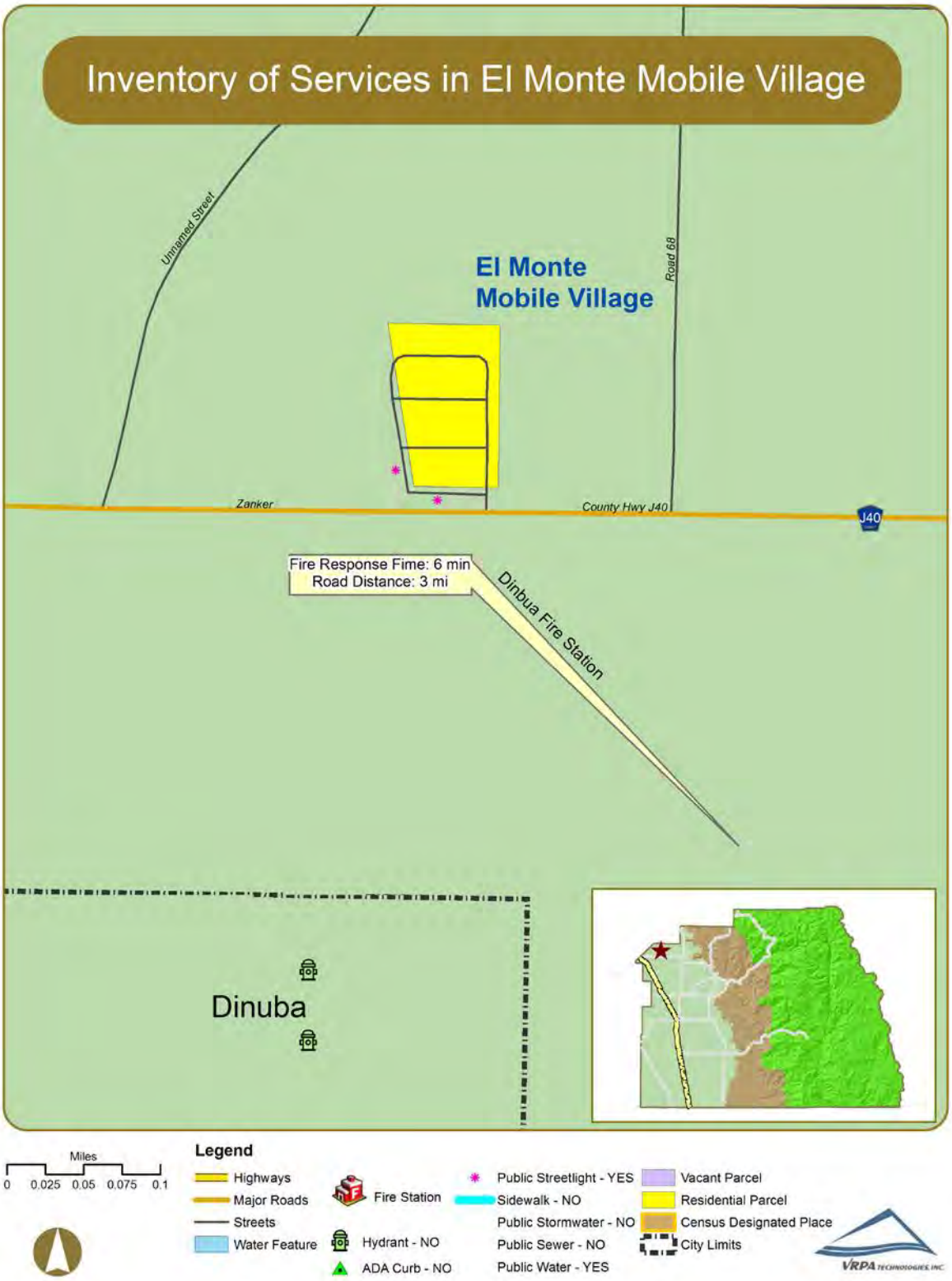


Table 2-9 Streetlight Site Inventory in El Monte Mobile Village

Streetlight Locations			
Community	**Main Road**	**Crossroad**	**Side**
El Monte Mobile Home	Ave 416	west of Mobile Home Park entrance	N
El Monte Mobile Home	Inside Park	--	W

Figure 2-6 Inventory of Services in Hawkins

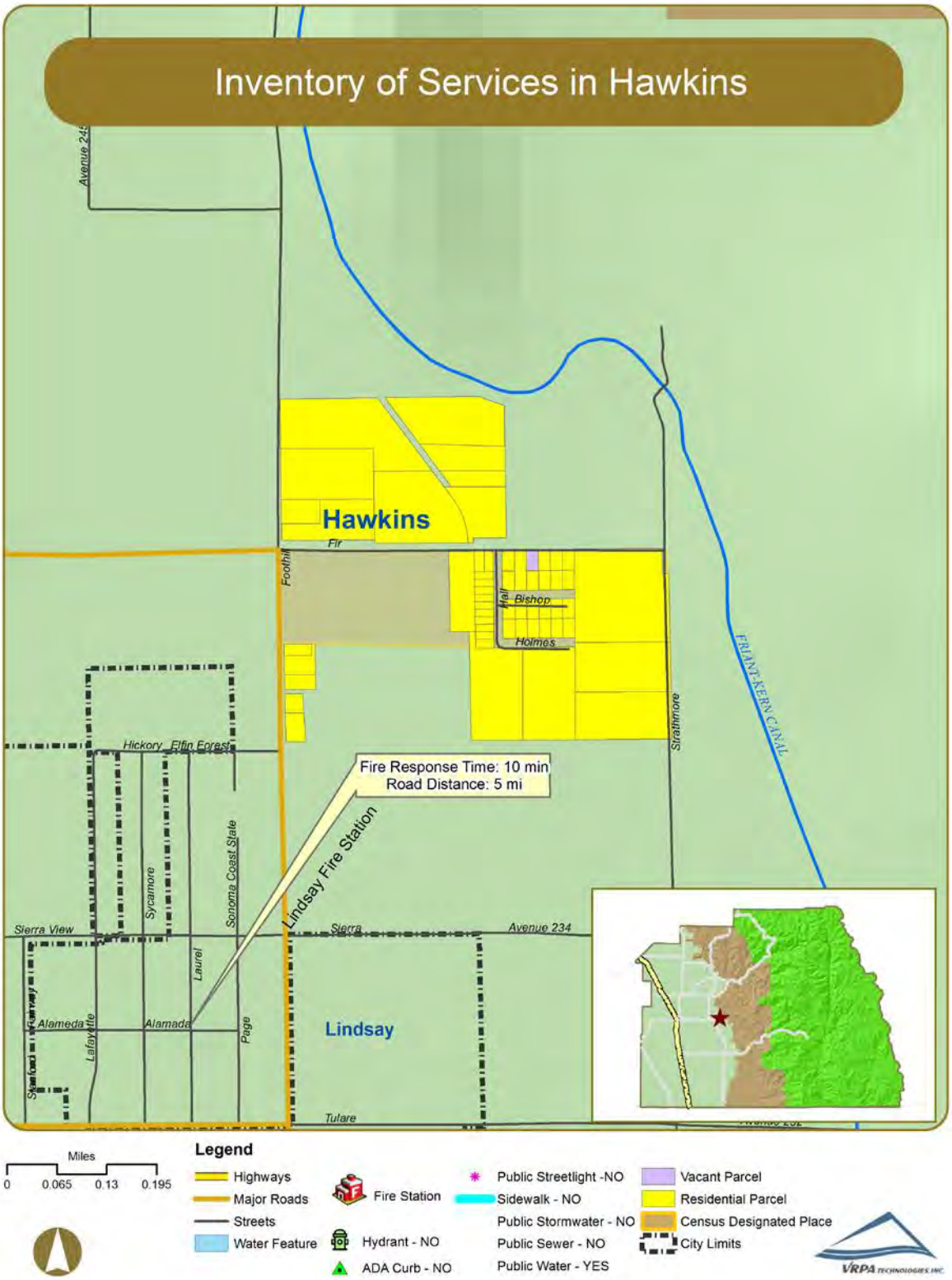


Figure 2-7 Inventory of Services in Higby

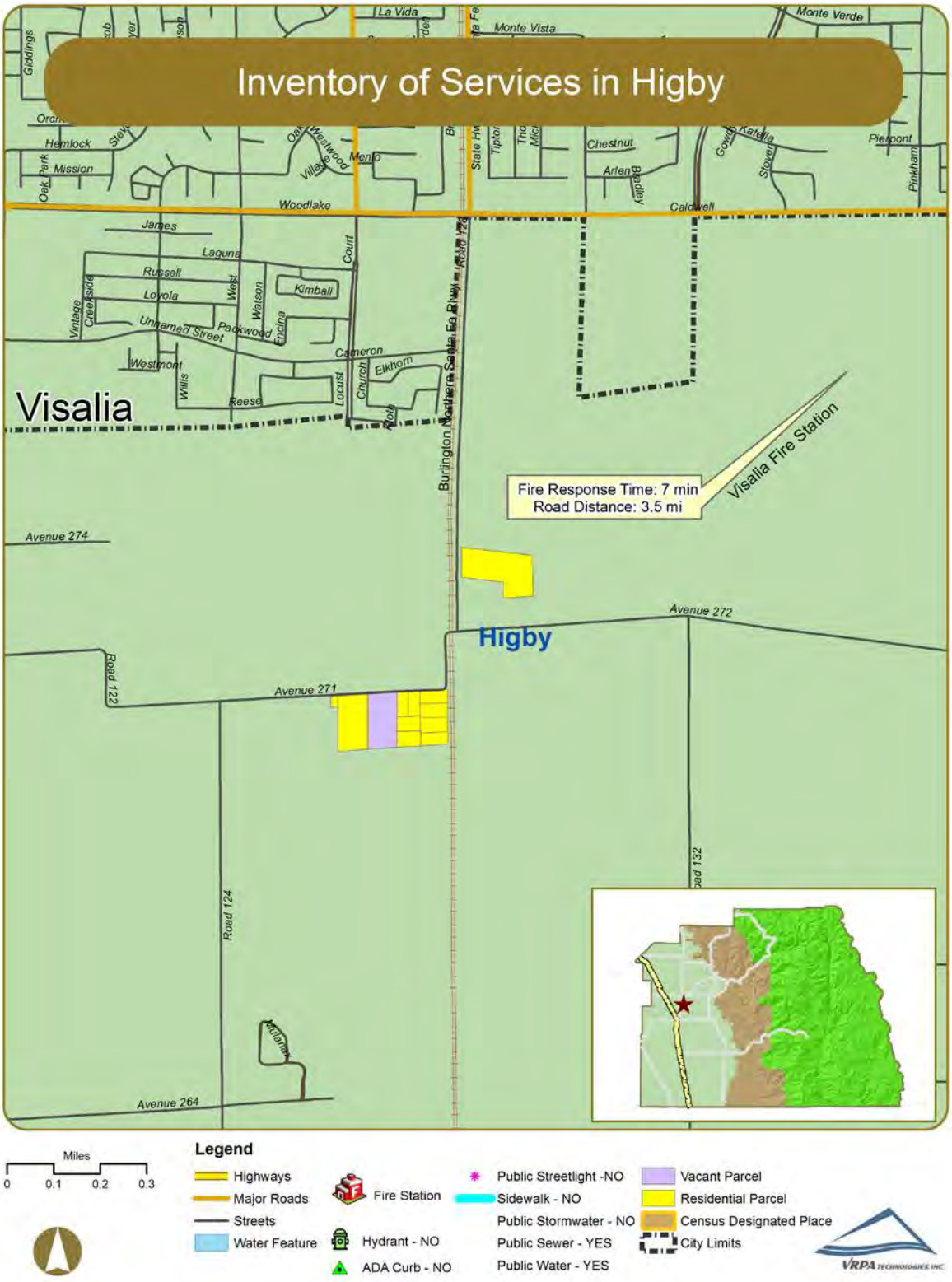


Figure 2-8 Inventory of Services in Hypericum

Figure 2-9 Inventory of Services in Jones Corner

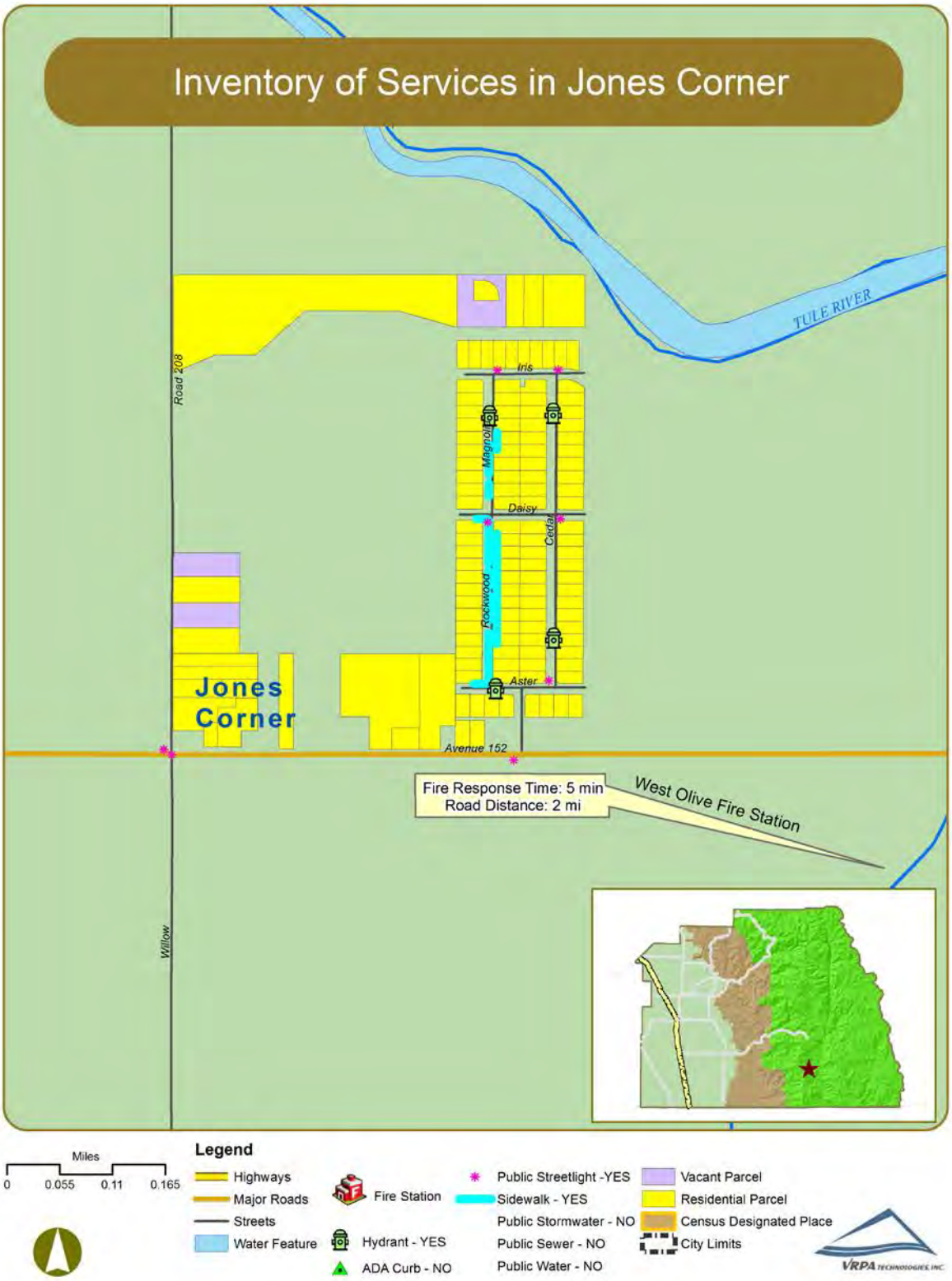


Table 2-10 Streetlight Site Inventory in Jones Corner

Streetlight Locations			
Community	Main Road	Crossroad	Corner
Jones Corner	Aster Ave	Cedar Rd	N/W
Jones Corner	Aster Ave	Magnolia Rd	N/E
Jones Corner	Ave 152	Cedar Rd	S/W
Jones Corner	Ave 152	Rd 208	N/W
Jones Corner	Cedar Rd	Daisy Ave	S/E
Jones Corner	Cedar Rd	Iris Ave	N/E
Jones Corner	Magnolia Rd	Daisy Ave	S/W
Jones Corner	Magnolia Rd	Iris Ave	N/E

Table 2-11 Sidewalk Site Inventory in Jones Corner

Sidewalk Locations				
Community	Street	From *	To *	Side
Jones Corner	Aster Ave	Magnolia Rd	75' west	N
Jones Corner	Daisy Ave	Magnolia Rd	75' west	S
Jones Corner	Magnolia Rd	Aster Ave	Daisy Ave	W
Jones Corner	Magnolia Rd	Aster Ave	Daisy Ave	W
Jones Corner	Magnolia Rd	Aster Ave	Daisy Ave	W
Jones Corner	Magnolia Rd	Aster Ave	Daisy Ave	W
Jones Corner	Magnolia Rd	Aster Ave	Daisy Ave	E
Jones Corner	Magnolia Rd	Daisy Ave	Iris Ave	W
Jones Corner	Magnolia Rd	Daisy Ave	Iris Ave	W
Jones Corner	Magnolia Rd	Daisy Ave	Iris Ave	E

* Sidewalk may be present for only a portion of the noted segment.

Table 2-12 Fire Hydrant Site Inventory in Jones Corner

Fire Hydrant Locations			
Community	Main Road	Crossroad	Side
Jones Corner	Aster Ave	Magnolia Rd	S
Jones Corner	Cedar Rd	Daisy Ave to Aster Ave	W
Jones Corner	Cedar Rd	Daisy Ave to Iris Ave	W
Jones Corner	Magnolia Rd	Daisy Ave to Iris Ave	W

Figure 2-10 Inventory of Services in Jovista

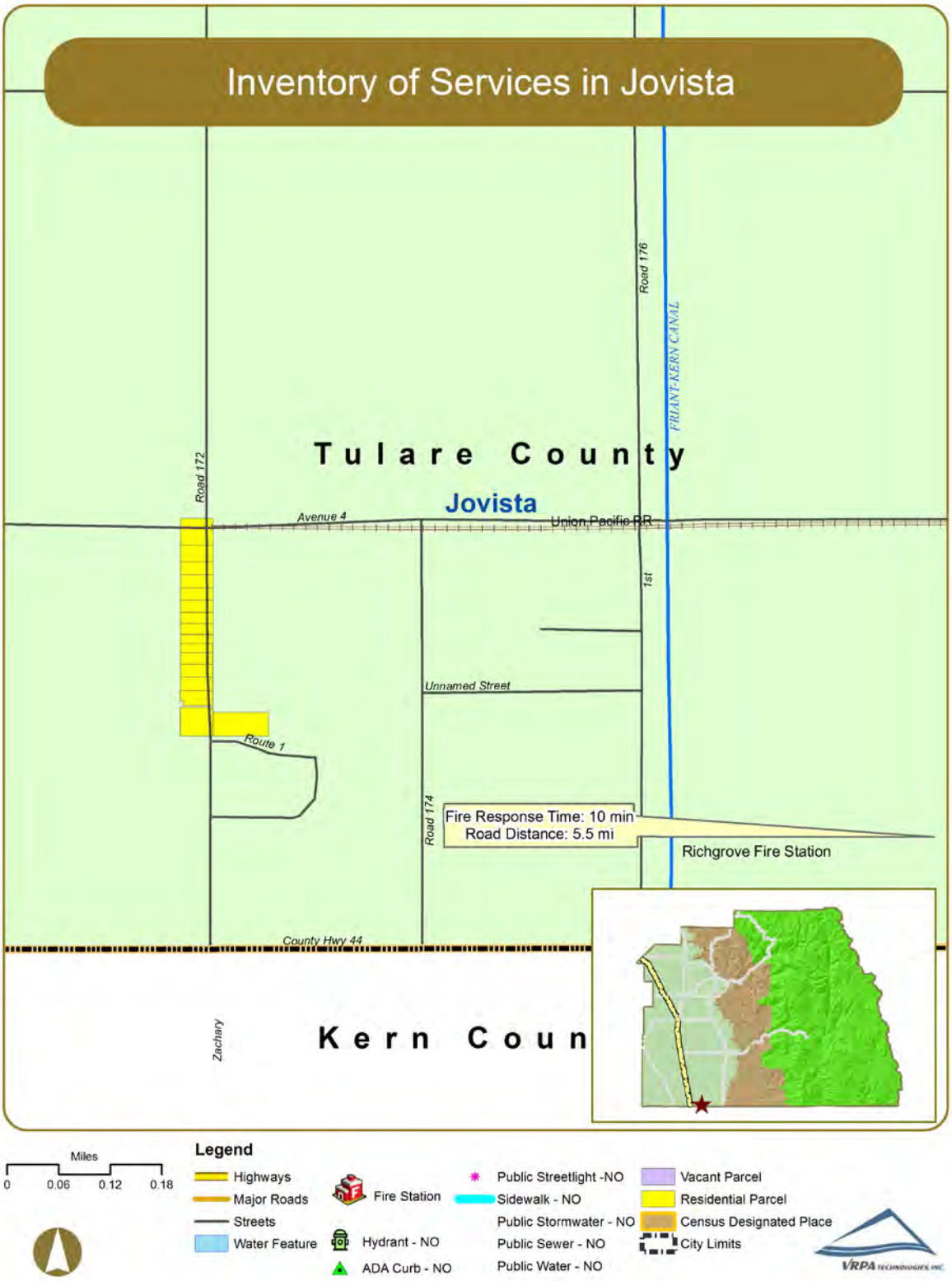


Figure 2-11 Inventory of Services in Lort

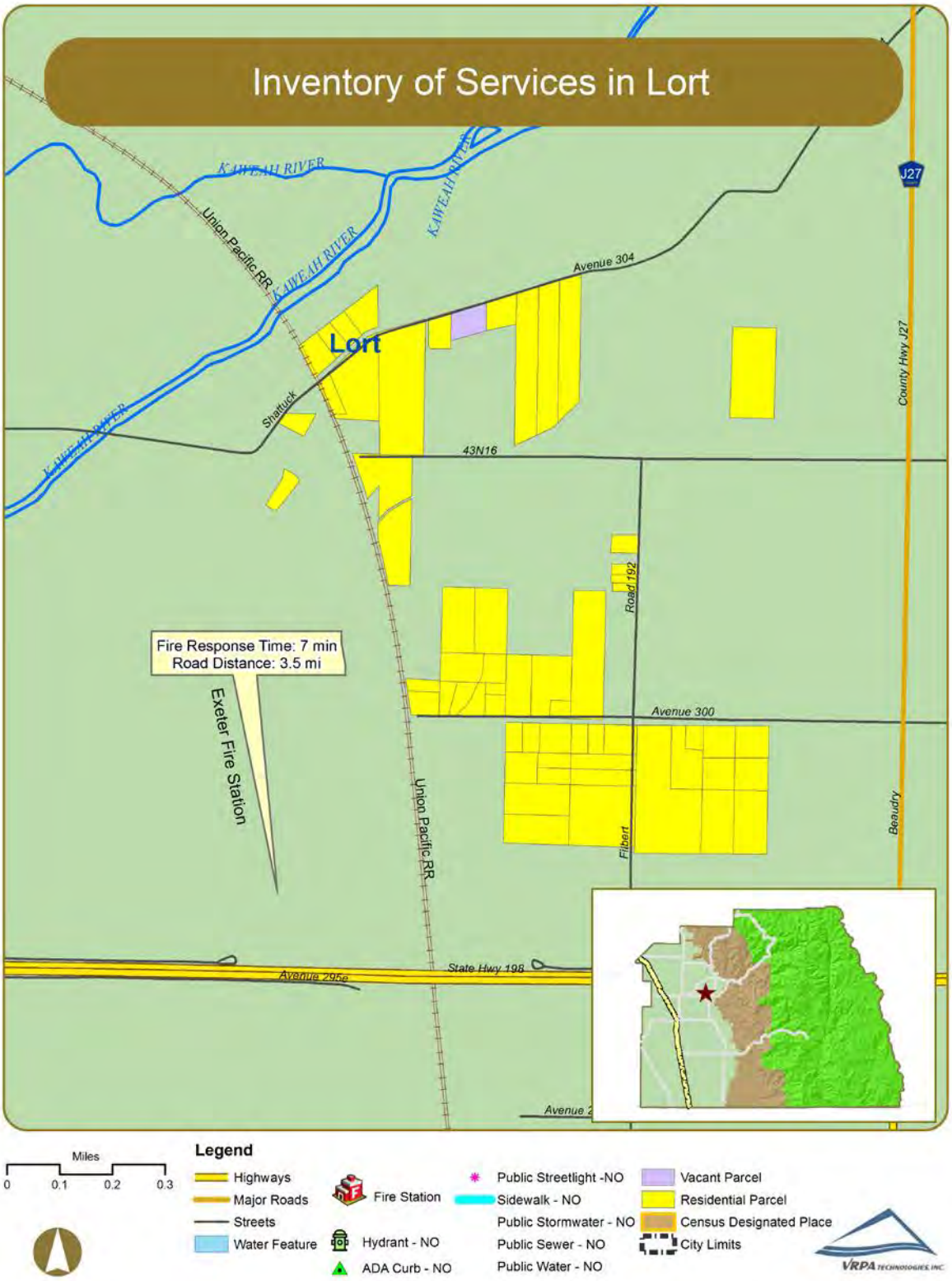


Figure 2-12 Inventory of Services in Naranjo

Table 2-13 Streetlight Site Inventory in Naranjo

Streetlight Locations			
Community	**Main Road**	**Crossroad**	**Corner**
Naranjo	Ave 340	Rd 228	N/E
Naranjo	Ave 340	Rd 228	N/E

Figure 2-13 Inventory of Services in Paige

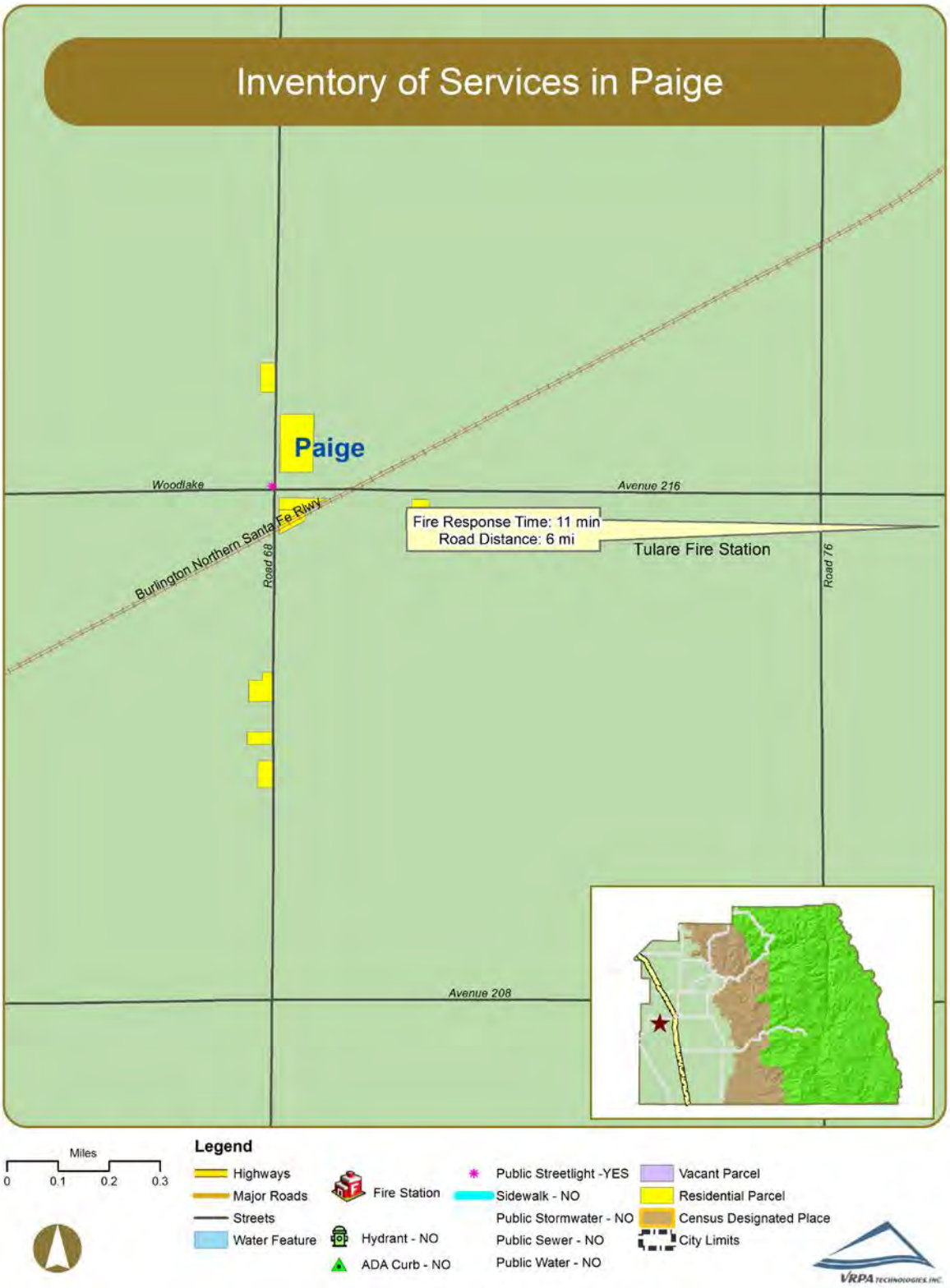


Table 2-14 Streetlight Site Inventory in Paige

Streetlight Locations			
Community	**Main Road**	**Crossroad**	**Corner**
Paige	Ave 216	Rd 68	N/W

Figure 2-14 Inventory of Services in Peral

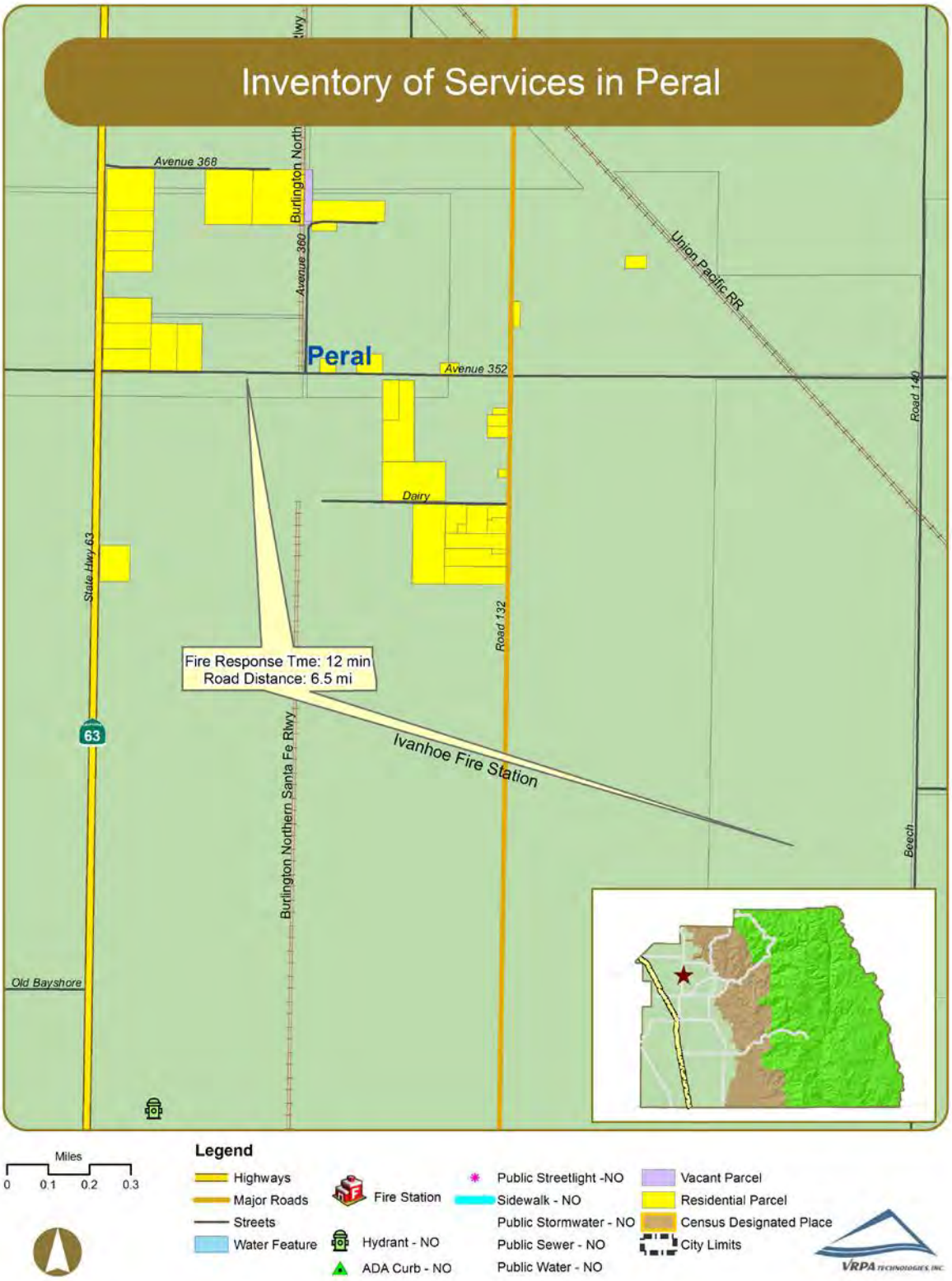


Figure 2-15 Inventory of Services in Ponca

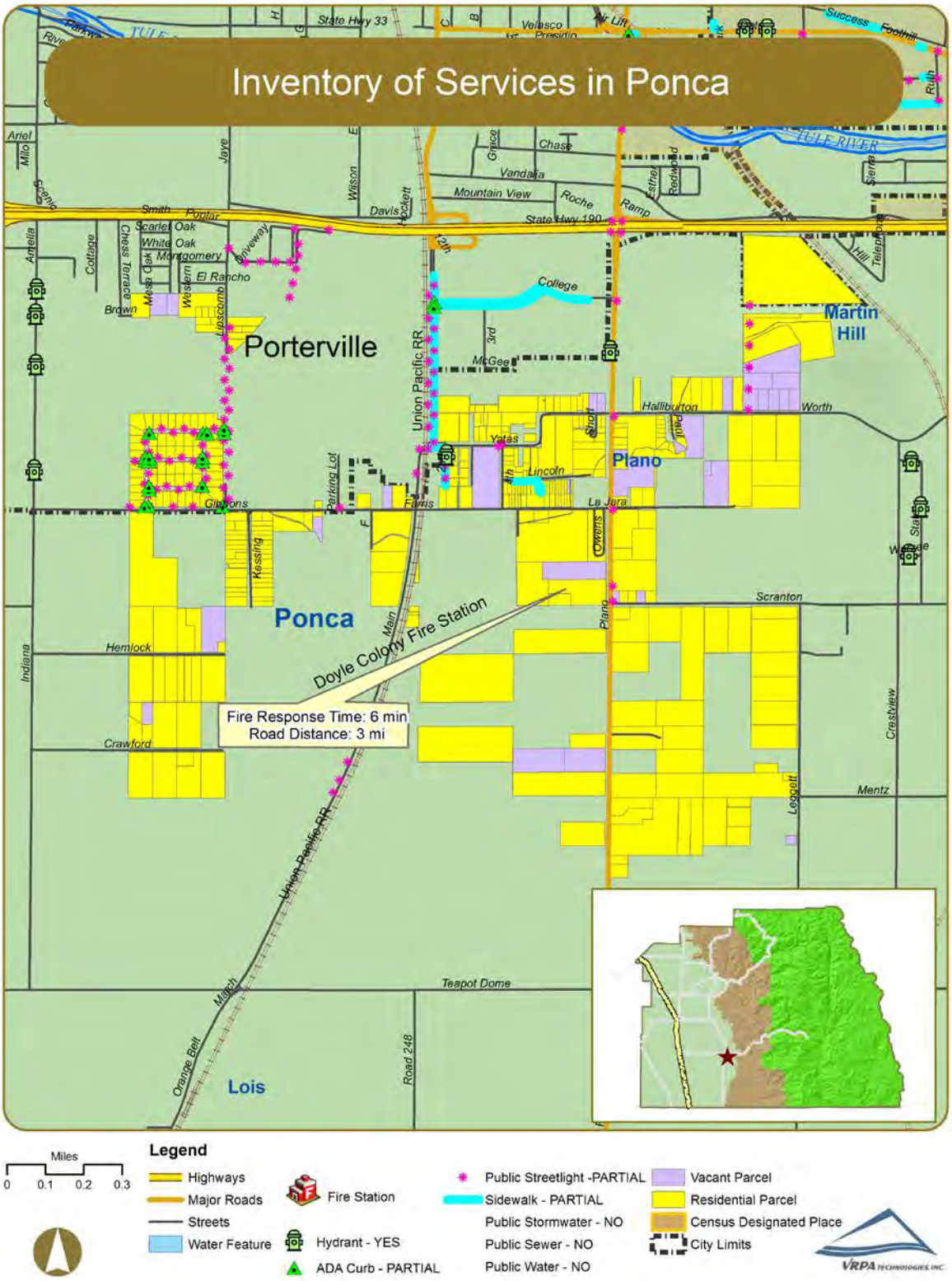


Table 2-15 Streetlight Site Inventory in Ponca

Streetlight Locations					
Community	Main Road	Crossroad	Side	Corner	Location Detail
Ponca	Poplar Ave	at north end	N	--	--
Ponca	Poplar Ave	north of Montgomery Ave	W	--	--
Ponca	Poplar Ave	north of Montgomery Ave	E	--	--
Ponca	Poplar Ave	north of Montgomery Ave	E	--	--
Ponca	Poplar Ave	south of Montgomery Ave	--	--	in center median
Ponca	Poplar Ave	south of Montgomery Ave	--	--	in center median
Ponca	Poplar Ave	south of Montgomery Ave	--	--	in center median
Ponca	Rd 252	Ave 136	--	N/E	--
Ponca	Rd 252	Ave 140	--	S/E	--
Ponca	Rd 252	Ave 252 (E College Ave)	E	--	--
Ponca	Rd 252	E Gibbons Ave	--	S/E	--
Ponca	S 2nd St	south of Yates Ave	W	--	--
Ponca	S 2nd St	south of Yates Ave	W	--	--
Ponca	S Jaye St	Gibbons Ave	--	N/W	--
Ponca	S Jaye St	between Gibbons Ave and Melinda Ave	E	--	--
Ponca	S Jaye St	between Gibbons Ave and Melinda Ave	W	--	--
Ponca	S Jaye St	between Gibbons Ave and Melinda Ave	E	--	--
Ponca	S Jaye St	between Gibbons Ave and Melinda Ave	W	--	--
Ponca	S Jaye St	between Gibbons Ave and Melinda Ave	E	--	--
Ponca	S Jaye St	between Gibbons Ave and Melinda Ave	W	--	--
Ponca	S Jaye St	W Melinda Ave	--	S/W	--
Ponca	S Jaye St	W Melinda Ave	E	--	--
Ponca	S Jaye St	between Melinda Ave and El Rancho Ave	W	--	--
Ponca	S Jaye St	between Melinda Ave and El Rancho Ave	E	--	--
Ponca	S Jaye St	between Melinda Ave and El Rancho Ave	W	--	--
Ponca	S Jaye St	between Melinda Ave and El Rancho Ave	E	--	--
Ponca	S Jaye St	between Melinda Ave and El Rancho Ave	W	--	--
Ponca	S Jaye St	between Melinda Ave and El Rancho Ave	E	--	--
Ponca	S Jaye St	between Melinda Ave and El Rancho Ave	W	--	--
Ponca	S Jaye St	between Melinda Ave and El Rancho Ave	E	--	--
Ponca	S Jaye St	between Melinda Ave and El Rancho Ave	W	--	--
Ponca	S Jaye St	between Melinda Ave and El Rancho Ave	E	--	--
Ponca	S Main St	E College Ave	--	S/E	--
Ponca	S Main St	E College Ave	--	S/E	--
Ponca	S Main St	north of College Ave	W	--	--
Ponca	S Main St	north of College Ave	E	--	--
Ponca	S Main St	between College Ave and Yates Ave	E	--	--
Ponca	S Main St	between College Ave and Yates Ave	W	--	--
Ponca	S Main St	between College Ave and Yates Ave	E	--	--
Ponca	S Main St	between College Ave and Yates Ave	W	--	--
Ponca	S Main St	between College Ave and Yates Ave	E	--	--
Ponca	S Main St	between College Ave and Yates Ave	W	--	--

Table 2-15 Streetlight Site Inventory in Ponca (continued)

Streetlight Locations					
Community	Main Road	Crossroad	Side	Corner	Location Detail
Ponca	S Main St	between College Ave and Yates Ave	E	--	--
Ponca	S Main St	between College Ave and Yates Ave	W	--	--
Ponca	S Main St	between College Ave and Yates Ave	E	--	--
Ponca	S Main St	between College Ave and Yates Ave	W	--	--
Ponca	S Main St	between College Ave and Yates Ave	W	--	--
Ponca	S Main St	Yates Ave	--	N/E	--
Ponca	S Main St	Yates Ave	--	S/E	--
Ponca	S Main St	between Yates Ave and Gibbons Ave	W	--	--
Ponca	S Main St	between Yates Ave and Gibbons Ave	W	--	--
Ponca	S Mesa Oak St	between Gibbons Ave and Stacie Ave	E	--	--
Ponca	S Mesa Oak St	between Stacie Ave and Yates Ave	E	--	--
Ponca	S Mesa Oak St	between Stacie Ave and Yates Ave	W	--	--
Ponca	S Mesa Oak St	between Yates Ave and Melinda Ave	W	--	--
Ponca	S Mesa Oak St	between Yates Ave and Melinda Ave	E	--	--
Ponca	S Mesa Oak St	Melinda Ave	--	S/E	--
Ponca	S Pearson St	between Stacie Ave and Yates Ave	E	--	--
Ponca	S Pearson St	between Stacie Ave and Yates Ave	W	--	--
Ponca	S Pearson St	between Yates Ave and Melinda Ave	W	--	--
Ponca	S Pearson St	between Yates Ave and Melinda Ave	E	--	--
Ponca	Golden Hills Mobile Estate	north of Worth Ave	E	--	--
Ponca	Golden Hills Mobile Estate	north of Worth Ave	E	--	--
Ponca	Golden Hills Mobile Estate	north of Worth Ave	E	--	--
Ponca	Golden Hills Mobile Estate	north of Worth Ave	E	--	--
Ponca	Golden Hills Mobile Estate	north of Worth Ave	E	--	--
Ponca	Golden Hills Mobile Estate	north of Worth Ave	E	--	--
Ponca	W Gibbons Ave	S 'F' St	--	N/E	--
Ponca	W Gibbons Ave	S Jaye St	--	N/W	--
Ponca	W Gibbons Ave	Mesa Oak St	--	N/E	--
Ponca	W Gibbons Ave	between Chess Terrace St and Mesa Oak St	N	--	--
Ponca	W Gibbons Ave	between Mesa Oak St and Jaye St	N	--	--
Ponca	W Gibbons Ave	between Mesa Oak St and Jaye St	N	--	--
Ponca	W Gibbons Ave	Plano St	--	S/E	--
Ponca	W Melinda Ave	between Mesa Oak St and Pearson St	N	--	--
Ponca	W Melinda Ave	between Mesa Oak St and Pearson St	S	--	--
Ponca	W Melinda Ave	between Mesa Oak St and Pearson St	N	--	--
Ponca	W Melinda Ave	between Mesa Oak St and Pearson St	S	--	--
Ponca	W Melinda Ave	S Pearson St	--	S/E	--
Ponca	W Melinda Ave	between Pearson St and Jaye St	N	--	--
Ponca	W Melinda Ave	S Jaye St	--	S/W	--
Ponca	W Montgomery Ave	Jaye St	--	S/W	--
Ponca	W Montgomery Ave	between Jaye St and Poplar Ave	--	--	in center median
Ponca	W Montgomery Ave	between Jaye St and Poplar Ave	--	--	in center median
Ponca	W Montgomery Ave	between Jaye St and Poplar Ave	--	--	in center median

Table 2-15 Streetlight Site Inventory in Ponca (continued)

Streetlight Locations					
Community	Main Road	Crossroad	Side	Corner	Location Detail
Ponca	W Montgomery Ave	between Jaye St and Poplar Ave	--	--	in center median
Ponca	W Stacie Ave	between Mesa Oak St and Pearson St	S	--	--
Ponca	W Stacie Ave	between Mesa Oak St and Pearson St	N	--	--
Ponca	W Stacie Ave	between Mesa Oak St and Pearson St	S	--	--
Ponca	W Stacie Ave	between Mesa Oak St and Pearson St	N	--	--
Ponca	W Stacie Ave	Pearson St	--	S/W	--
Ponca	Yates Ave	between Chess Terrace St and Mesa Oak St	S	--	--
Ponca	Yates Ave	Mesa Oak St	--	S/W	--
Ponca	Yates Ave	between Mesa Oak St and Pearson St	S	--	--
Ponca	Yates Ave	between Mesa Oak St and Pearson St	N	--	--
Ponca	Yates Ave	between Mesa Oak St and Pearson St	S	--	--
Ponca	Yates Ave	between Mesa Oak St and Pearson St	N	--	--
Ponca	Yates Ave	4th St	N	--	--

Table 2-16 Sidewalk Site Inventory in Ponca

Sidewalk Locations				
Community	Street	From *	To *	Side
Ponca	E College Ave	S Main St	Plano St	S
Ponca	E College Ave	S Main St	Plano St	N
Ponca	E Lincoln St	S 4th St	S Roche St	S
Ponca	E Yates	S Main St	S 2nd St	S
Ponca	S 2nd St	E Yates	deadend	E
Ponca	S Main St	E College Ave	350' north	E
Ponca	S Main St	E Yates	E College Ave	E
Ponca	S Roche St	E Lincoln St	deadend	E
Ponca	S Roche St	E Lincoln St	deadend	W

* Sidewalk may be present for only a portion of the noted segment.

Table 2-17 ADA Curb Ramp Site Inventory in Ponca

ADA Curb Ramp Locations			
Community	Main Road	Crossroad	Corner
Ponca	S Jaye St	S Jaye St	N/W
Ponca	S Jaye St	W Melinda Ave	S/W
Ponca	S Jaye St	W Melinda Ave	N/W
Ponca	S Main St	E College Ave	N/E
Ponca	S Main St	E College Ave	S/E
Ponca	W Melinda Ave	S Pearson St	N/E
Ponca	W Melinda Ave	S Pearson St	S/E
Ponca	S Mesa Oak St	W Gibbons Ave	S/E
Ponca	S Mesa Oak St	W Gibbons Ave	N/W
Ponca	S Mesa Oak St	W Melinda Ave	S/E
Ponca	S Mesa Oak St	W StacieAve	N/E
Ponca	S Mesa Oak St	W StacieAve	S/E
Ponca	S Mesa Oak St	W Yates Ave	N/E
Ponca	S Mesa Oak St	W Yates Ave	N/W
Ponca	S Mesa Oak St	W Yates Ave	N/E
Ponca	S Mesa Oak St	W Yates Ave	S/E
Ponca	S Pearson St	W State Ave	N/W
Ponca	S Pearson St	W Yates Ave	N/E
Ponca	S Pearson St	W Yates Ave	N/W
Ponca	E Yates	S 2nd St	S/W

Table 2-18 Fire Hydrant Site Inventory in Ponca

Fire Hydrant Locations			
Community	Main Road	Crossroad	Side
Ponca	2nd St	south of Yates Ave	W
Ponca	Plano St	between Worth Ave to College Ave	W

Figure 2-16 Inventory of Services in Sandspur

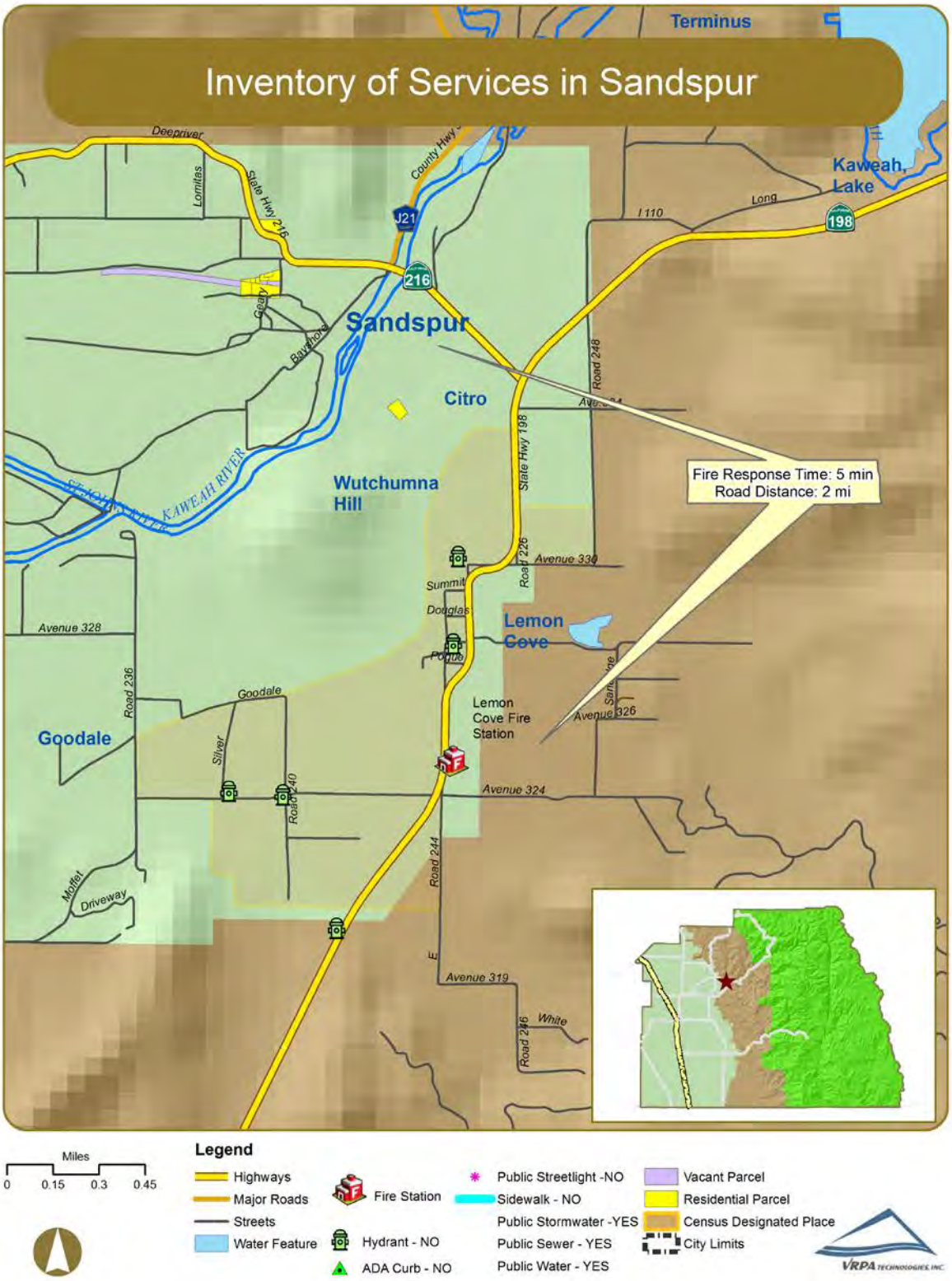


Figure 2-17 Inventory of Services in Taurusa

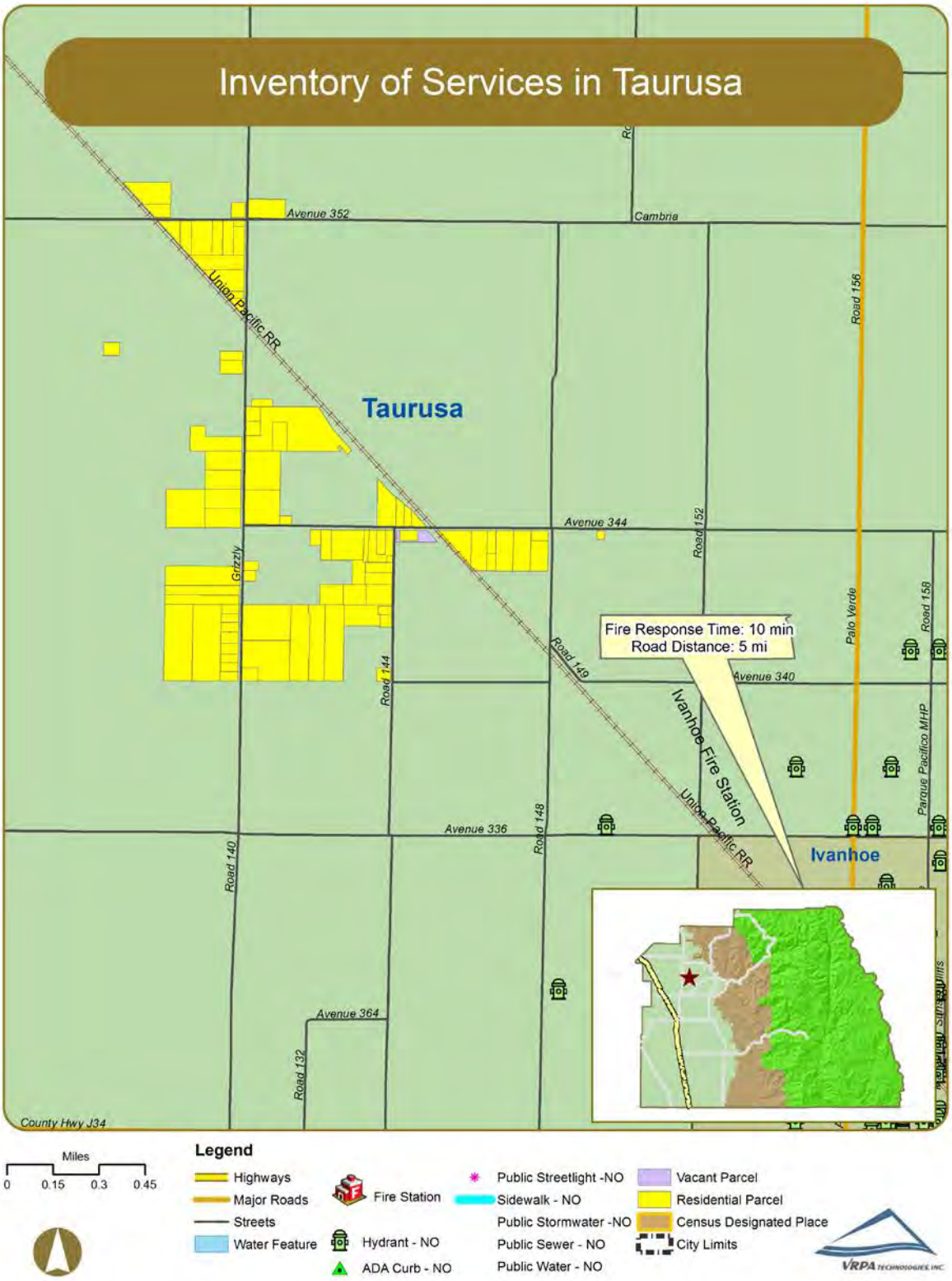


Figure 2-18 Inventory of Services in Tooleville

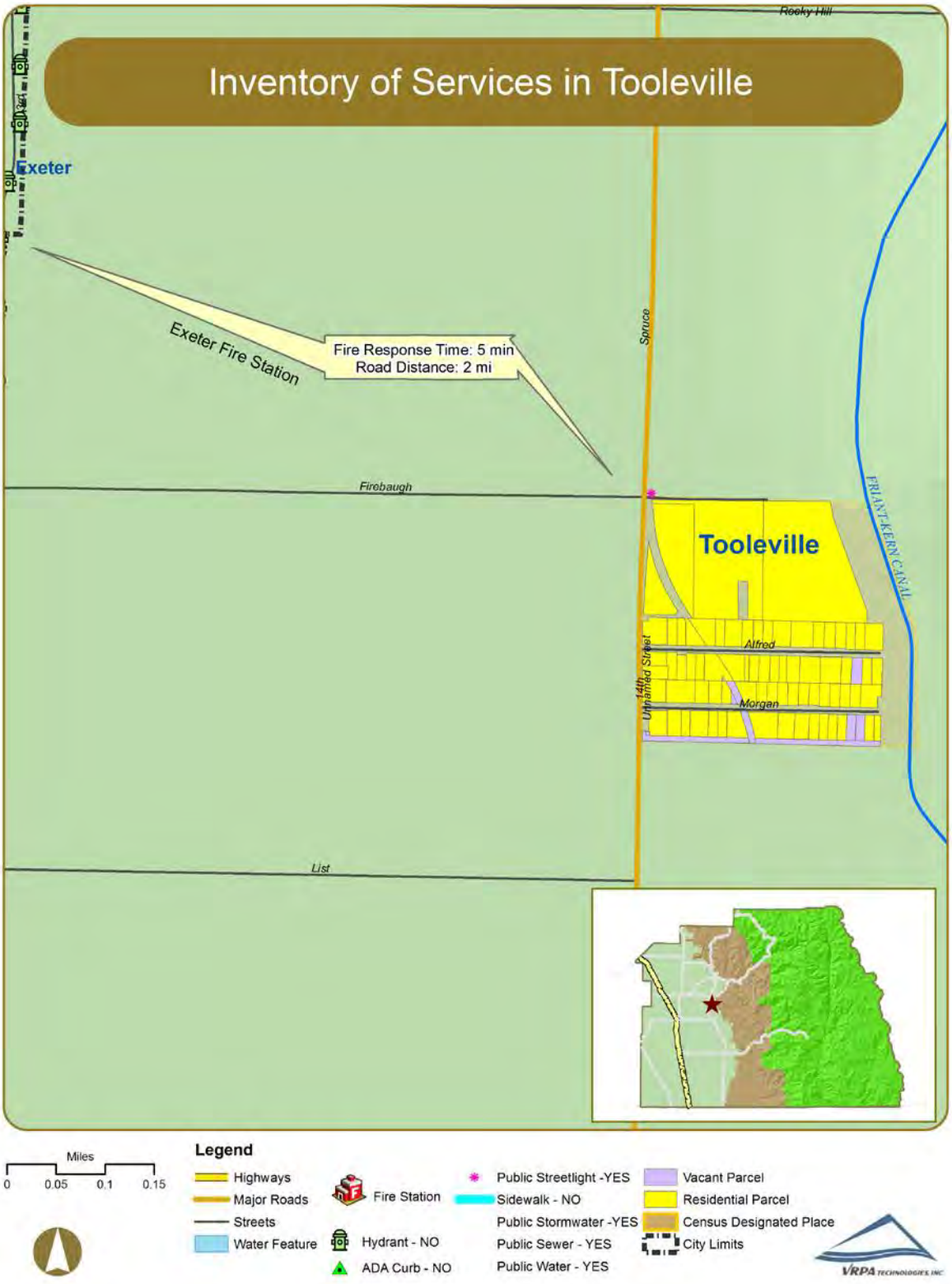


Table 2-19 Streetlight Site Inventory in Tooleville

Streetlight Locations			
Community	**Main Road**	**Crossroad**	**Corner**
Tooleville	E Firebaugh Ave (Ave 276)	Spruce Ave (14th Ave E)	N/E

Figure 2-19 Inventory of Services in Vance

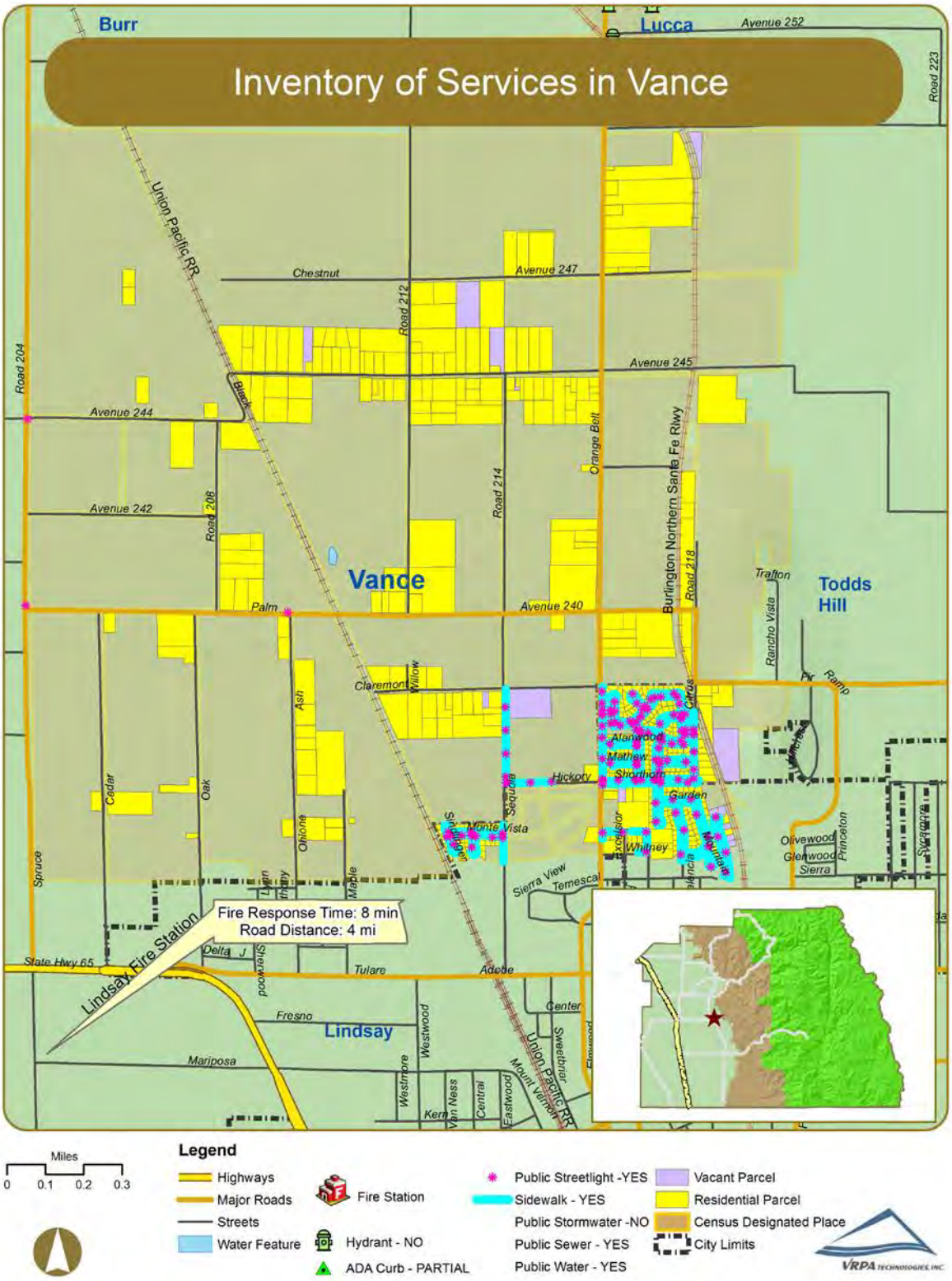


Table 2-20 Streetlight Site Inventory in Vance

Streetlight Locations					
Community	Main Road	Crossroad	Side	Corner	Location Detail
Vance	Alanwood Ct		W	--	cul-de-sac
Vance	Ave 240	Ash Ave	--	N/E	--
Vance	Bond Way	Rosewood St	E	--	--
Vance	Bond Way	north of Rosewood St	E	--	--
Vance	Cottonwood St	between Bond Way and Gale Hill Ave	S	--	--
Vance	Cottonwood St	Bond Way	W	--	--
Vance	Cottonwood St	Gale Hill Ave	N	--	--
Vance	Cottonwood St	between Gale Hill Ave and Homassel St	N	--	--
Vance	Cottonwood St	between Gale Hill Ave and Homassel St	S	--	--
Vance	Cottonwood St	between Gale Hill Ave and Homassel St	N	--	--
Vance	Cottonwood St	between Gale Hill Ave and Homassel St	S	--	--
Vance	Cottonwood St	between Gale Hill Ave and Homassel St	S	--	--
Vance	E Hickory St	Gale Hill Ave	--	N/W	--
Vance	E Hickory St	Hamlin Way	--	N/W	--
Vance	E Hickory St	Hamlin Way	--	S/E	--
Vance	E Hickory St	between Parkside Ave and Gale Hill Ave	N	--	--
Vance	E Hickory St	between Hamlin Way and Bellah Ave	N	--	--
Vance	E Hickory St	between Hamlin Way and Bellah Ave	S	--	--
Vance	E Hickory St	Parkside Ave	--	N/E	--
Vance	E Hickory St	between Road 214 and Parkside Ave	N	--	--
Vance	E Hickory St	between Road 214 and Parkside Ave	N	--	--
Vance	Gale Hill Ave	Alanwood Ct	--	S/W	--
Vance	Gale Hill Ave	Mandarin St	W	--	--
Vance	Gale Hill Ave	Matthew Ct	--	N/W	--
Vance	Gale Hill Ct	north of Cottonwood St	W	--	--
Vance	Gale Hill Ct	cul-de-sac	N	--	cul-de-sac
Vance	Garden Ave	Homassel Ave	N	--	--
Vance	Garden Ave	Mountain View Dr	N	N/W	--
Vance	Hamlin Way	cul-de-sac	W	--	--
Vance	Hamlin Way	Garden Ave	W	--	--
Vance	Hamlin Way	between Hickory St and Matthew Pl	E	--	--
Vance	Hamlin Way	Matthew Pl	W	--	--
Vance	Hamlin Way	between Matthew Pl and Mandarin St	E	--	--
Vance	Homassel Ave	Mountain View Dr	W	--	--
Vance	Homassel Ave	between Mountain View Dr and Garden Ave	W	--	--
Vance	Homassel Ave	between Mountain View Dr and Garden Ave	E	--	--
Vance	Homassel St	Plum St	W	--	--
Vance	Homassel St	Rosewood Ct	E	--	--
Vance	Homassel St	north of Rosewood Ct	W	--	--
Vance	Mandarin St	Hamlin Way	N	--	--
Vance	Mandarin St	between Gale Hill Ave and Hamlin Way	S	--	--
Vance	Mandarin St	between Hamlin Way and Homassel St	S	--	--
Vance	Mandarin St	Homassel Ave	S	--	--
Vance	Matthew Ct	cul-de-sac	W	--	cul-de-sac
Vance	Matthew Pl	cul-de-sac	E	--	cul-de-sac
Vance	Matthew Pl	east of Hamlin Way	N	--	--

Table 2-20 Streetlight Site Inventory in Vance (continued)

Streetlight Locations					
Community	Main Road	Crossroad	Side	Corner	Location Detail
Vance	Monte Vista St	between Sindlinger St and Sherman Ct	S	--	--
Vance	Monte Vista St	Sherman Ct	N	--	--
Vance	Monte Vista St	between Sherman Ct and Road 214	S	--	--
Vance	Mountain Cir	cul-de-sac	S	--	cul-de-sac
Vance	Mountain View Dr	Mountain Cir	E	S/E	--
Vance	Mountain View Dr	between Mountain Cir and Garden Ave	E	--	--
Vance	Mountain View Dr	between Mountain Cir and Garden Ave	W	--	--
Vance	Orange Ave	cul-de-sac	N	--	cul-de-sac
Vance	Orange Ave	north of Sierra View St	W	--	--
Vance	Orange Ave	north of Sierra View St	E	--	--
Vance	Orange Ave	north of Sierra View St	W	--	--
Vance	Parkside Ave	Rosewood St	E	S/E	--
Vance	Parkside Ave	north of Rosewood St	E	--	--
Vance	Parkside Ave	north of Rosewood St	E	--	--
Vance	Parkside Ave	between Hickory St and Rosewood St	E	--	--
Vance	Parkside Ave	between Hickory St and Rosewood St	E	--	--
Vance	Parkside Ave	between Hickory St and Rosewood St	E	--	--
Vance	Rd 204	Ave 240	--	N/E	--
Vance	Rd 204	Ave 244	--	S/W	--
Vance	Rd 214	E Hickory St	E	N/E	--
Vance	Rd 214	E Hickory St	E	--	--
Vance	Rd 214	north of Hickory St	E	--	--
Vance	Rd 214	north of Hickory St	E	--	--
Vance	Rd 214	north of Hickory St	E	--	--
Vance	Rd 218 (N Bellah Ave)	Plum St	W	S/W	--
Vance	Rd 218 (N Bellah Ave)	between Hickory St and Plum St	W	--	--
Vance	Rd 218 (N Bellah Ave)	between Hickory St and Plum St	W	--	--
Vance	Rosewood Ct	west of Homassel St	N	--	--
Vance	Rosewood Ct	west of Homassel St	W	--	--
Vance	Sheman Ct	south of Monte Vista St	W	--	--
Vance	Sindinger St	south of Monte Vista St	W	--	--
Vance	Sindinger St	south of Monte Vista St	E	--	--

Table 2-21 Sidewalk Site Inventory in Vance

Sidewalk Locations				
Community	Street	From *	To *	Side
Vance	AlanWood Ct	Gale Hill Ave	cul-de-sac	Both
Vance	Bond Way	Rosewood St	Cottonwood St	W
Vance	Bond Way	Rosewood St	Cottonwood St	E
Vance	Bond Way	Rosewood St	cul-de-sac	Both
Vance	Cottonwood St	Bond Way	Homassel St	Both
Vance	E Hickory St	Gale Hill Ave	Hamlin Way	N
Vance	E Hickory St	Hamlin Way	Rd 216	S
Vance	E Hickory St	Hamlin Way	Rd 218	N

Table 2-21 Sidewalk Inventory in Vance (continued)

Sidewalk Locations				
Community	Street	From *	To *	Side
Vance	E Hickory St	Parkside Ave	Gale Hill Ave	N
Vance	E Hickory St	Parkside Ave	Hamlin Way	S
Vance	E Hickory St	Rd 214	670' east	N
Vance	Gale Hill Ave	Alanwood Ct	Mandarin St	W
Vance	Gale Hill Ave	E Hickory St	Mandarin St	E
Vance	Gale Hill Ave	E Hickory St	Matthew Ct	W
Vance	Gale Hill Ave	Mandarin St	Cottonwood St	E
Vance	Gale Hill Ave	Matthew Ct	Alanwood Ct	W
Vance	Gale Hill Ct	Cottonwood St	cul-de-sac	Both
Vance	Garden Ave	Hamlin Ave	Homassel Ave	S
Vance	Garden Ave	Hamlin Ave	Mountain View Dr	S
Vance	Garden Ave	Homassel Ave	Mountain View Dr	N
Vance	Hamlin Ave	Garden Ave	cul-de-sac	Both
Vance	Hamlin Ave	Garden Ave	E Hickory St	W
Vance	Hamlin Ave	Garden Ave	E Hickory St	E
Vance	Hamlin Way	E Hickory St	Mandarin St	W
Vance	Hamlin Way	E Hickory St	Matthew Pl	E
Vance	Hamlin Way	Matthew Pl	Mandarin St	E
Vance	Hamlin Way	Whitney St	Monte Vista Dr	W
Vance	Homassel Ave	Garden Ave	Mountain View Dr	E
Vance	Homassel Ave	Garden Ave	Mountain View Dr	W
Vance	Homassel St	Manderin St	Plum St	E
Vance	Homassel St	Manderin St	Rosewood Ct	W
Vance	Homassel St	Plum St	Cottonwood St	E
Vance	Homassel St	Rosewood Ct	Cottonwood St	W
Vance	Mandarin St	Gale Hill Ave	Hamlin Way	S
Vance	Mandarin St	Gale Hill Ave	Hamlin Way	N
Vance	Mandarin St	Hamlin Way	Homassel St	S
Vance	Mandarin St	Hamlin Way	Homassel St	N
Vance	Matthew Ct	Gale Hill Ave	cul-de-sac	Both
Vance	Matthew Pl	Hamlin Way	cul-de-sac	Both
Vance	Monte Vista Dr	Bond Way	Hamlin Way	S
Vance	Monte Vista Dr	Parkside Ave	Bond Way	S
Vance	Monte Vista Dr	Shaman Ct	Rd 214	S
Vance	Monte Vista Dr	Sindinger St	Rd 214	N
Vance	Monte Vista Dr	Sindinger St	Shaman Ct	S
Vance	Mountain Cir	Mountain View Dr	cul-de-sac	Both
Vance	Mountain View Dr	Garden Ave	Homassel Ave	W
Vance	Mountain View Dr	Garden Ave	Mountain Cir	E
Vance	Mountain View Dri	Homassel Ave	Mountain Cir	S
Vance	Orange Ave	E Sierra View St	cul-de-sac	Both
Vance	Parkside Ave	E Hickory St	Rosewood St	E
Vance	Parkside Ave	Monte Vista Dr	100' south	E
Vance	Parkside Ave	Rosewood Ave	north of Rosewood Ave	E
Vance	Plum St	Rd 218 (N Bellah Ave)	Homassel St	N
Vance	Plum St	Rd 218 (N Bellah Ave)	Homassel St	S
Vance	Rd 214	E Hickory St	W Fir St	E
Vance	Rd 214	Monte Vista Dr	150' north	W
Vance	Rd 214	Monte Vista Dr	327' south	W

Table 2-21 Sidewalk Site Inventory in Vance (continued)

Sidewalk Locations				
Community	Street	From *	To *	Side
Vance	Rd 218	Plum St	Plum St	W
Vance	Rd 218 (Bellah)	E Hickory St	Plum St	W
Vance	Rosewood Ct	Homassel St	cul-de-sac	Both
Vance	Rosewood St	Parkside Ave	Bond Way	N
Vance	Rosewood St	Parkside Ave	Bond Way	S
Vance	Shaman Ct	Monte Vista Dr	cul-de-sac	Both
Vance	Sindinger St	Monte Vista Dr	cul-de-sac	W
Vance	Sindinger St	Monte Vista Dr	cul-de-sac	E
Vance	Sindinger St	Monte Vista Dr	deadend	E
Vance	Whitney St	Hamlin Way	Bond Way	N

* Sidewalk may be present for only a portion of the noted segment.

Table 2-22 ADA Curb Ramp Site Inventory in Vance

ADA Curb Ramp Locations				
Community	Main Road	Crossroad	Side	Corner
Vance	Bond Way	Cottonwood St	E	N/E
Vance	Bond Way	Rosewood St	--	N/W
Vance	Bond Way	Rosewood St	--	S/W
Vance	Cottonwood St	Gale Hill Ct	--	N/E
Vance	Cottonwood St	Gale Hill Ct	--	S/W
Vance	Cottonwood St	Gale Hill Ave	--	S/E
Vance	Cottonwood St	Gale Hill Ave	--	S/W
Vance	Cottonwood St	Homassel St	--	S/W
Vance	Cottonwood St	at bend	S	--
Vance	E Hickory St	Gale Hill Ave	--	N/W
Vance	E Hickory St	Gale Hill Ave	--	N/E
Vance	E Hickory St	Hamlin Way	--	N/W
Vance	E Hickory St	Hamlin Way	--	N/E
Vance	E Hickory St	Parkside Ave	--	S/E
Vance	E Hickory St	Parkside Ave	--	N/E
Vance	E Hickory St	Bellah Ave	--	N/W
Vance	Gale Hill Ave	Alanwood Ct	--	S/W
Vance	Gale Hill Ave	Alanwood Ct	--	N/W
Vance	Gale Hill Ave	Mandarin St	--	S/E
Vance	Gale Hill Ave	Mandarin St	--	N/E

Table 2-22 ADA Curb Ramp Site Inventory in Vance (continued)

ADA Curb Ramp Locations				
Community	Main Road	Crossroad	Side	Corner
Vance	Gale Hill Ave	Matthew Ct	--	N/W
Vance	Gale Hill Ave	Matthew Ct	--	N/W
Vance	Hamlin Way	Matthew Pl	--	S/E
Vance	Hamlin Way	Matthew Pl	--	N/E
Vance	Homassel St	Plum St	--	S/E
Vance	Homassel St	Plum St	--	N/E
Vance	Homassel St	Rosewood Ct	--	N/W
Vance	Homassel St	Rosewood Ct	--	S/W
Vance	Mandarin St	Hamlin Way	--	S/E
Vance	Mandarin St	Hamlin Way	--	S/W
Vance	Mandarin St	Homassel St	--	N/W
Vance	Monte Vista Dr	Bond Way	--	S/W
Vance	Monte Vista Dr	Hamlin Way	--	S/W
Vance	Monte Vista Dr	Parkside Ave	--	S/E
Vance	Monte Viste Dr	Rd 214	S	S/W
Vance	Monte Viste Dr	Rd 214	N	N/W
Vance	Monte Viste Dr	Sheman Ct	S	S/E
Vance	Monte Viste Dr	Sheman Ct	S	S/W
Vance	Monte Viste Dr	Sindinger St	--	S/E
Vance	Monte Viste Dr	Sindinger St	--	N/E
Vance	Parkside Ave	Rosewood St	E	N/E
Vance	Parkside Ave	Rosewood St	E	S/E
Vance	Rd 214	E Hickory St	E	N/E
Vance	Rd 218 (N Bellah Ave)	Plum St	W	N/W
Vance	Rd 218 (N Bellah Ave)	Plum St	W	S/W
Vance	Whitney St	Hamlin Way	--	N/W

Figure 2-20 Inventory of Services in Venida

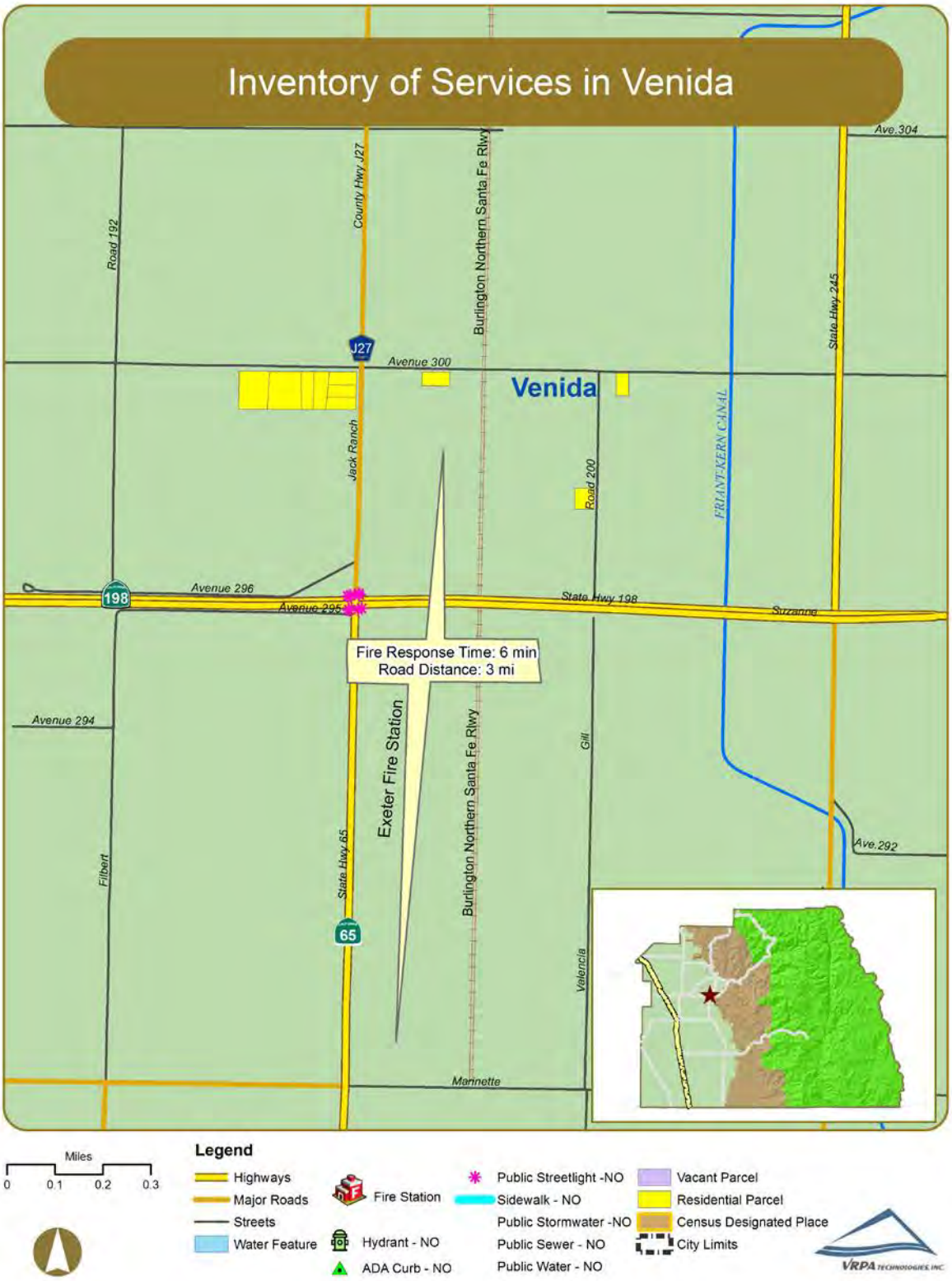


Figure 2-21 Inventory of Services in West Venida

Figure 2-22 Inventory of Services in Worth

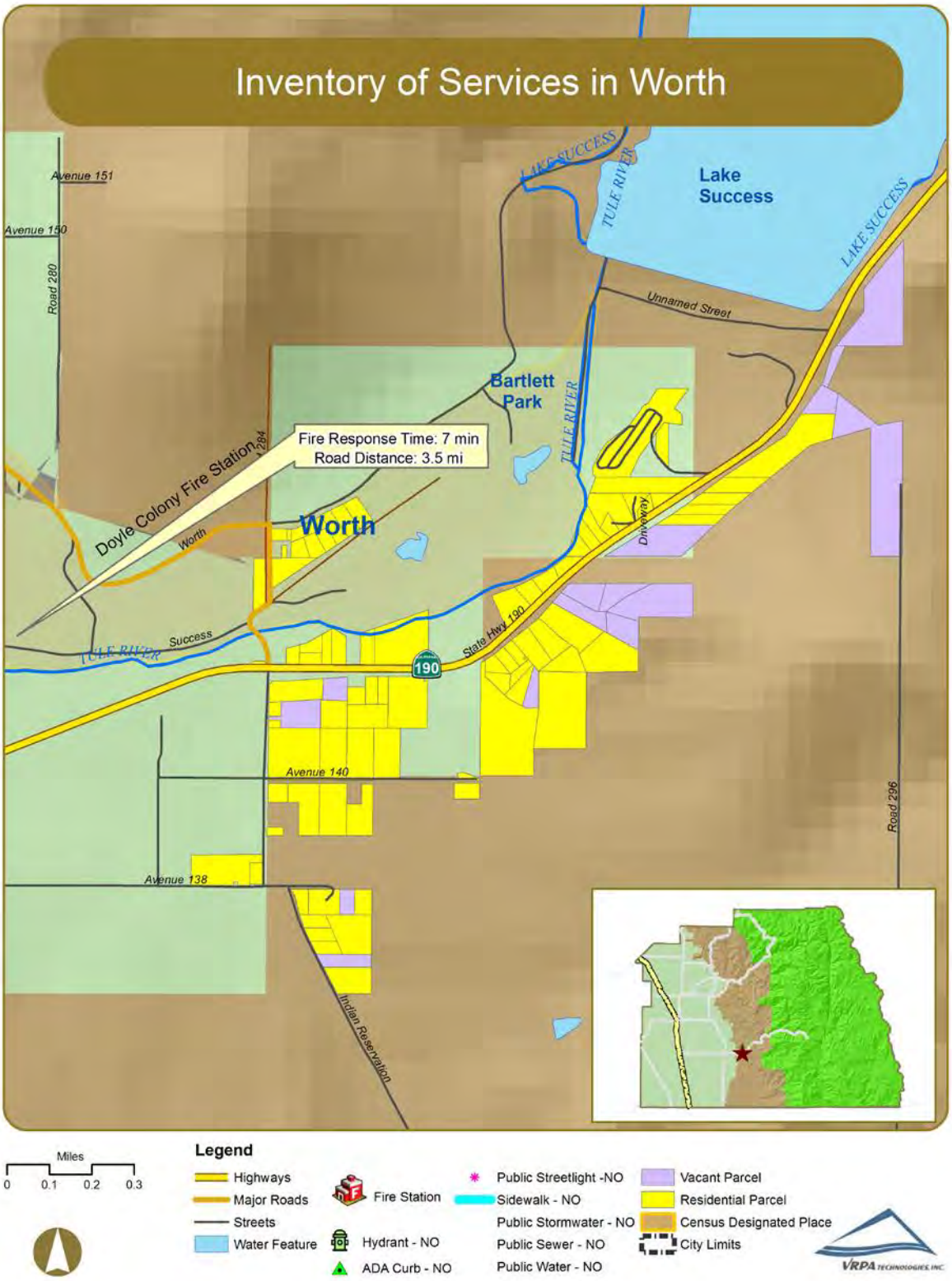


Figure 2-23 Inventory of Services in Yokohl

Figure 2-24 Inventory of Services in Zante

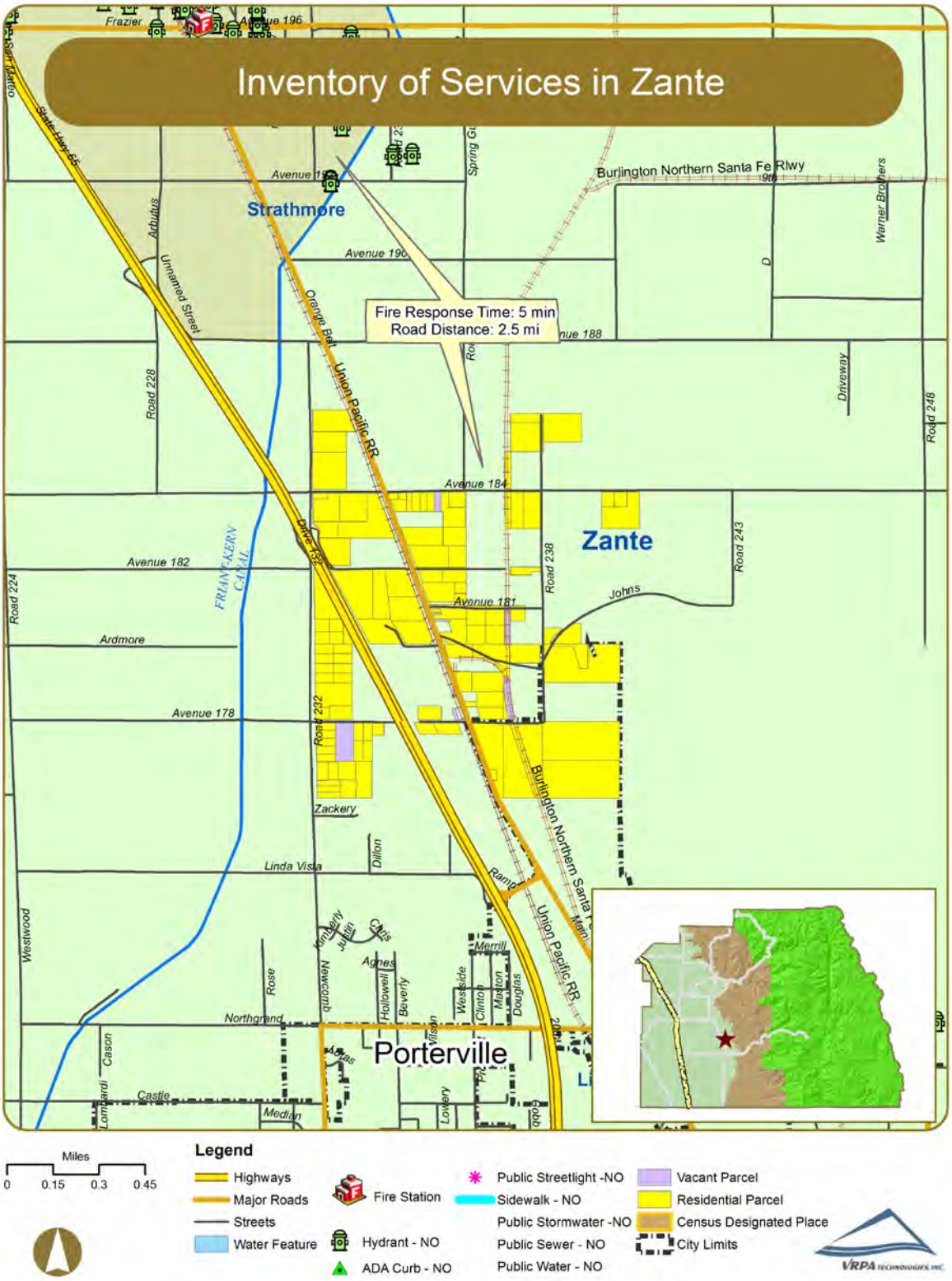


Figure 2-25 Inventory of Services in Badger

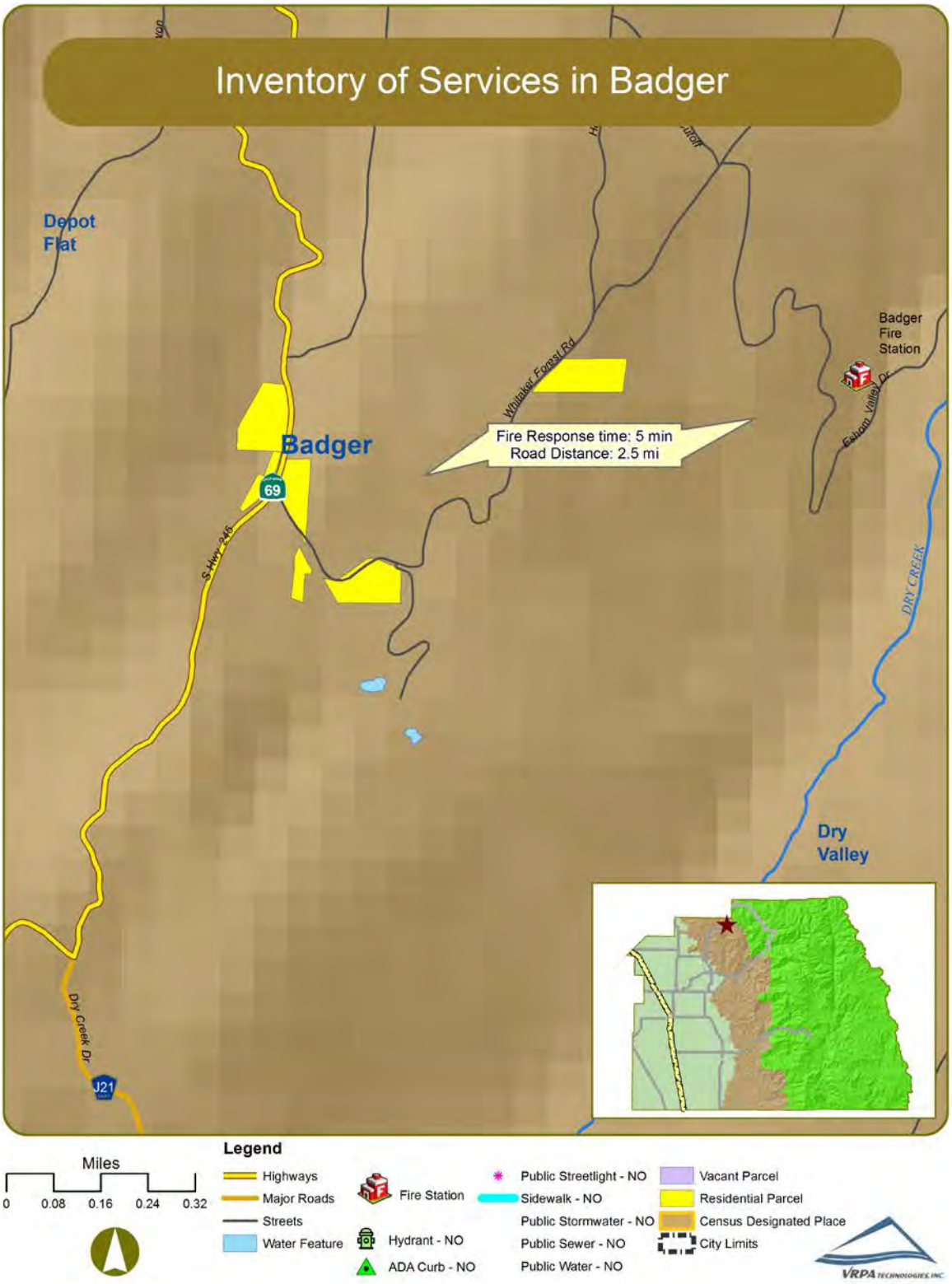


Figure 2-26 Inventory of Services in Elderwood

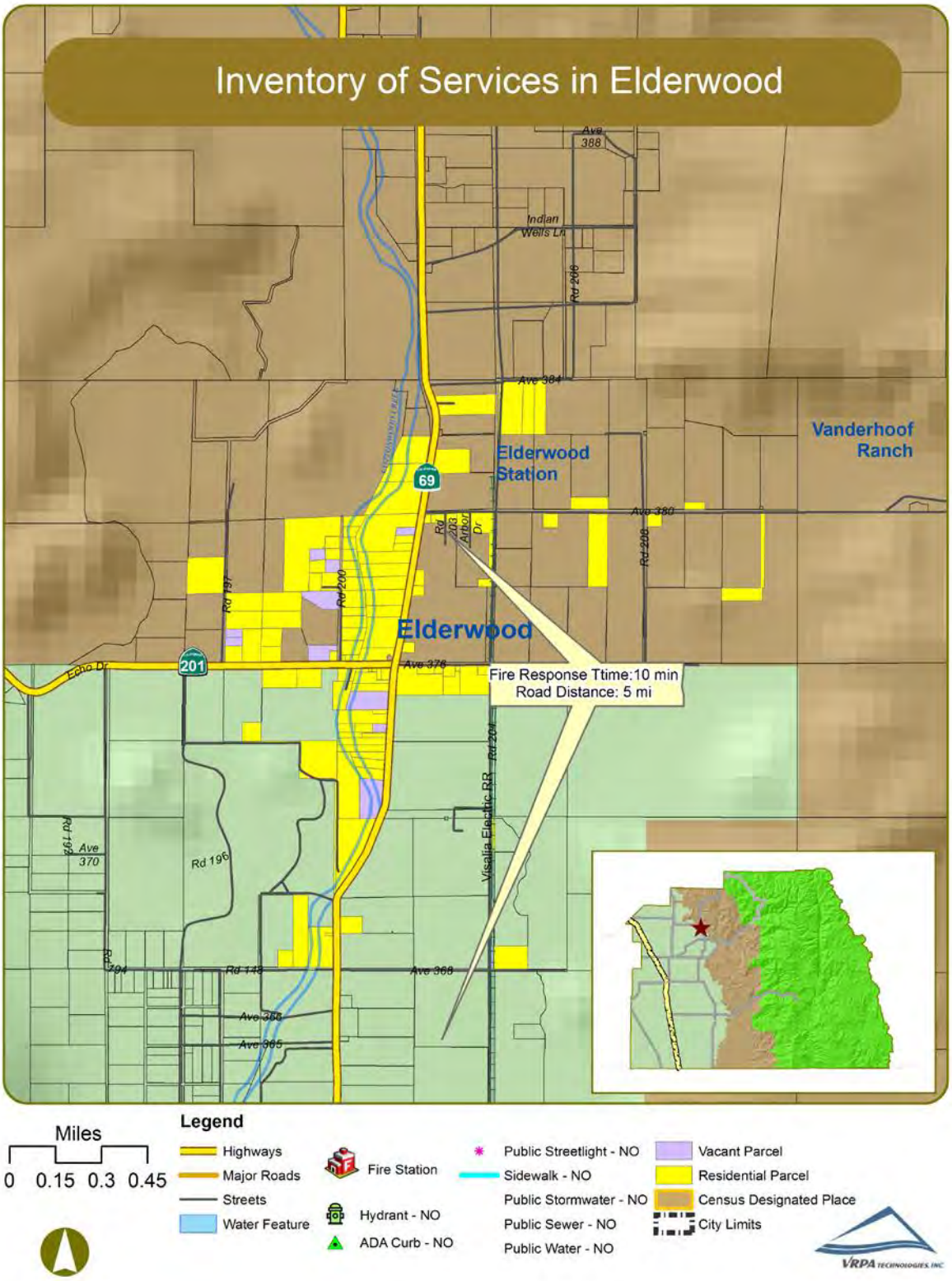


Figure 2-27 Inventory of Services in Globe

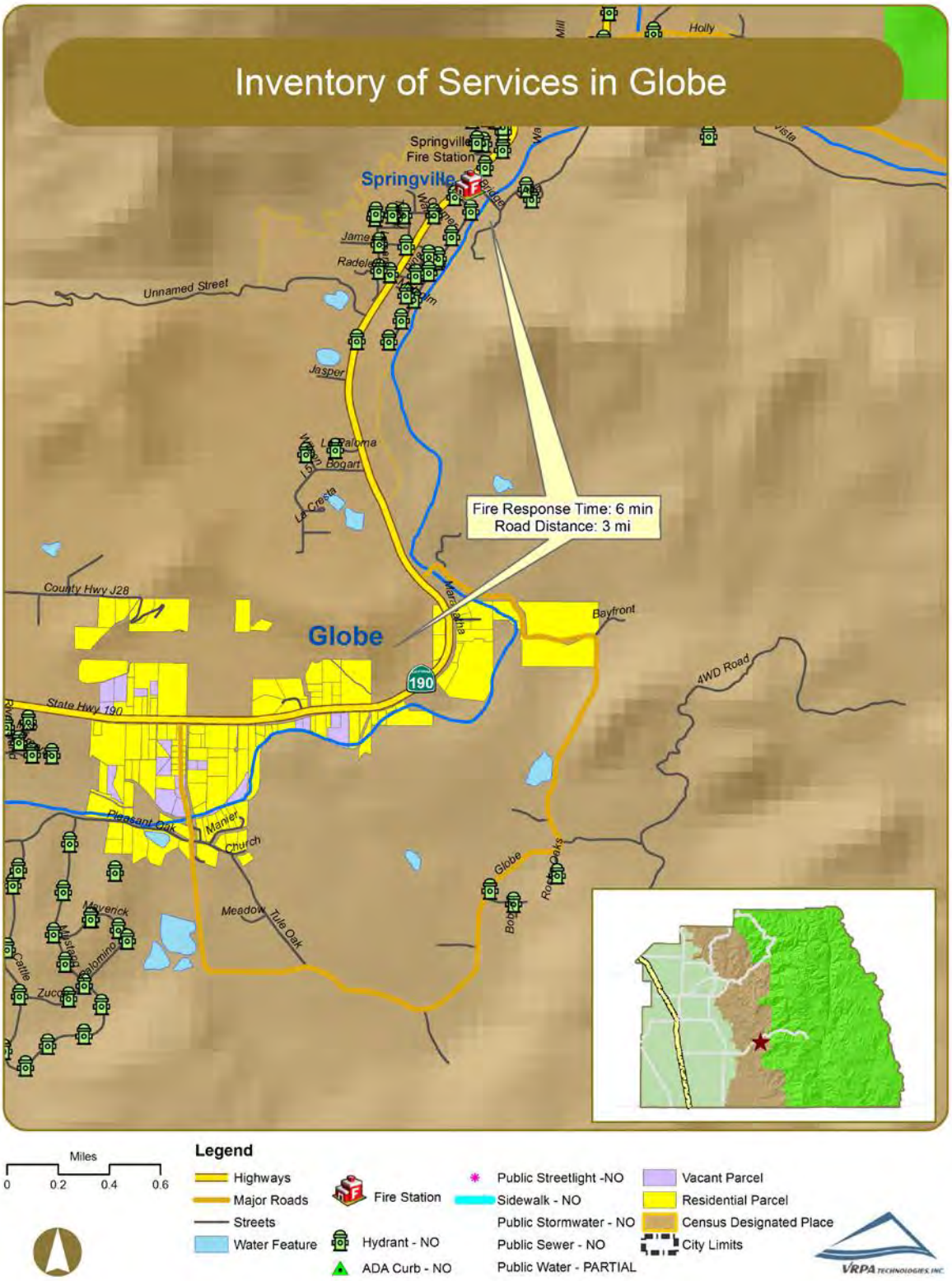


Figure 2-28 Inventory of Services in Balance Rock

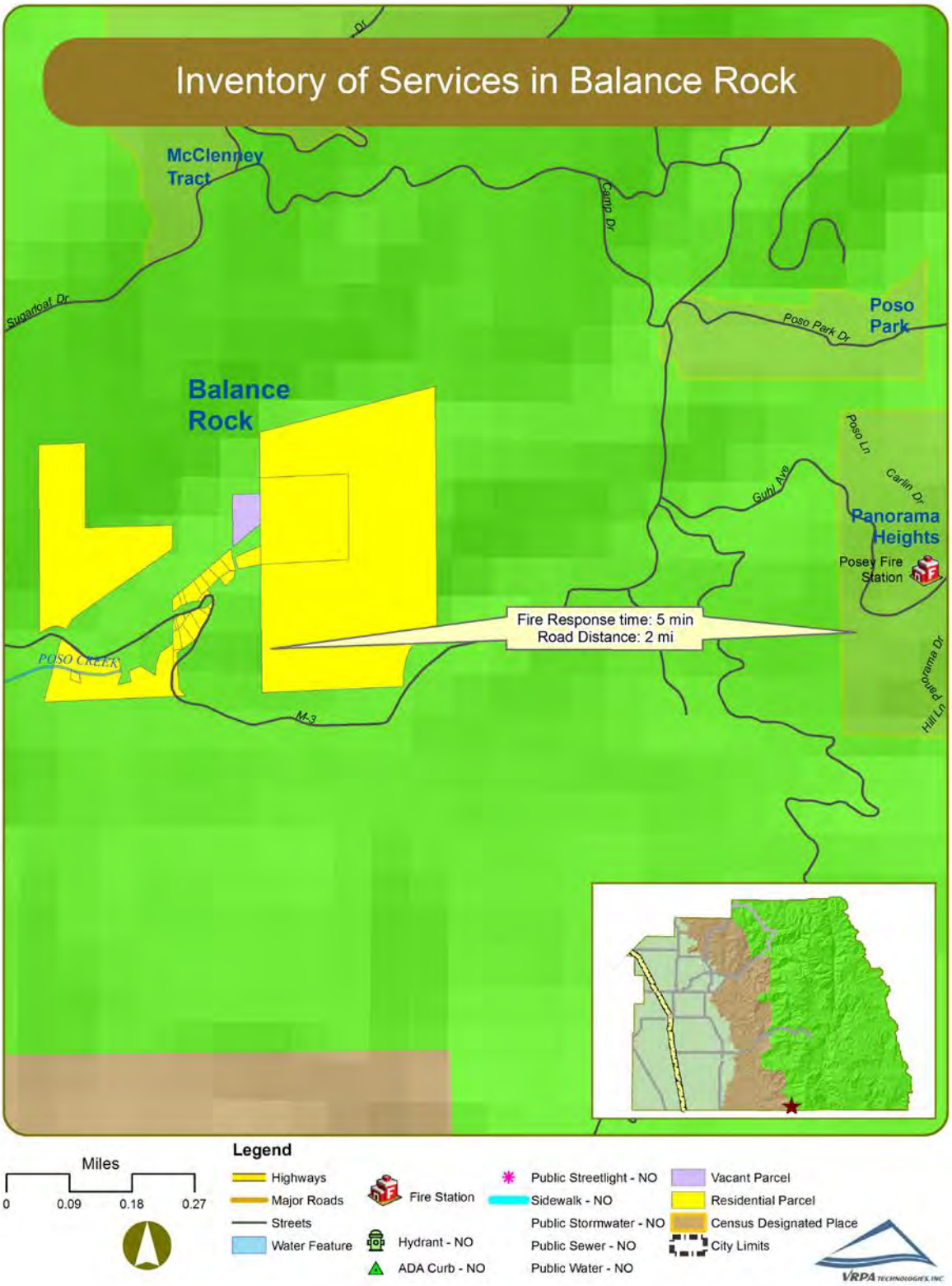


Figure 2-29 Inventory of Services in California Hot Springs

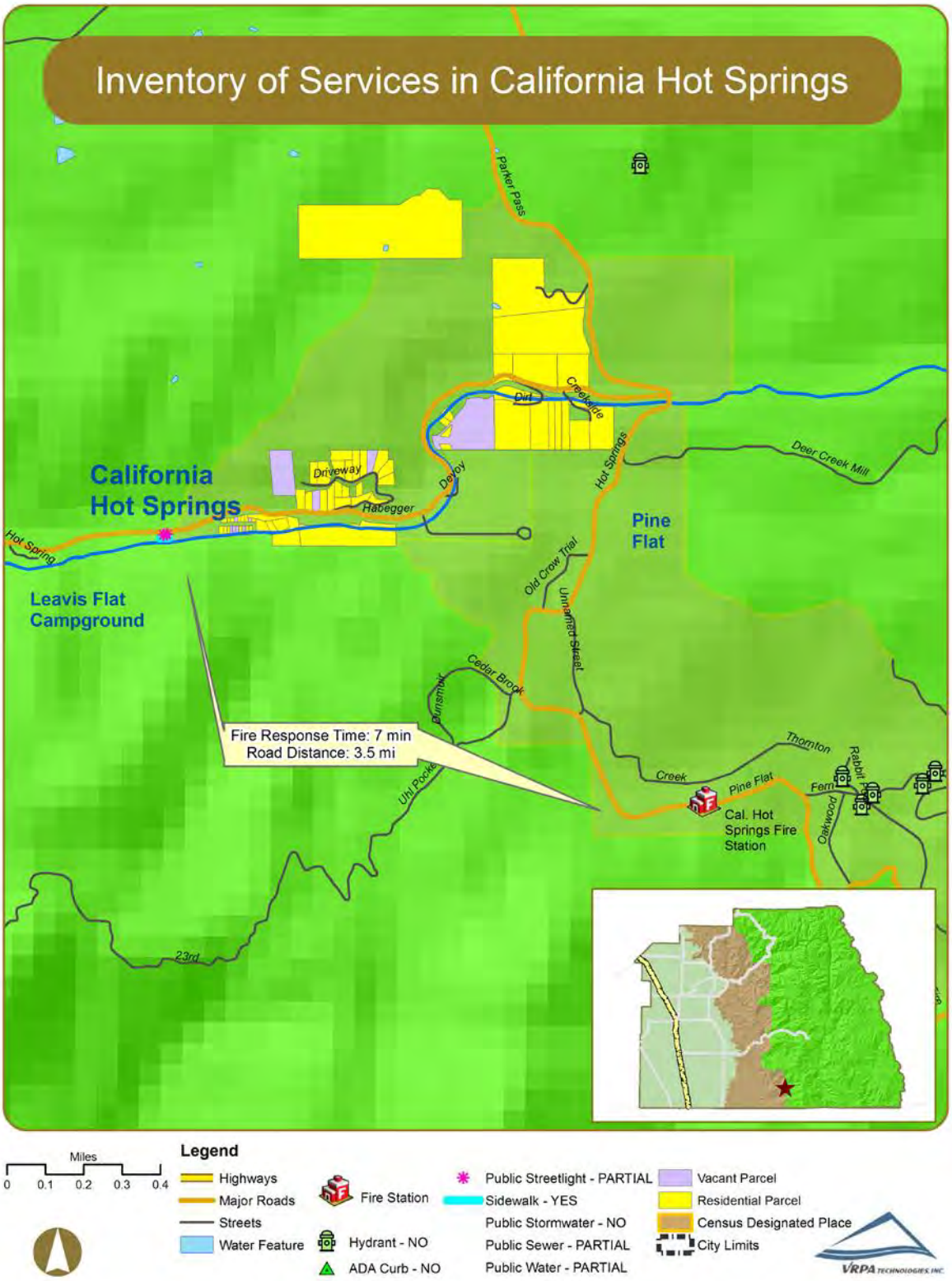


Table 2-23 Streetlight Site Inventory in California Hot Springs

Streetlight Locations					
Community	Main Road	Crossroad	Side	Corner	Location Detail
California Hot Springs	M-56	--	S		42177 Hot Spings Dr, CA Hot Spings Resort parking*
California Hot Springs	M-56	--	S		42177 Hot Spings Dr, CA Hot Spings Resort parking*

Table 2-24 Sidewalk Site Inventory in California Hot Springs

Sidewalk Locations				
Community	Street	From	To	Side
California Hot Springs	M 56	California Hot Springs Resort Parking Lot	--	S

Figure 2-30 Inventory of Services in Camp Nelson

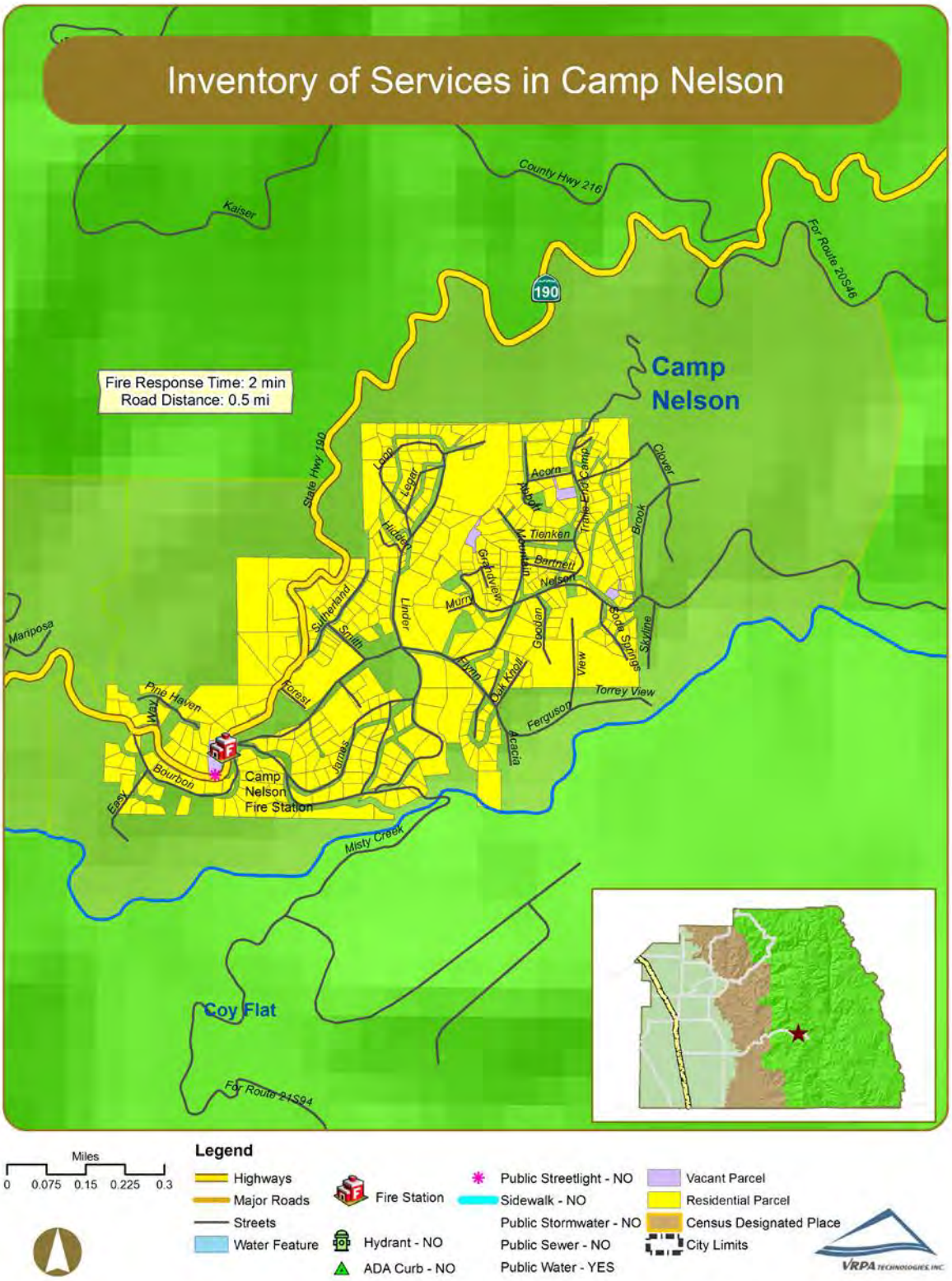


Figure 2-31 Inventory of Services in Cedar Slope

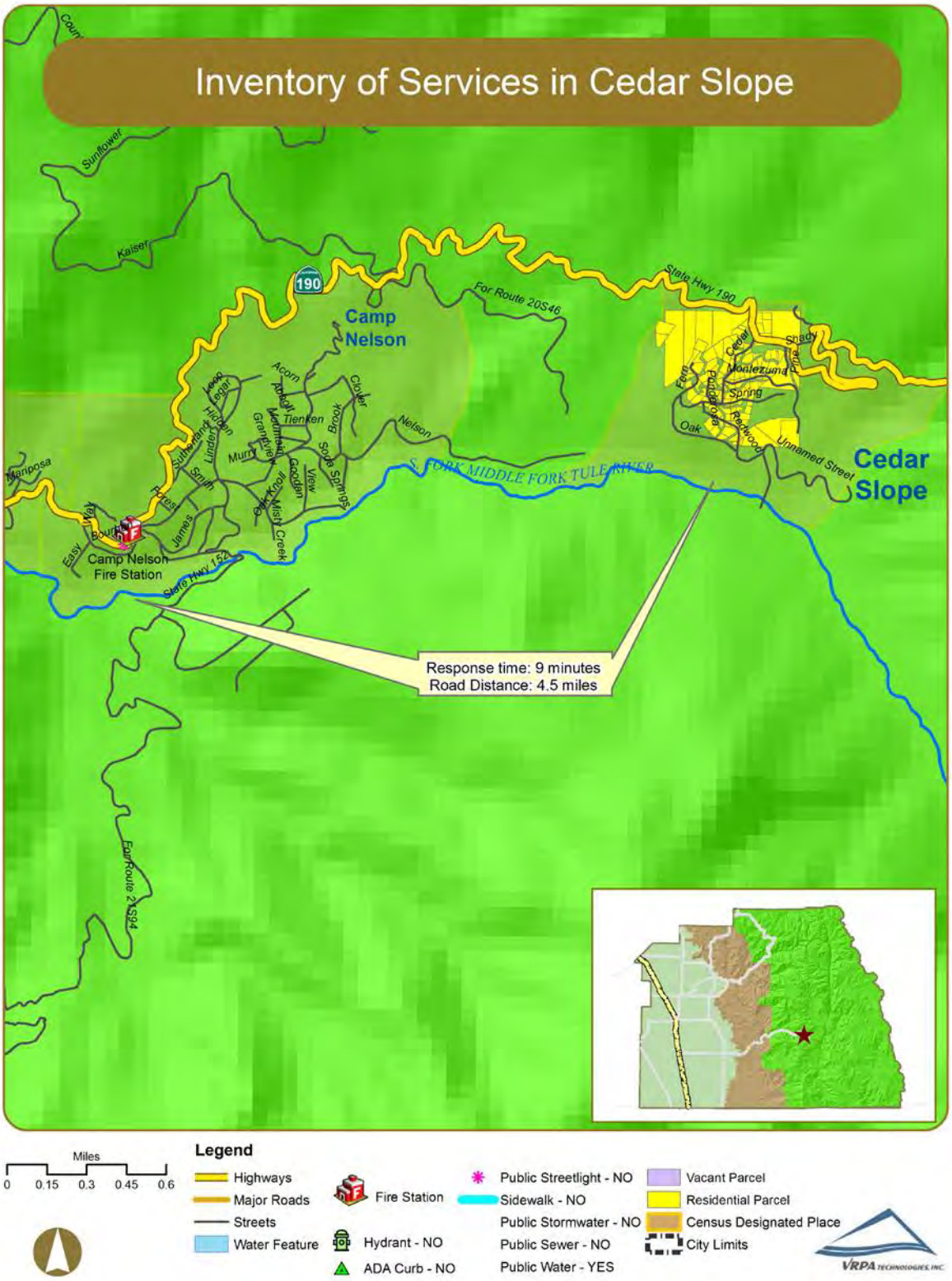


Figure 2-32 Inventory of Services in Fairview

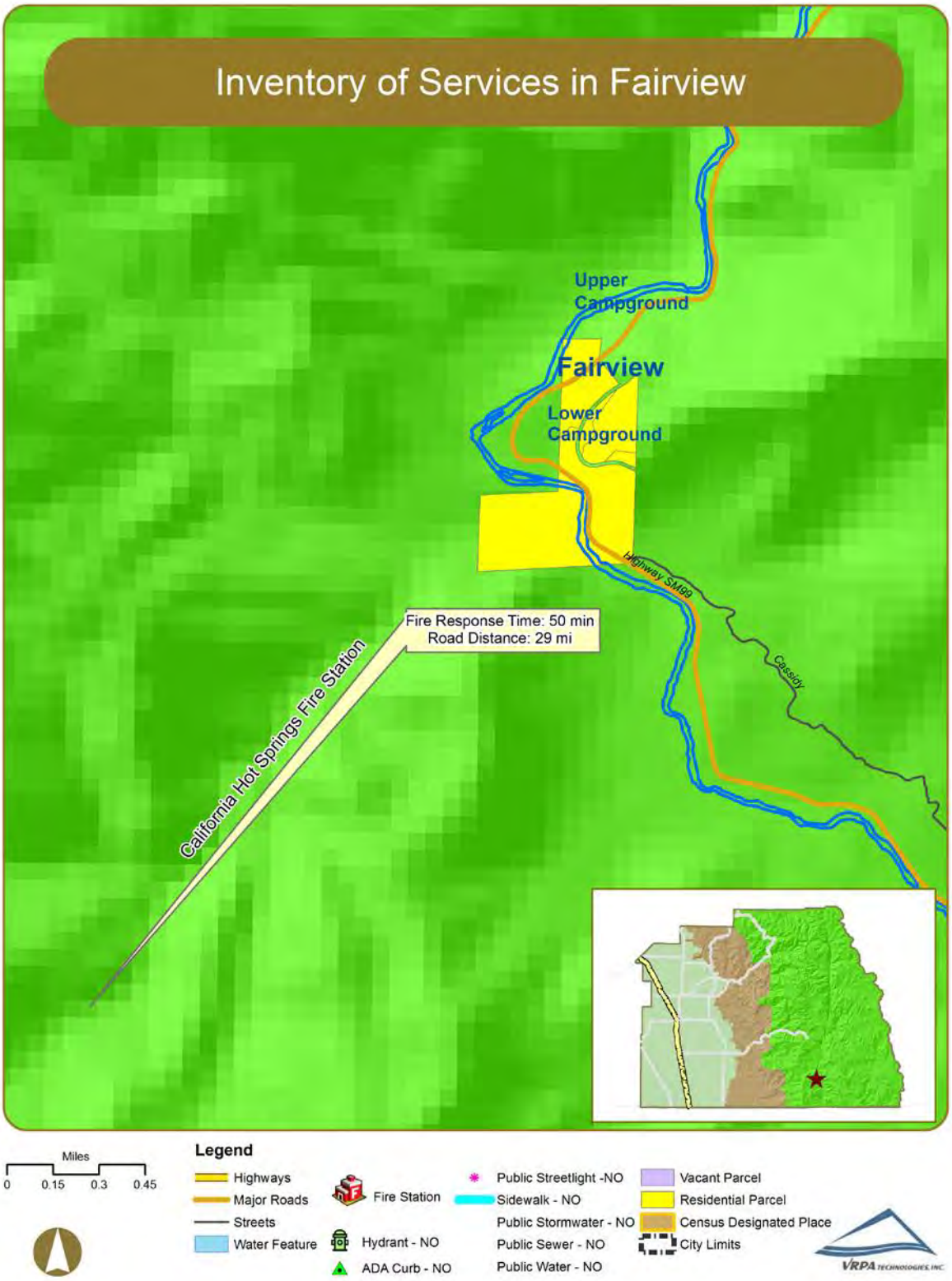


Figure 2-33 Inventory of Services in Hartland

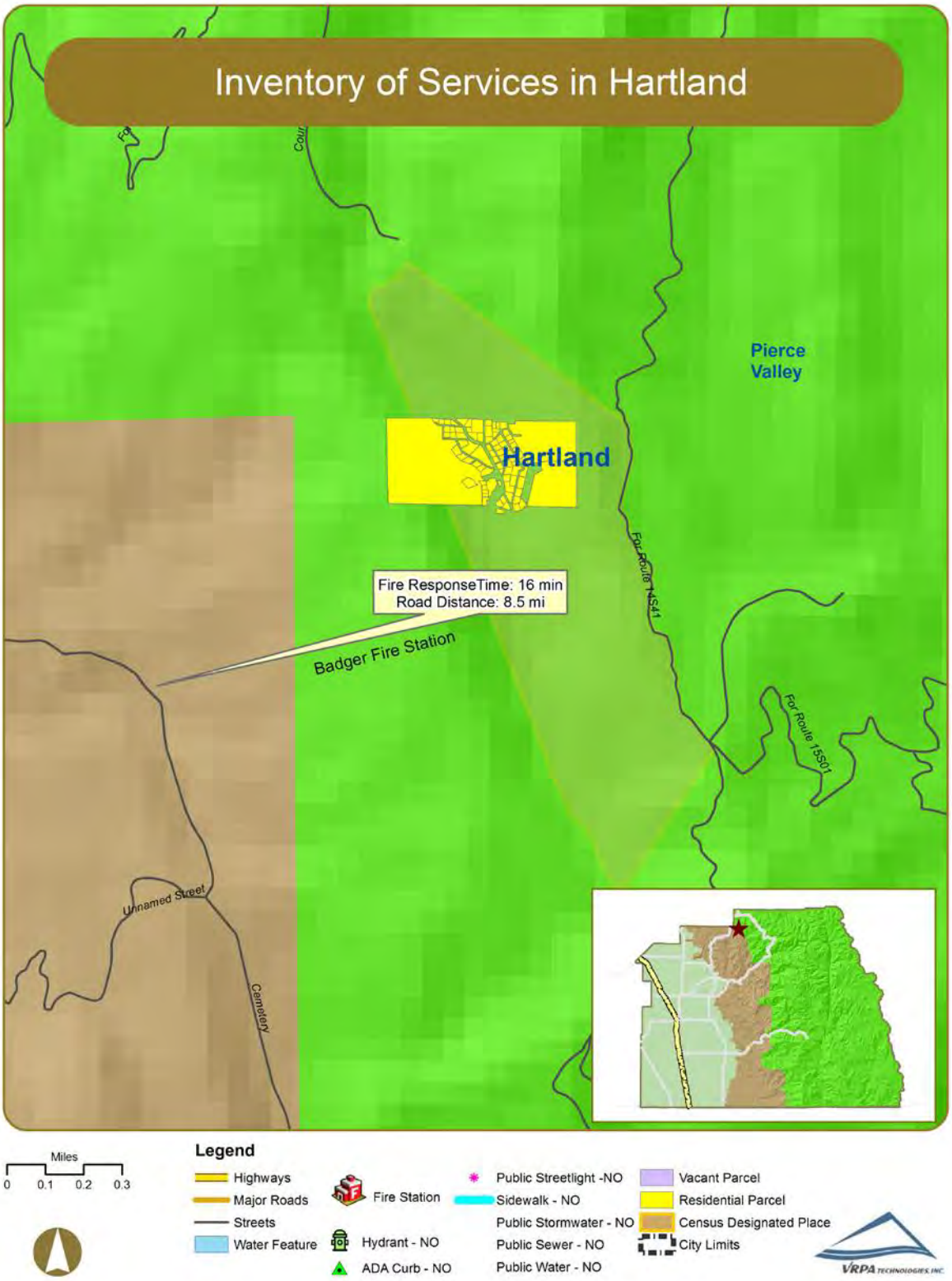


Figure 2-34 Inventory of Services in Idlewild

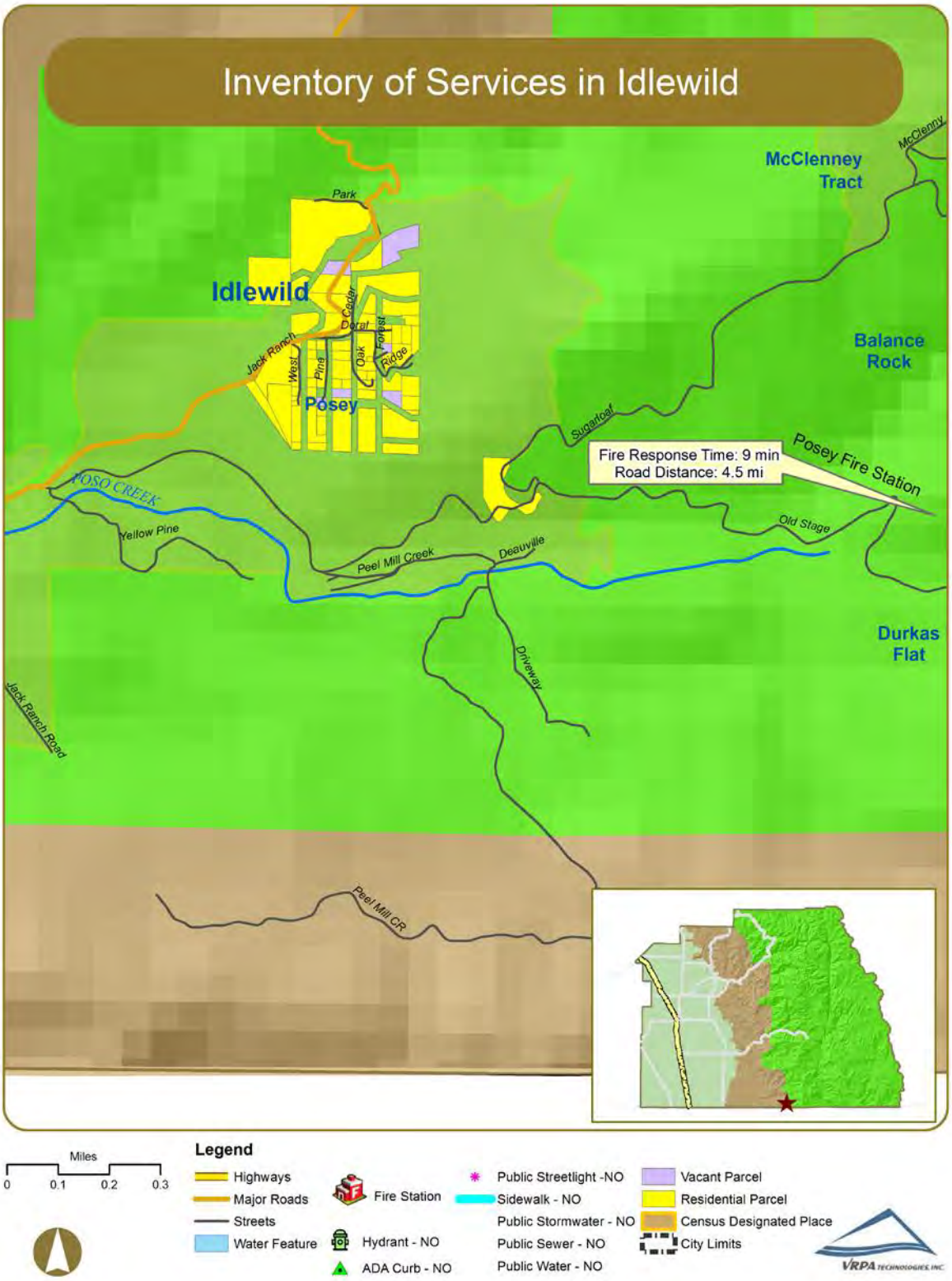


Figure 2-35 Inventory of Services in Johnsondale

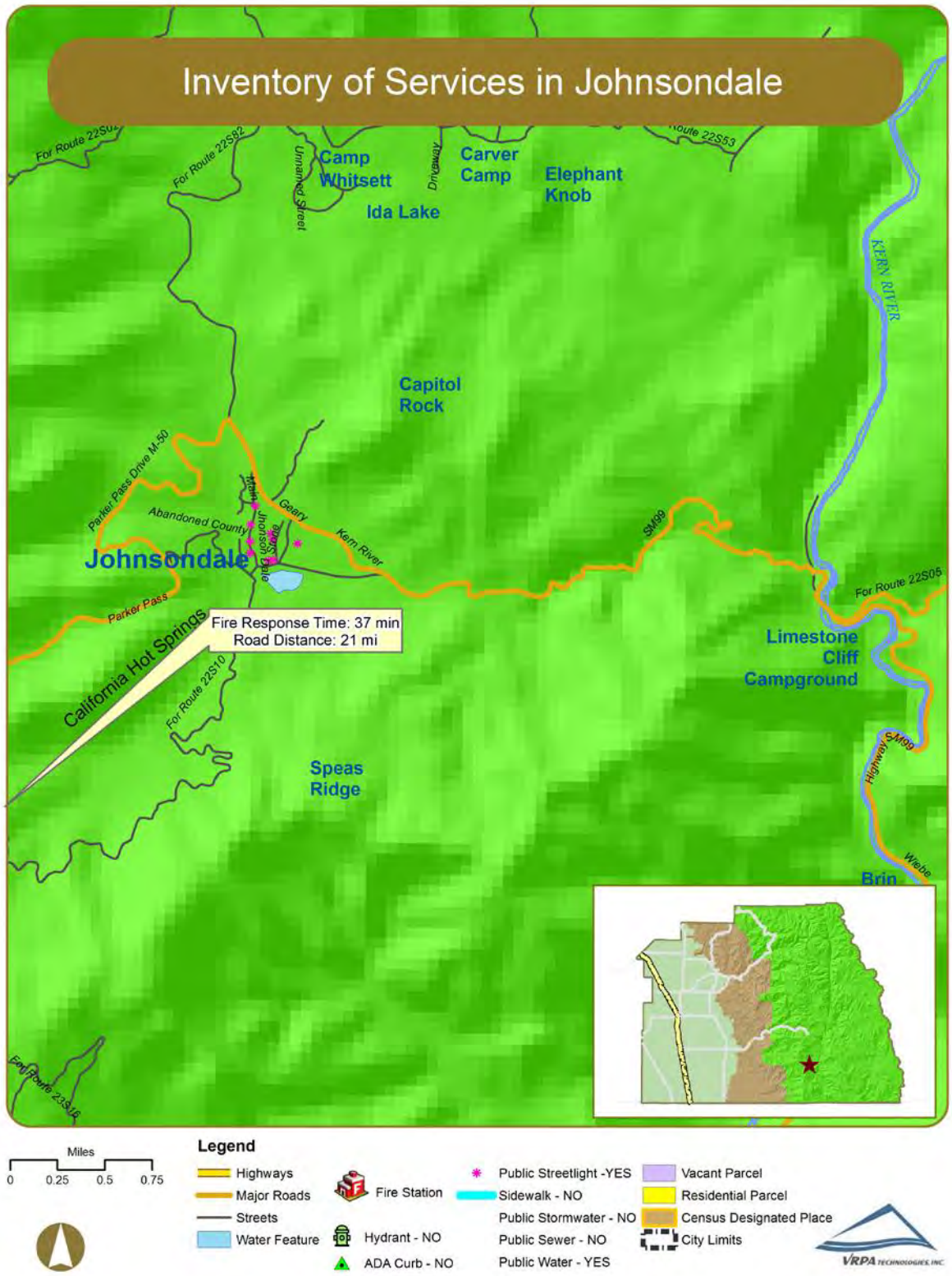


Table 2-25 Streetlight Site Inventory in Johnsondale

Streetlight Locations			
Community	**Main Road**	**Crossroad**	**Side**
Johnsondale	Main St	between County Rd and north end	E
Johnsondale	Main St	between County Rd and north end	E
Johnsondale	Main St	between County Rd and north end	W
Johnsondale	Main St	between County Rd and north end	W
Johnsondale	Ranch Entrance	west of Johnsondale Blvd	N
Johnsondale	Ranch Entrance	west of Johnsondale Blvd	S
Johnsondale	School St	north of Skunk Hollow	W
Johnsondale	School St	north of Skunk Hollow	E

Figure 2-36 Inventory of Services in Kennedy Meadows

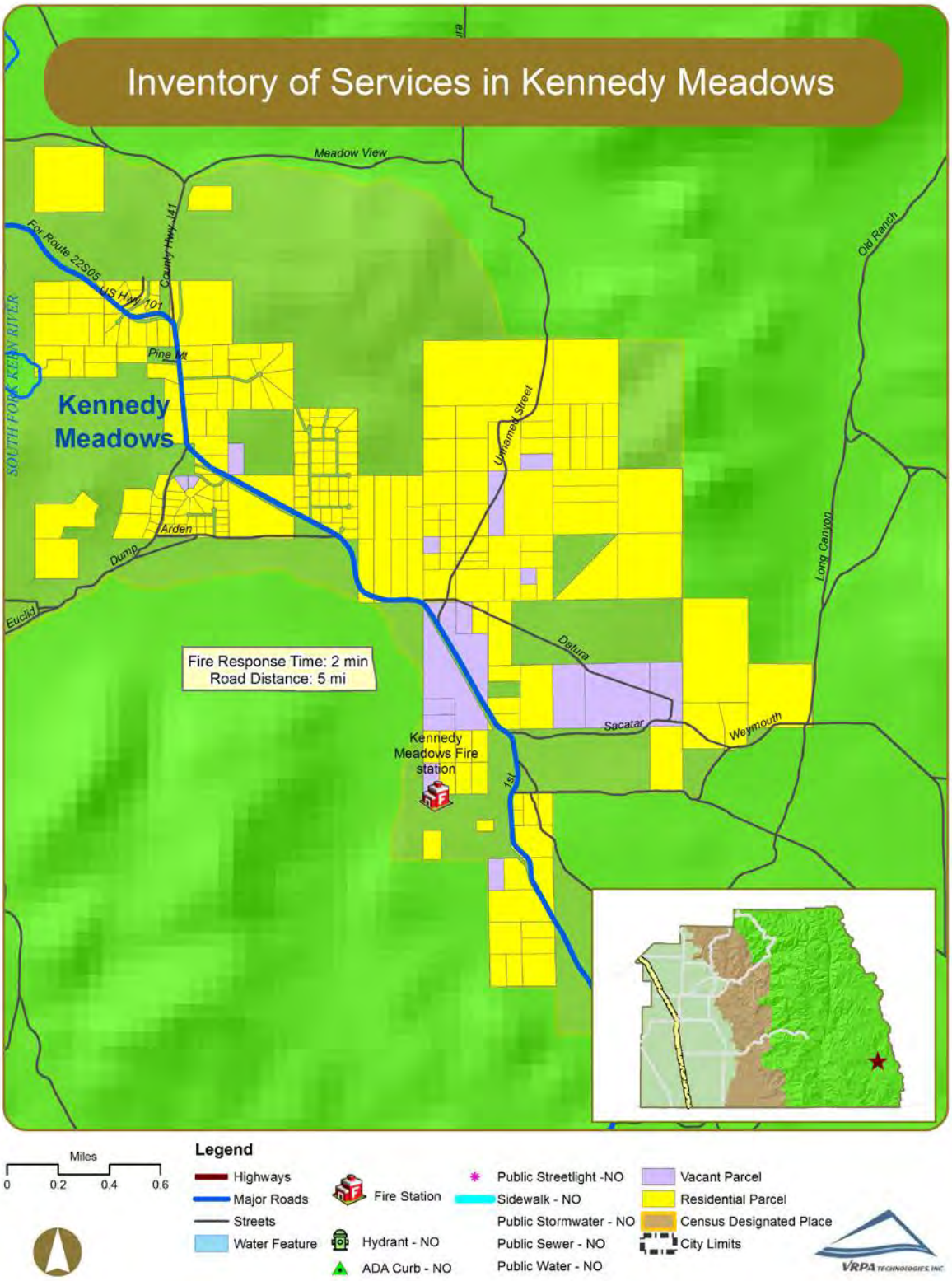


Figure 2-37 Inventory of Services in Panorama Heights

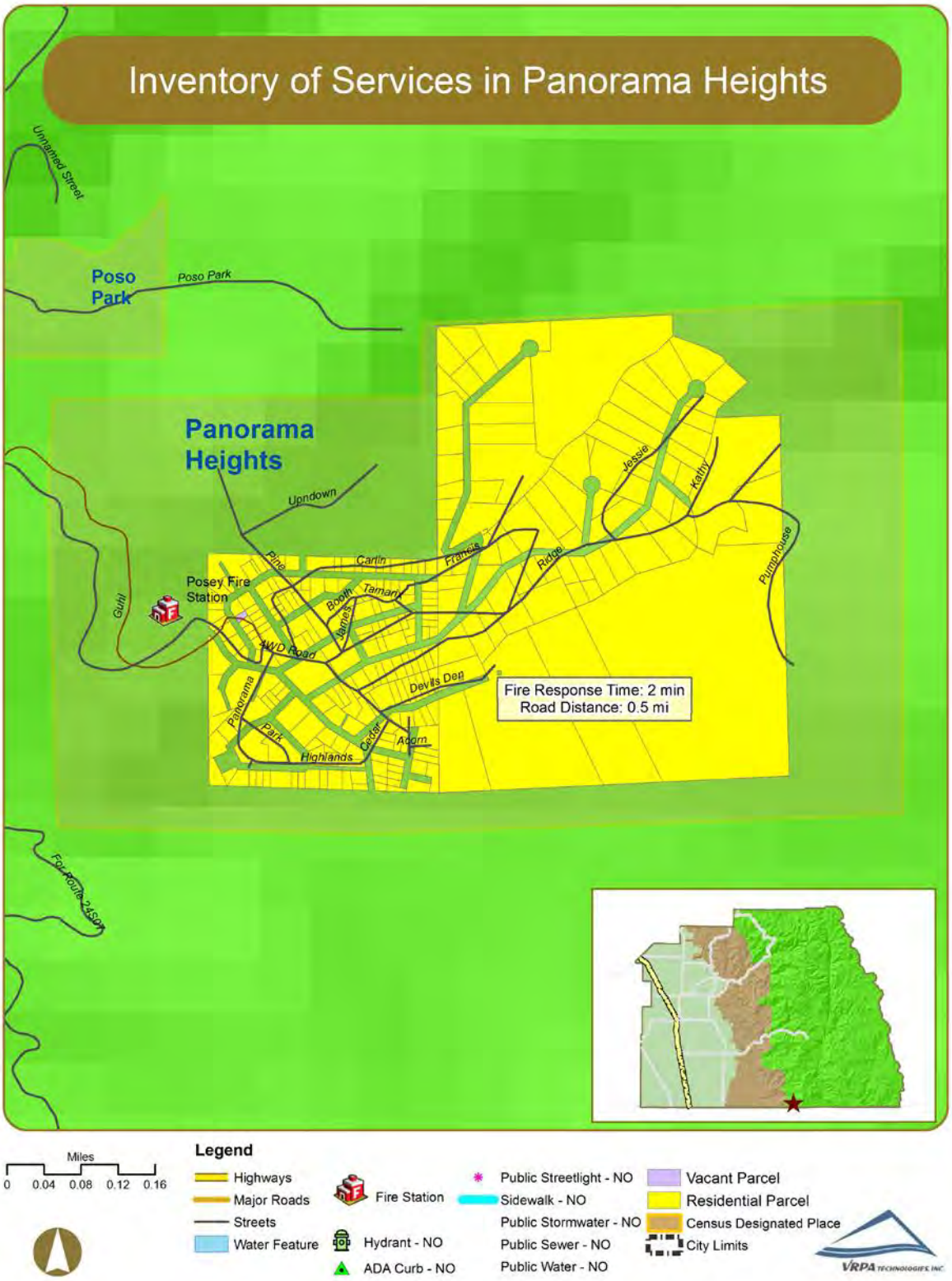


Figure 2-38 Inventory of Services in Pine Flat

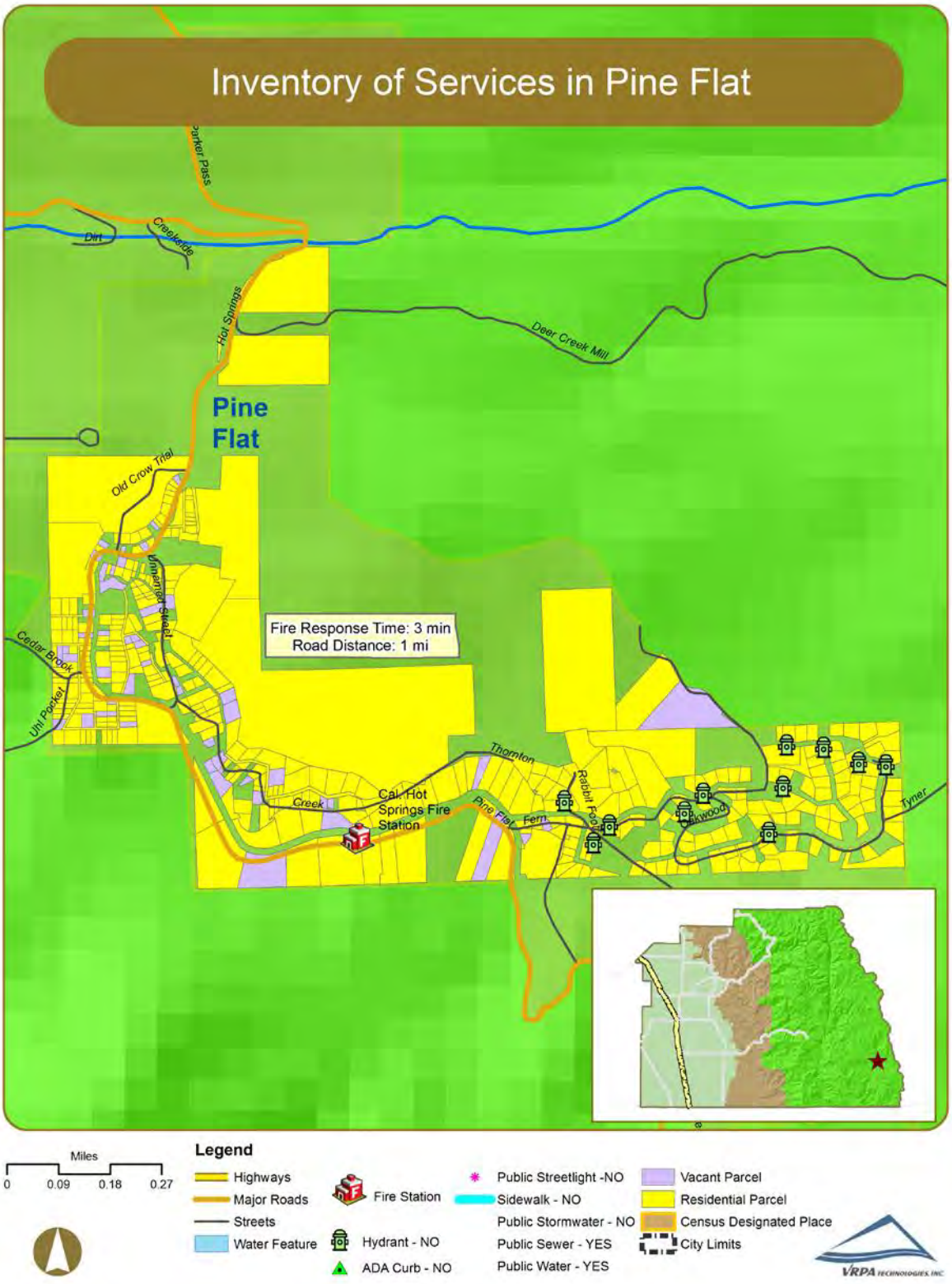


Figure 2-39 Inventory of Services in Ponderosa

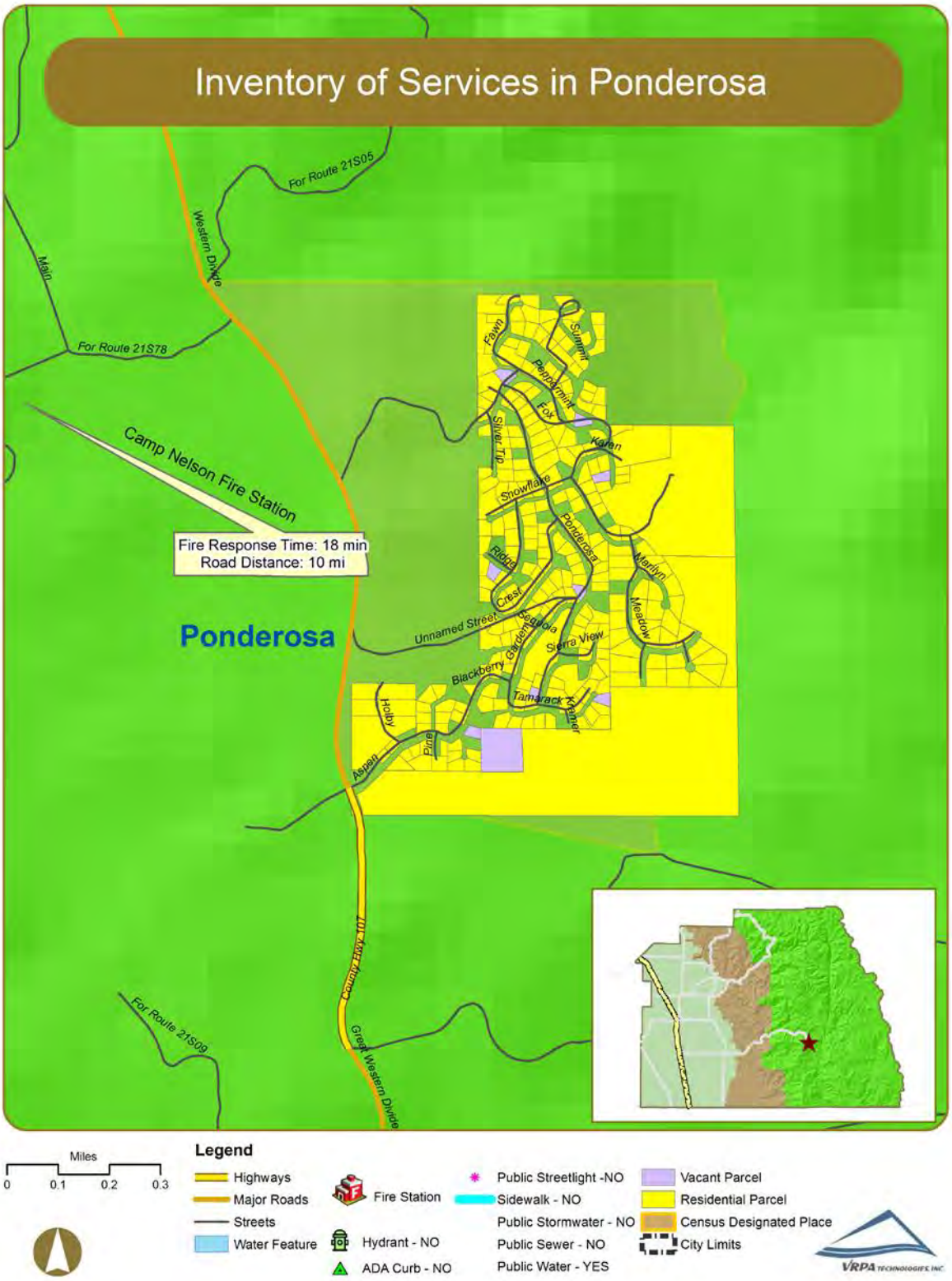


Figure 2-40 Inventory of Services in Posey

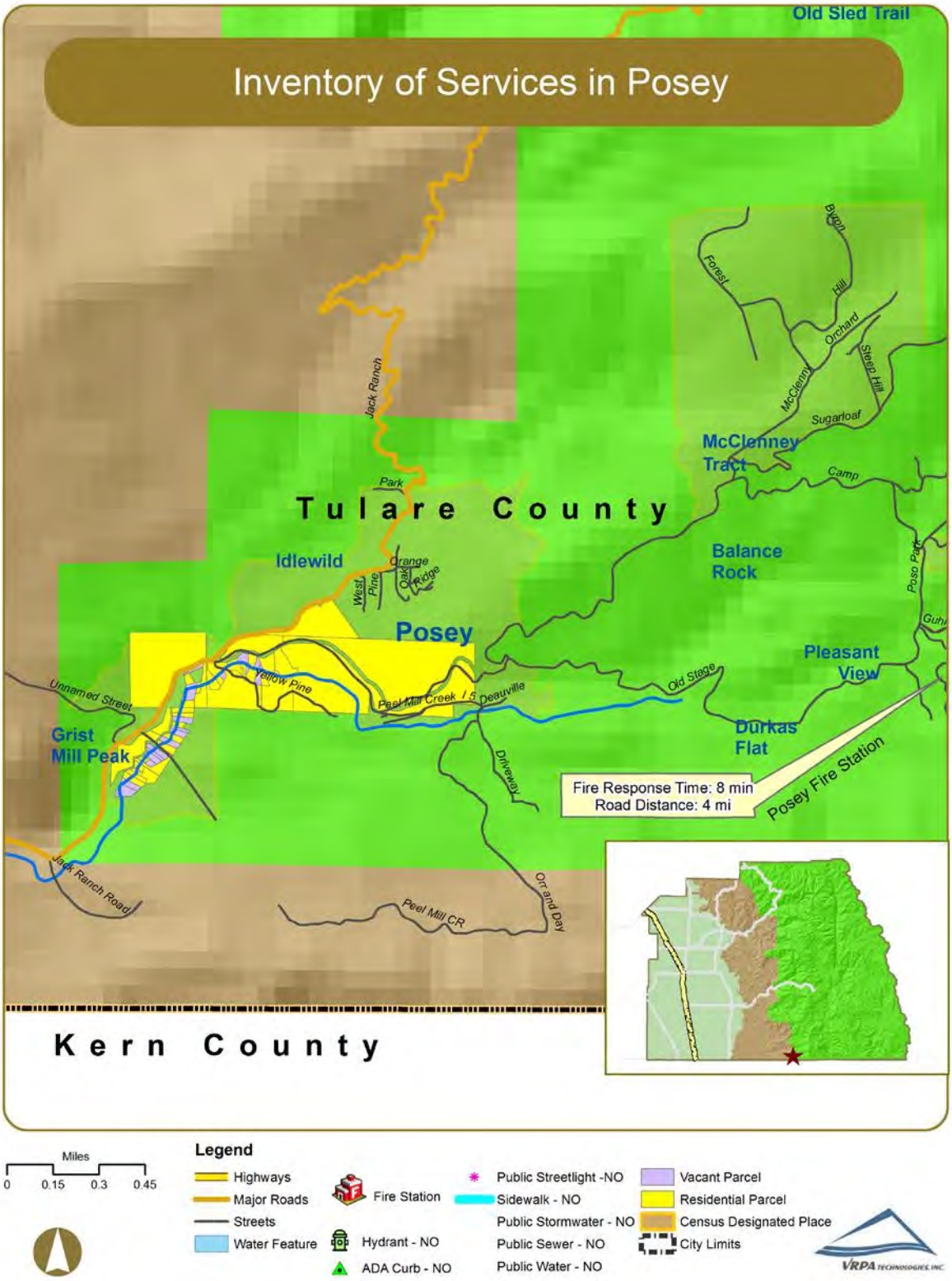


Figure 2-41 Inventory of Services in Silver City

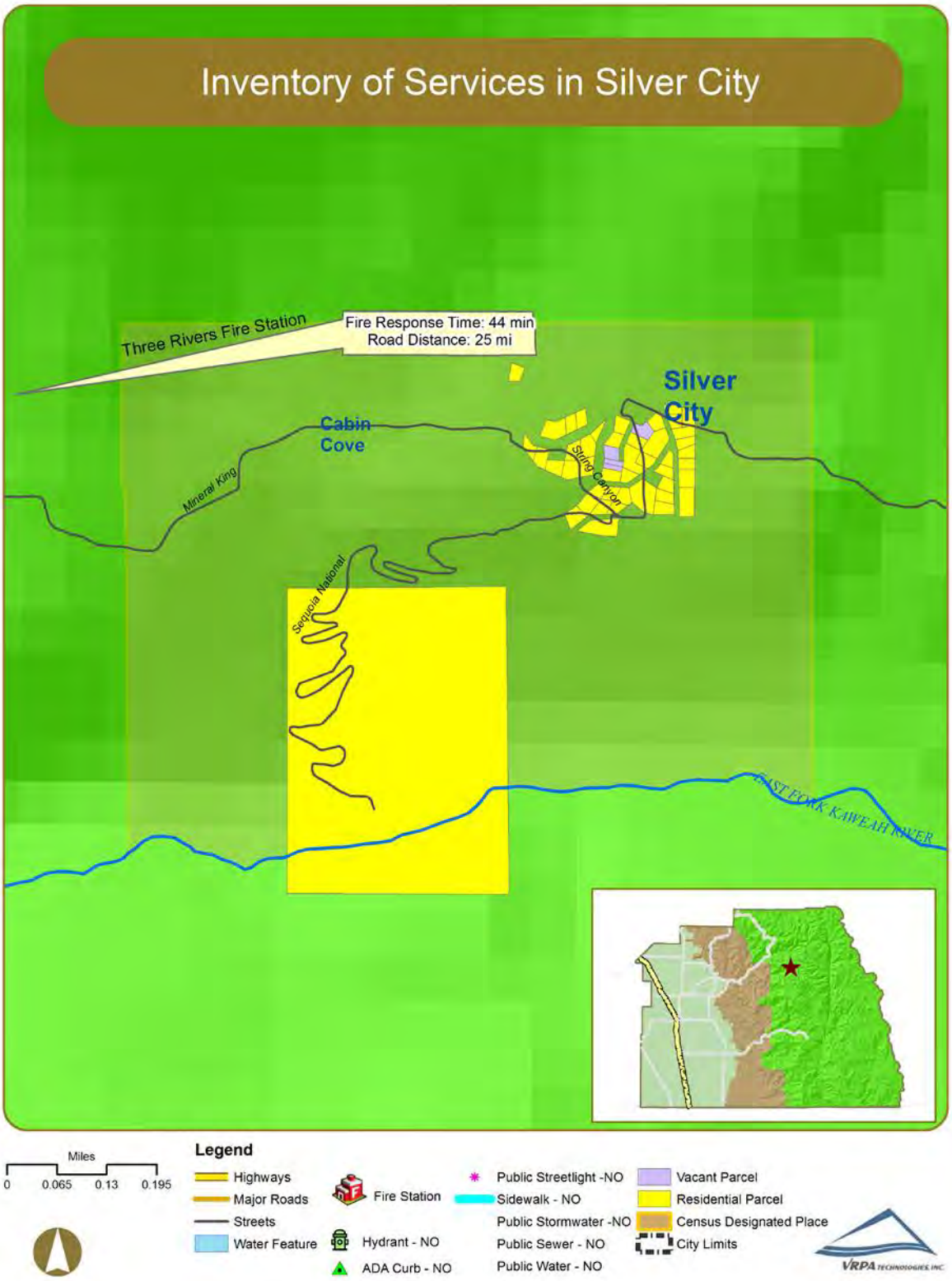


Figure 2-42 Inventory of Services in Sugarloaf Mountain Park

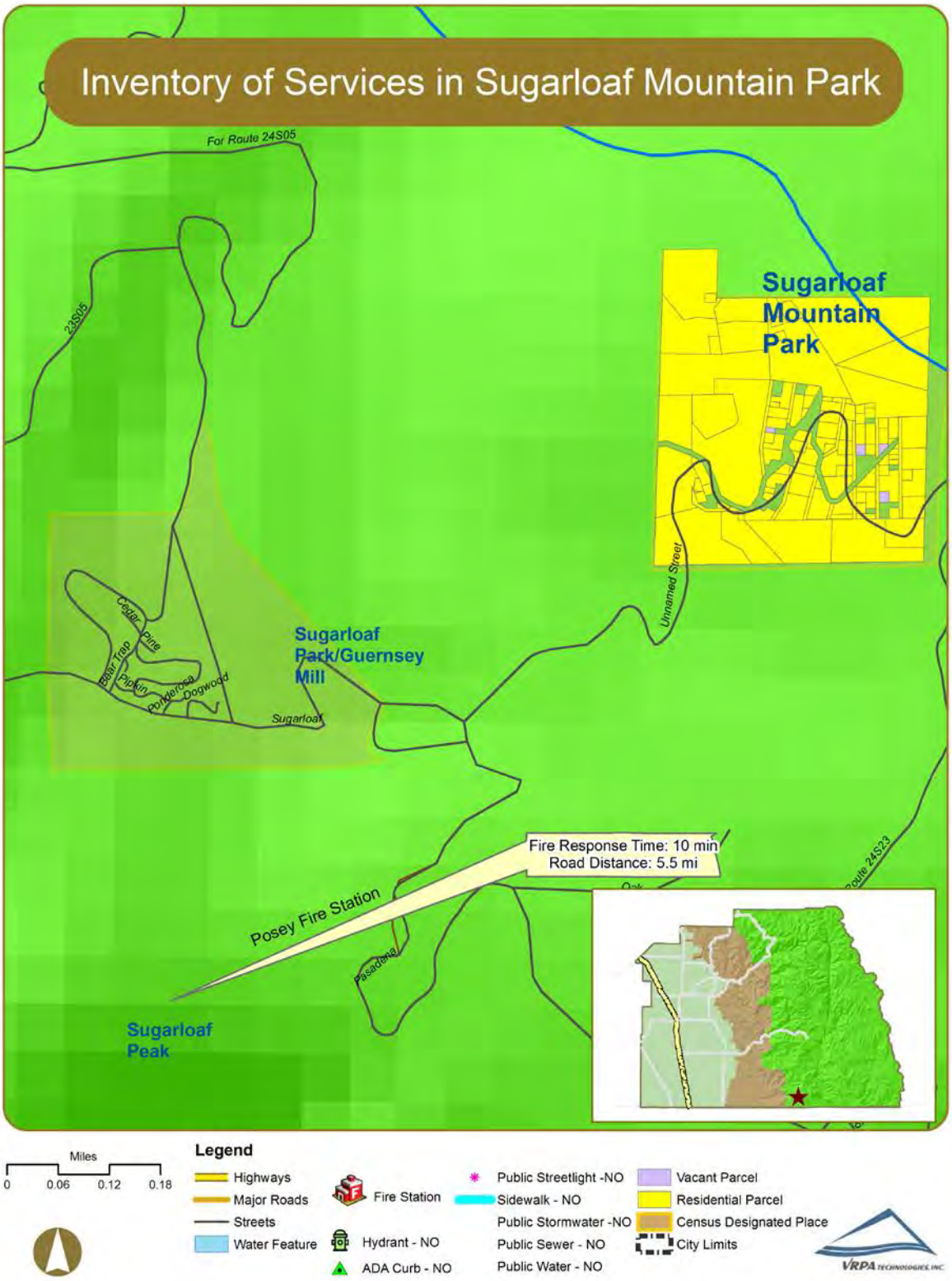


Figure 2-43 Inventory of Services in Sugarloaf Park/Guernsey Mill

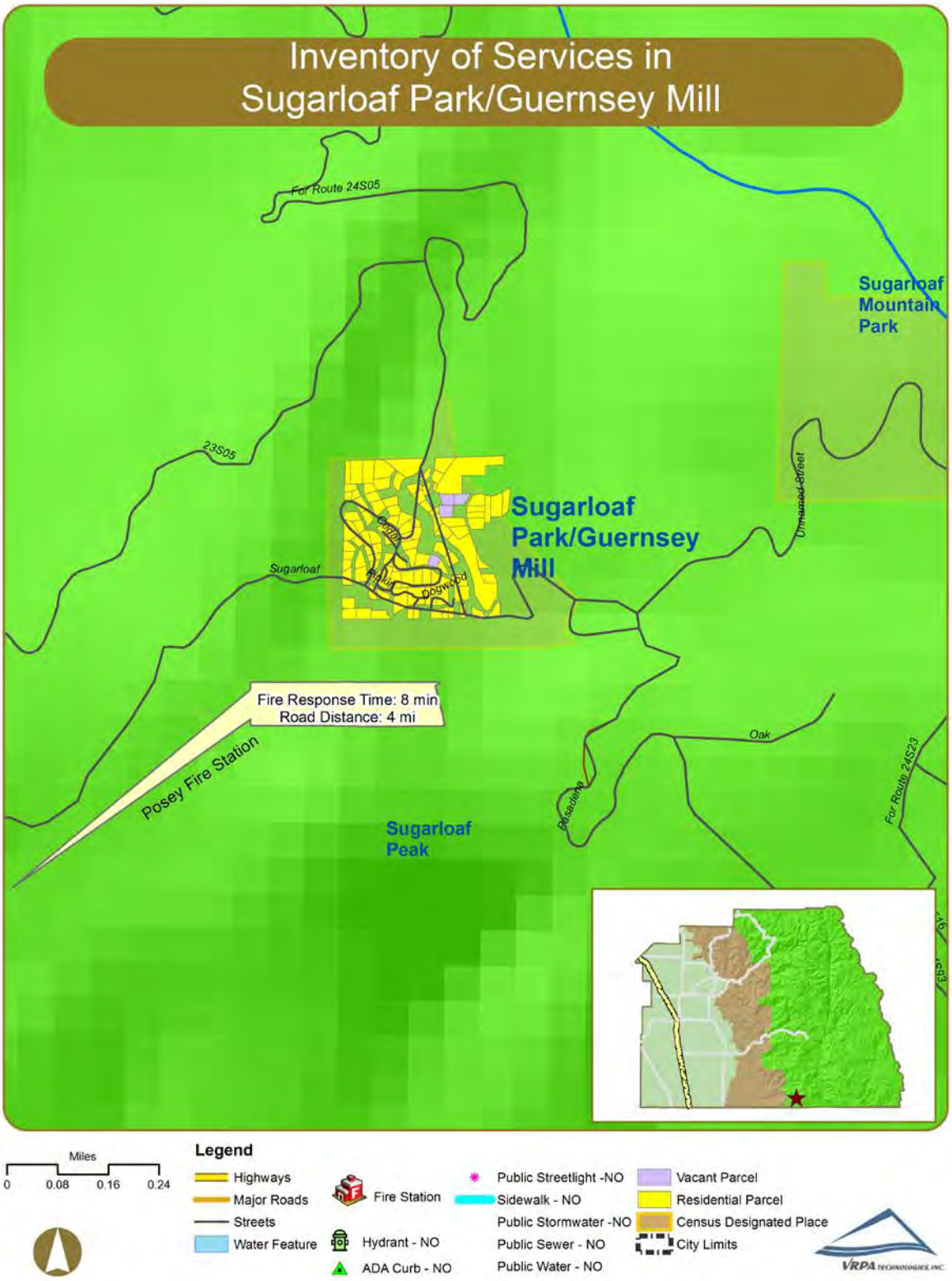


Figure 2-44 Inventory of Services in Sugarloaf Village

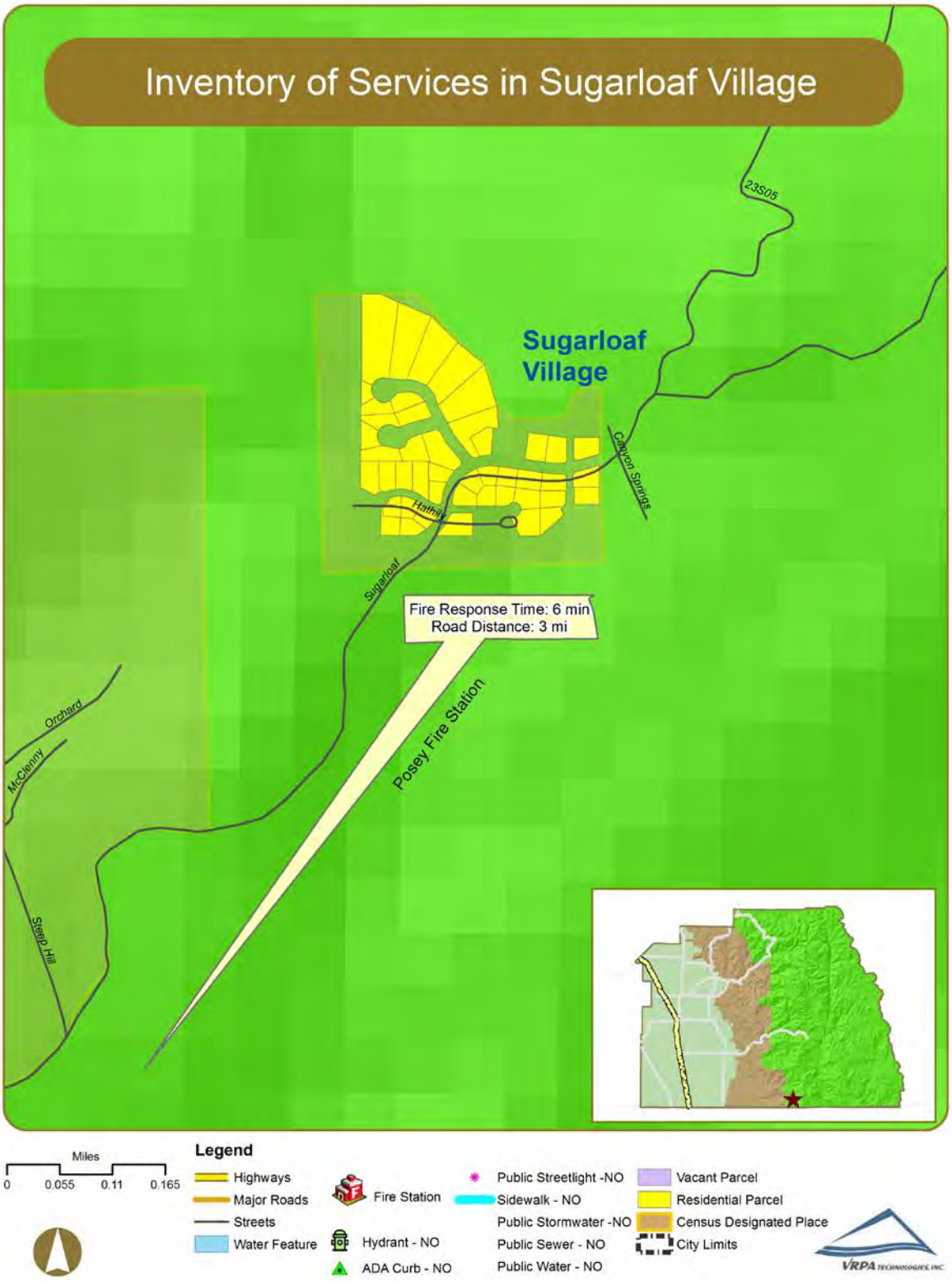
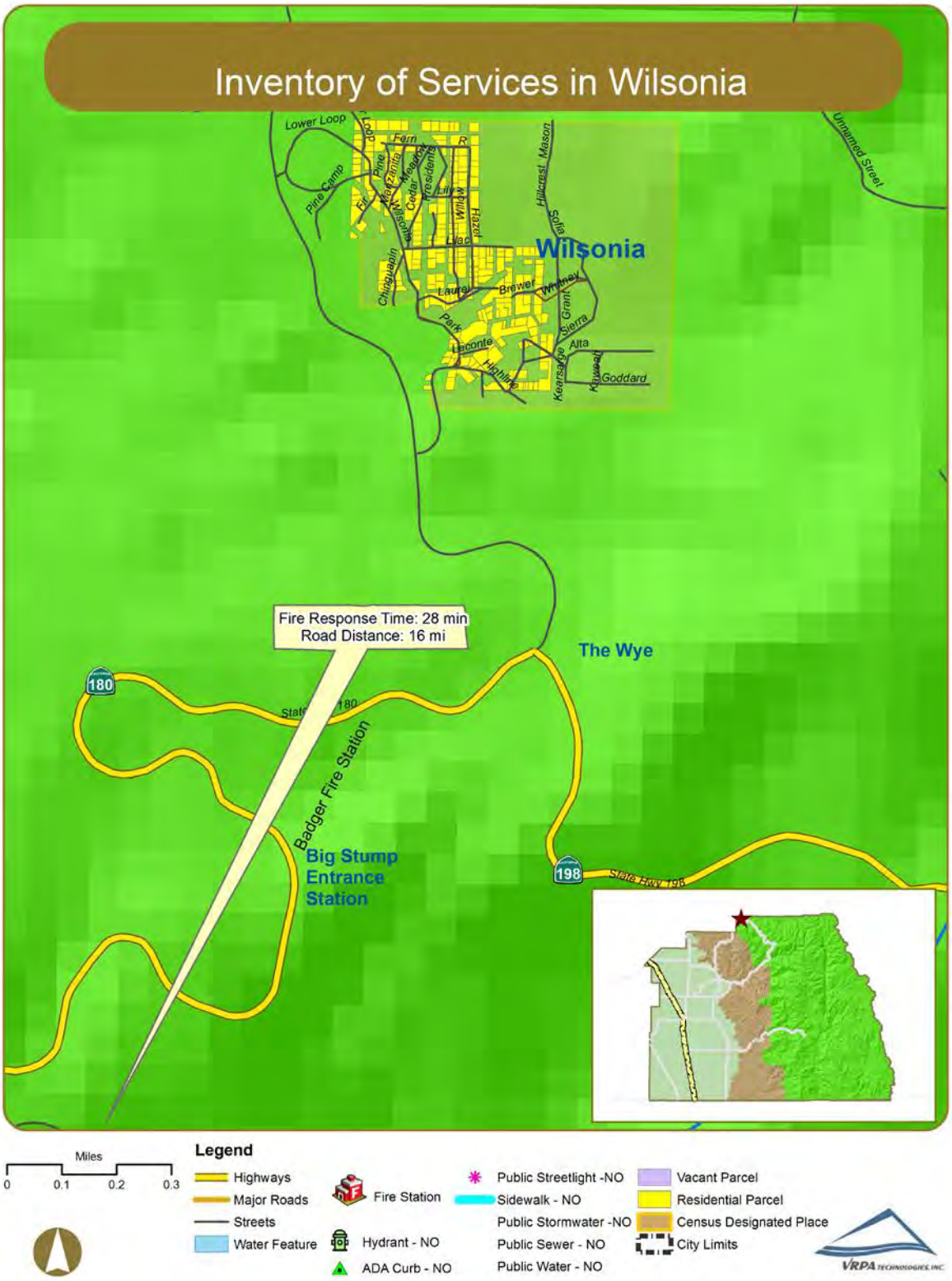


Figure 2-45 Inventory of Services in Wilsonia



3. INFRASTRUCTURE NEEDS

3.1 General

Chapter 2 of this report showing the existing infrastructure of each disadvantaged unincorporated community (DUC) indicates that most communities are lacking various types of infrastructure. The purpose of this chapter is to identify the infrastructure needs of each community as well as any planned and programmed projects that would provide this infrastructure.

3.2 Applicable Projects

The Tulare County Resource Management Agency (RMA) Five Year Capital Improvement Plan (CIP), the 2013-2018 Tulare County Comprehensive Economic Development (CED) project list, and the Tulare County Association of Governments (TCAG) 2014 Regional Transportation Plan & Sustainable Communities Strategy (RTP & SCS) identify infrastructure projects planned for some of the DUCs. Table 3-1 lists each of these applicable projects.

3.3 Remaining Infrastructure Needs

The planned and programmed projects identified in Table 3-1 fall short of meeting all of the infrastructure needs for the DUCs. Table 3-2 provides definitions for each type of infrastructure while Table 3-3 provides an explanation of what is considered a deficiency for each type. Table 3-4 identifies the unmet needs for each DUC by identifying whether there are deficiencies in each system. More detailed information for each community is provided on the following pages. The detailed information separates the identified DUCs into the planning area region in which they are located.

Valley
1) Calgro
2) Citro
3) Deer Creek Colony
4) East Porterville
5) El Monte Mobile Home
6) Hawkins
7) Higby
8) Hypericum
9) Jones Corner
10) Jovista
11) Lort
12) Naranjo
13) Paige
14) Peral
15) Ponca
16) Sandspur
17) Taurusa
18) Tooleville
19) Vance
20) Venida
21) West Venida
22) Worth
23) Yokohl
24) Zante

Foothill
25) Badger
26) Elderwood
27) Globe

Mountain
28) Balance Rock
29) California Hot Springs
30) Camp Nelson
31) Cedar Slope
32) Fairview
33) Hartland
34) Idlewild
35) Johnsondale
36) Kennedy Meadows
37) Panorama Heights
38) Pine Flat
39) Ponderosa
40) Posey
41) Silver City
42) Sugarloaf Mountain Park
43) Sugarloaf Park/Guernsey Mill
44) Sugarloaf Village
45) Wilsonia

Table 3-1 Planned Infrastructure Projects

Community	Project	Fiscal Year	Funding Sources [1]	Reference [2]
East Porterville	1400-35 John Doyle SR2S State - Pedestrian improvements on Orange Avenue from Crestview Street to Maurer Street and pedestrian improvements from Date Avenue to Success Drive and ultimately to the school grounds at Ruth Street. The project consists of construction of sidewalks, curb ramps, and additional pedestrian safety improvements.	2014/2015		CIP
Yokohl	No. 8 Yokohl Creek (Meyer Drive to Hwy 198) - Construct a 800 foot berm with flow control weir. Will reduce flooding on north side of Hwy 198 - farmland protection measure.	Under Consideration [3]	EDA, FEMA sources	CED
Various	No. 5 Community flood control pump replacement program - Purchase 25 new pumps in order to provide critical protection to small communities and rural areas during flood events. Some of the existing pumps distributed countywide are near or have exceeded their service life. The purchase will employ green technology standards, reduce air pollution and develop reliable flood water pumping capability in emergency conditions.	Planned, Estimated Start Date Unavailable [3]	County funding, FEMA, EDA, state sources, Local Air District	CED
Various	No. 6 Flood Control Master Plan Update - Update the Tulare County Flood Control Master Plan which has not been updated since 1971. The Master Plan will study the overall hydrology of the County and identify flood control needs that have changed due to growth and business development during the past half century. Updating this Master Plan will allow the County to plan strategically for flood mitigation projects proactively instead of reactively; apply modern sustainability and groundwater recharge principles; and provide upstream/downstream collaboration with local cities.	Under Consideration [3]	County funding, FEMA, EDA, state sources	CED
Various	No. 12 Dry Creek-North of Lake Kaweah - Construct a series of weirs in Dry Creek upstream of Lake Kaweah. Project to control periodic flooding of farmland that historically has caused $1.5-$3 million in flood damages to area communities and farmland. Project will also help sustain farmland by preventing widespread systemic erosion.	Under Consideration [3]	EDA, FEMA	CED
All	No. 14 Unincorporated Areas of Tulare County - Implementation of SB 244 regarding the investigation, analysis, and development of implementation plans for infrastructure for the disadvantaged communities within Tulare County.	Under Consideration [3]	EDA, Caltrans	CED

1) EDA = Economic Development Agency, FEMA = Federal Emergency Management Agency,
2) CIP = Capital Improvement Plan, CED = Comprehensive Economic Development
3) Tulare County Project List for the 2013-2018 Tulare County Comprehensive Economic Development Strategy

Table 3-2 Infrastructure Definitions

Infrastructure	Definition
Wastewater	Wastewater is any water that has been adversely affected in quality by human activity. Wastewater can originate from a combination of domestic, industrial, commercial, or agricultural activities, surface runoff or stormwater. Watewater can also be generated from stormwater that has been misdirected into a sanitary sewer system instead of into stormwater systems. Groundwater that seeps into the sanitary sewer system through cracks or leaks is also considered wastewater. Types • Municipal wastewater is typically treated at a wastewater treatment plant with treated wastewater discharged into receiving water • Rural wastewater or those with no access to a centralized wastewater treatment plant rely on on-site wastewater systems such as a septic tank, drain field, or on-site treatment unit.
Water	• Public Water Systems, a system for the provision of water to public for human consumptions through pipes or other constructed conveyances. A public system has at least 15 service connections or regularly services at least 25 individuals daily for at least 60 days out of the year. • Community water systems is a public water system that services 15 service connections used by yearlong residents or regularly services at least 25 yearlong residents. Additional information concerning California's water can be found at the California Environmental Protection Agency State Water Resources Control Board website, http://www.waterboards.ca.gov. Specific information concerning water system classifications can be found in Appendix X. http://www.waterboards.ca.gov/drinking _water/certlic/drinkingwater/documents/publicwatersystems/class_dec_tree.pdf "
Stormwater	Stormwater drainage systems are a tool for managing the runoff of weather events such as rain, sleet, snow, and ice melt. In nature, stormwater drainage systems are present in the form of soils and plants, excess precipitation (runoff) flows to nearby streams, rivers, or other bodies of water. In developed areas, stormwater drainage systems are manmade and are designed to control the quantity, quality, timing, and distribution of precipitation and runoff. Runoff can carry harmful materials to streams, ponds, and rivers making them unsafe. Preventing contaminated runoff is a growing concern. Other system objectives include erosion control and groundwater recharge. Types • Stormwater Retention Basin • Stormwater Swale • Dry Detention • Wet Detention • Inlets, discharged directly to a receiving body of water • Inlets, routed to a treatment unit
Streetlights	A raised source of light on the edge of a road or walkway, which prevent accidents and increase safety.
Sidewalks	Sidewalks provide a safe path for people to walk along that is separated from motorized traffic. Sidewalks aid in road safety by minimizing interaction between pedestrians and motorized traffic.
ADA Curb Ramps	Curb ramps are a small but important part of making sidewalks, street crossings, and other pedestrian routes accessible to people with disabilities. Curb ramps and pedestrian crossings are covered under Title II of the Americans with Disabilities Act (ADA) which requires an accessible route that people with disabilities can use to safely transition from a roadway to a curbed sidewalk and vice versa.

Infrastructure	Definition
Fire Infrastructure	Fire infrastructure includes fire protection and emergency services infrastructure to make sure that wildland, rural, and suburban areas have the resources and strategies in place to protect people and property from fire dangers and to allow fire fighters to do their jobs safely and effectively. Provisions cover means of access including roadways; fire lanes and parking lots; building access and separation; fire protection and fire warning systems; water supply, fire protection during construction; capacity of fire protection services; and community safety and emergency preparedness.

Table 3-3 Explanation of Infrastructure Deficiencies

Infrastructure	No Deficiencies	Potential Deficiencies	Deficiencies
Wastewater	Testing data is current and falls within legal limits.	Wastewater systems testing data exceeds legal limits.	Wastewater systems testing data exceeds legal limits.
Water	Testing data is current and falls within legal limits.	• Data related to private or community water wells testing is not available and deficiencies may exist. • Recent testing data is not available and deficiencies may exist. • Data related to capacity and demand is not available and deficiencies may exist.	Private or community water wells tested above the Maximum Contaminant Level or Notification Level.
Stormwater	• Community is prone to flooding and has sufficient public stormwater infrastructure to address storm runoff. • Community is not prone to flooding, public stormwater infrastructure is not needed.	Community is prone to flooding and has some public stormwater infrastructure. Data is not available to determine if current infrastructure is adequate.	Community is prone to flooding and has no public stormwater infrastructure.
Streetlights	Community has a sufficient number of streetlights.	Community has some streetlights, but not a sufficient number.	Community has no streetlights.
Sidewalks	Community has sidewalks throughout.	Community has sidewalks in some areas, but are lacking in others.	Community has no sidewalks.
ADA Curb Ramps	Community has ADA curb ramps throughout.	Community has some ADA curb ramps, but not all areas have ADA curb ramps.	Community has no ADA curb ramps.
Fire Infrastructure	• Community has a fire station or has fire response services from a nearby community fire station located within 5 miles. • Community has a sufficient number of fire hydrants.	• Community has no fire station and may have fire response services from a nearby community fire station. • Community has fire hydrants in some areas, but are lacking in other areas.	• Community has no fire station and fire response services from a nearby community fire station are over 5 miles away. • Community has no fire hydrants.

Table 3-4 Infrastructure Deficiencies by DUC

Disadvantaged Unincorporated Community (DUC)	Wastewater	Water	Stormwater	Streetlights	Sidewalks	ADA Curb Ramps	Fire Infrastructure
Valley							
Calgro	Potential deficiencies	Deficiencies	Deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies
Citro	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Deer Creek Colony	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
East Porterville, CDP	Potential deficiencies	Deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
El Monte Mobile Home	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Hawkins	Potential deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Higby	Potential deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Hypericum	Potential deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Jones Corner	Potential deficiencies	Potential deficiencies	Deficiencies	No deficiencies	Deficiencies	Deficiencies	No deficiencies
Jovista	Potential deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Lort	Potential deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Naranjo	Potential deficiencies	Potential deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Paige	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Peral	Potential deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Ponca	Potential deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Sandspur	Deficiencies	Deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Taurusa	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Tooleville, CDP	Deficiencies	Deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Vance	Potential deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Venida	Potential deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
West Venida	Potential deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Worth	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Yokohl	Potential deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Zante	Potential deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies

Table 3-4 Infrastructure Deficiencies by DUC (continued)

Disadvantaged Unincorporated Community (DUC)	Wastewater	Water	Stormwater	Streetlights	Sidewalks	ADA Curb Ramps	Fire Infrastructure
Foothill							
Elderwood	Potential deficiencies	Potential deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Badger	Potential deficiencies	Deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Globe	Potential deficiencies	Deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Mountain							
Balance Rock	Potential deficiencies	Potential deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
California Hot Springs, CDP	Potential deficiencies	Potential deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Camp Nelson, CDP	Potential deficiencies	Potential deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Cedar Slope, CDP	Potential deficiencies	Potential deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Fairview	Potential deficiencies	Potential deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Hartland, CDP	Potential deficiencies	Potential deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Idlewild, CDP	Potential deficiencies	Potential deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Johnsondale	Potential deficiencies	Deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Kennedy Meadows, CDP	Potential deficiencies	Potential deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Panorama Heights, CDP	Potential deficiencies	Potential deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Pine Flat, CDP	Potential deficiencies	Potential deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Ponderosa, CDP	Potential deficiencies	Deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Posey, CDP	Potential deficiencies	Potential deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Silver City	Potential deficiencies	Potential deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Sugarloaf Mountain Park, CDP	Potential deficiencies	Potential deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Sugarloaf Park/Guernsey Mill, CDP	Potential deficiencies	Potential deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Sugarloaf Village, CDP	Potential deficiencies	Potential deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies
Wilsonia	Potential deficiencies	Potential deficiencies	No deficiencies	Deficiencies	Deficiencies	Deficiencies	Deficiencies

Valley

1) Calgro - The drinking water is provided by private and/or small community wells. Water quality of private wells is not regulated by the State of California, however, the Groundwater Ambient Monitoring & Assessment (GAMA) Domestic Well Project sampled well water from 181 domestic wells in Tulare County in 2006. Three wells were noted within a half-mile of Calgro on the GeoTracker GAMA website with no wells having results above comparison concentrations. While these testing results note no deficiencies for water quality, it is still difficult to determine the availability for groundwater in the area and deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are streetlights located in the area which appear to be sufficient. There are no sidewalks and ADA curb ramps, therefore the community is deficient in these areas. Calgro does not include its own fire station, however, the nearby community of Cutler-Orosi has a fire station. No fire hydrants exist in the area which is considered a deficiency.

2) Citro – The source for the community's water and wastewater systems are not known. GeoTracker GAMA noted 14 wells within a half-mile of Citro with four wells testing 75% above comparison concentration. Water quality for this community is considered a deficiency. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Citro does not include its own fire station, however, the nearby community of Lemon Cove has a fire station. No fire hydrants exist in the area which is considered a deficiency.

3) Deer Creek Colony – The source for the community's water and wastewater systems are not known. Per the Geo Tracker GAMA mapping tool, there is one well located within a half-mile of Deer Creek Colony with no above comparison concentration percentages noted. While these testing results note no deficiencies for water quality, it is still difficult to determine the availability for groundwater in the area and deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Deer Creek Colony does not include its own fire station, however, the nearby community of Terra Bella has a fire station. One (1) fire hydrant exists in the area. Lack of sufficient fire hydrants is considered a deficiency.

4) East Porterville - The drinking water is provided by private and/or small community wells. Water quality of private wells is not regulated by the State of California, however the Groundwater Ambient Monitoring & Assessment (GAMA) Domestic Well Project sampled well water from 181 domestic wells in Tulare County in 2006 with three wells tested within a half-mile of the community. Wells tested near East Porterville were above Maximum Contaminant Levels (MCLs) or Notification Levels and tested greater than 10 mg/L of nitrate. This is considered a deficiency. In addition, nearly 1,000 residents in East Porterville are without water since summer and fall of 2014. Private wells have gone dry due to the severe drought conditions and residents are relying on bottled water for consumption and bathing. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. Some wastewater treatment may be provided for the community by the City of Porterville. The area is prone to flooding and does have some public stormwater infrastructure. Data is not available to determine whether

the stormwater infrastructure is sufficient and a potential deficiency is identified. There are streetlights, sidewalks, and ADA curb ramps provided in some areas of the community but are lacking in other areas, therefore the community is deficient in these areas. East Porterville does include its own fire station and fire hydrants do exist in some areas of the community but are lacking in other areas, therefore the community is deficient in these areas.

5) El Monte Mobile Home Park – The drinking water services are provided by the El Monte Village Mobile Home Park (MHP) according to the Environmental Working Group National Drinking Water Database with services for 100 people. Testing conducted between 2004 and 2009 and provided to the EWG by the California Department of Public Health did indicate nitrite and nitrate levels over the legal and health limits, as well as alpha particle activity, lead, 1,2-dibromo-3-chloropropane, and arsenic over the health limit. Environmental Protection Agency (EPA) violations were noted for nitrate levels over the MCL (2007-2008), failure to report information to the public or state agency in the Consumer Confidence Report (2004), and failure to regularly monitor nitrate (2007). Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. Streetlights are provided in some areas of the community but are lacking in others, therefore the community is deficient in these areas. There are no sidewalks and ADA curb ramps, therefore the community is deficient in all these areas. El Monte Mobile Home Park does not include its own fire station, however, the nearby community of Dinuba has a fire station. No fire hydrants exist in the area which is considered a deficiency.

6) Hawkins – The source of the community's water system is unknown. With no available data, potential deficiencies may exist for the community's water quality and available groundwater. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Hawkins does not include its own fire station, however, the nearby community of Lindsay has a fire station. No fire hydrants exist in the area which is considered a deficiency.

7) Higby – The source of the community's water and wastewater systems are unknown. With no available data, it is difficult to determine the availability of groundwater in the area, as well as the water quality and deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Higby does not include its own fire station, however, the nearby city of Visalia has a fire station. No fire hydrants exist in the area which is considered a deficiency.

8) Hypericum – The drinking water is provided by private and/or small community wells. Data related to any well monitoring in this area is unavailable. Therefore it is difficult to determine the availability of groundwater in the area as well as the water quality and potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Hypericum

does not include its own fire station and the nearest fire station is in Visalia, approximately 6.5 miles away which is considered a deficiency. In addition, no fire hydrants exist in the area which is also considered a deficiency.

9) Jones Corner – The drinking water is provided by private and/or small community wells. Data related to any well monitoring in this area is unavailable. Therefore it is difficult to determine the availability of groundwater in the area as well as the water quality and potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are streetlights located throughout the community that appear to be sufficient. There are also sidewalks in portions of the west side of the community that appear sufficient, however the east side is deficient. There are no ADA curb ramps, therefore the community is deficient. Jones Corner does not include its own fire station, however, the nearby city of Porterville has a fire station. Fire hydrants are located throughout the community that appear sufficient.

10) Jovista – The drinking water is provided by private and/or small community wells. Data related to any well monitoring in this area is unavailable. Therefore it is difficult to determine the availability of groundwater in the area as well as the water quality and potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Jovista does not include its own fire station, however, the nearby community of Richgrove has a fire station. No fire hydrants exist in the area which is considered a deficiency.

11) Lort – The drinking water is provided by private and/or small community wells. Water quality of private wells is not regulated by the State of California, however the Groundwater Ambient Monitoring & Assessment (GAMA) Domestic Well Project sampled well water from 181 domestic wells in Tulare County in 2006 with 2 wells test within a half-mile of Lort. Wells tested near Lort were below Maximum Contaminant Levels (MCLs) or Notification Levels and tested between 2 and 10 mg/L of nitrate. However, more recent data is not available, therefore potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Lort does not include its own fire station, however, the nearby city of Exeter has a fire station. No fire hydrants exist in the area which is considered a deficiency.

12) Naranjo – The source of the community's water system is unknown. With no available data, it is difficult to determine the availability of groundwater in the area, as well as the water quality and deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. The area is prone to flooding but does have ponding basins located nearby. It is not clear whether the public stormwater infrastructure is sufficient and a potential deficiency is identified. There are two (2) streetlights located in the community which are not sufficient. In addition, there are no sidewalks

and ADA curb ramps, therefore the community is deficient in all these areas. Naranjo does not include its own fire station, however, the nearby city of Woodlake has a fire station. No fire hydrants exist in the area which is considered a deficiency.

13) Paige – The drinking water is provided by private and/or small community wells. Water quality of private wells is not regulated by the State of California, however, the Groundwater Ambient Monitoring & Assessment (GAMA) Domestic Well Project sampled well water from 181 domestic wells in Tulare County in 2006 with 4 wells tested within a half-mile of Paige. Wells tested near Paige were above Maximum Contaminant Levels (MCLs) or Notification Levels, tested greater than 10 mg/L of nitrate, and coliform was detected. This is considered a deficiency. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There is one (1) streetlight located in the community which is not sufficient. In addition, there are no sidewalks and ADA curb ramps, therefore the community is deficient in all these areas. Paige does not include its own fire station and the nearest fire station is in the city of Tulare, approximately 6 miles away which is considered a deficiency. In addition, no fire hydrants exist in the area which is also considered a deficiency.

14) Peral – The drinking water is provided by private and/or small community wells. Data related to any well monitoring in this area is unavailable. Therefore it is difficult to determine the availability of groundwater in the area as well as the water quality and potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Peral does not include its own fire station and the nearest fire station is in the city of Ivanhoe, approximately 6.5 miles away which is considered a deficiency. In addition, no fire hydrants exist in the area which is also considered a deficiency.

15) Ponca – The drinking water is provided by private and/or community wells. Data related to any well monitoring in this area is unavailable. Therefore it is difficult to determine the availability of groundwater in the area as well as the water quality and potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are streetlights, sidewalks, and ADA curb ramps in Ponca and coverage is sufficient in the northwest area of the community, however the remaining parts of the community are deficient. Ponca does not include its own fire station, however, the nearby community of East Porterville has a fire station. Several fire hydrants exist in the area, however coverage is not sufficient and it is considered a deficiency.

16) Sandspur – The source of the community's water and wastewater systems are unknown. With no available data, it is difficult to determine the availability of groundwater in the area, as well as the water quality and deficiencies may exist. The area is prone to flooding but does have ponding basins located nearby. It is not clear whether the public stormwater infrastructure is sufficient and a potential deficiency is identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Sandspur does not include its own fire station, however,

the nearby community of Lemon Cove has a fire station. No fire hydrants exist in the area which is considered a deficiency.

17) Taurusa – The drinking water is provided by private and/or small community wells. Water quality of private wells is not regulated by the State of California, however, the Groundwater Ambient Monitoring & Assessment (GAMA) Domestic Well Project sampled well water from 181 domestic wells in Tulare County in 2006 with two wells tested in the community. Wells tested near Taurusa were above Maximum Contaminant Levels (MCLs) or Notification Levels and tested greater than 10 mg/L of nitrate. This is considered a deficiency. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Taurusa does not include its own fire station, however, the nearby city of Ivanhoe has a fire station. No fire hydrants exist in the area which is considered a deficiency.

18) Tooleville – The community is connected to water and wastewater systems that are provided by Tooleville Water Company according to the Environmental Working Group National Drinking Water Database with services for 300 people. Testing conducted between 2005 and 2008 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did indicate nitrate and nitrite levels over the legal and health limits, as well as radium-228, alpha particle activity, and lead over the health limit. Environmental Protection Agency (EPA) violations were noted for coliform bacteria levels over the MCL (2004, 2007, and 2008), nitrate levels over the MCL (2005-2007), failure to report information to the public or state agency in the Consumer Confidence Report (2004-2005), and failure to monitor coliform bacteria (2004-2006). The area is prone to flooding but does have ponding basins located nearby. It is not clear whether the public stormwater infrastructure is sufficient and a potential deficiency is identified. There is one (1) streetlight which is insufficient for the area. There are no sidewalks and ADA curb ramps, therefore the community is deficient in all these areas. Tooleville does not include its own fire station, however, the nearby city of Exeter has a fire station. No fire hydrants exist in the area which is considered a deficiency.

19) Vance – The source of the community's water and wastewater systems are unknown. With no available data, potential deficiencies may exist for the community's water quality and available groundwater. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are streetlights, sidewalks, and ADA curb ramps in Vance and coverage is sufficient in the southeast area of the community, however the remaining parts of the community are deficient. Vance does not include its own fire station, however, the nearby city of Lindsay has a fire station. No fire hydrants exist in the area which is considered a deficiency.

20) Venida – The drinking water is provided by private and/or small community wells. Water quality of private wells is not regulated by the State of California, however the Groundwater Ambient Monitoring & Assessment (GAMA) Domestic Well Project sampled well water from 181 domestic wells in Tulare County in 2006. Wells tested near Venida were below Maximum Contaminant Levels (MCLs) or Notification Levels and tested between 2 and 10 mg/L of nitrate. However, more recent data is not available, therefore potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a

deficiency is identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Venida does not include its own fire station, however, the nearby city of Exeter has a fire station. No fire hydrants exist in the area which is considered a deficiency.

21) West Venida – The drinking water is provided by private and/or small community wells. Water quality of private wells is not regulated by the State of California, however the Groundwater Ambient Monitoring & Assessment (GAMA) Domestic Well Project sampled well water from 181 domestic wells in Tulare County in 2006. Wells tested near West Venida were below Maximum Contaminant Levels (MCLs) or Notification Levels and tested between 2 and 10 mg/L of nitrate. However, more recent data is not available, therefore potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. West Venida does not include its own fire station, however, the nearby city of Exeter has a fire station. No fire hydrants exist in the area which is considered a deficiency.

22) Worth – The drinking water is provided by private and/or small community wells. Water quality of private wells is not regulated by the State of California, however the Groundwater Ambient Monitoring & Assessment (GAMA) Domestic Well Project sampled well water from 181 domestic wells in Tulare County in 2006. Wells tested near Worth were above Maximum Contaminant Levels (MCLs) or Notification Levels, tested between 2 and 10 mg/L of nitrate, and total coliform was detected. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Worth does not include its own fire station, however, the nearby community of East Porterville has a fire station. No fire hydrants exist in the area which is considered a deficiency.

23) Yokohl – The drinking water is provided by private and/or small community wells connected to the Yokohl Mutual Water Company according to the Environmental Working Group National Drinking Water Database with services for 75 people. Testing conducted between 2004 and 2008 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did not indicate any levels over the legal limits, however radium-228, alpha particle activity, bromoform, dibromochloromethane, and arsenic were shown over the health limits. No Environmental Protection Agency (EPA) violations were noted since 2004. However, more recent data is not available, therefore potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Yokohl does not include its own fire station, however, the nearby city of Exeter has a fire station. No fire hydrants exist in the area which is considered a deficiency.

24) Zante – The drinking water is provided by private and/or community wells. Data related to any well monitoring in this area is unavailable. Therefore it is difficult to determine the availability of groundwater in the area as well as the water quality and potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Zante does not include its own fire station, however, the nearby community of Strathmore has a fire station. No fire hydrants exist in the area which is considered a deficiency.

Foothill

25) Badger – The drinking water is provided by private and/or small community wells. Water quality of private wells is not regulated by the State of California, however, the Groundwater Ambient Monitoring & Assessment (GAMA) Domestic Well Project sampled well water from 181 domestic wells in Tulare County in 2006. A total of 7 wells were tested within one mile of Badger. Wells tested near Badger were above Maximum Contaminant Levels (MCLs) or Notification Levels, tested greater than 10 mg/L of nitrate, and coliform was detected. This is considered a deficiency in the quality of water. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. While Badger does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Badger does include its own fire station, however, no fire hydrants exist in the area which is considered a deficiency.

26) Elderwood – The drinking water is provided by private and/or small community wells. Water quality of private wells is not regulated by the State of California, however the Groundwater Ambient Monitoring & Assessment (GAMA) Domestic Well Project sampled well water from 181 domestic wells in Tulare County in 2006 with seven wells located within a half-mile of Elderwood. Wells tested near Elderwood were below Maximum Contaminant Levels (MCLs) or Notification Levels and tested between 2 and 10 mg/L of nitrate. However, more recent data is not available, therefore potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. The area is prone to flooding, does not have any public stormwater infrastructure and a deficiency is identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Elderwood does not include its own fire station, however, the nearby community of Woodlake has a fire station. No fire hydrants exist in the area which is considered a deficiency.

27) Globe – The source of the community's water system is unknown. With no available data, it is difficult to determine the availability of groundwater in the area, as well as the water quality and deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. While Globe does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Globe does not include its own fire station, however, the nearby

community of Springville has a fire station. No fire hydrants exist in the area which is considered a deficiency.

Mountain

28) Balance Rock – The drinking water is provided by private and/or small community wells. Data related to any well monitoring in this area is unavailable. Therefore it is difficult to determine the availability of groundwater in the area as well as the water quality and potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. While Balance Rock does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Balance Rock does not include its own fire station, however, the nearby community of Posey has a fire station. No fire hydrants exist in the area which is considered a deficiency.

29) California Hot Springs – The drinking water and wastewater services are provided by the California Hot Springs Resort. Data related to water quality, capacity, and demand is unavailable. Therefore it is difficult to determine the availability of groundwater in the area as well as the water quality and potential deficiencies may exist. While California Hot Springs does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are several streetlights and a sidewalk present near the resort, but this infrastructure is lacking in the remaining community areas which are considered deficient. There are no ADA curb ramps which is also considered a deficiency. California Hot Springs does include its own fire station, however, no fire hydrants exist in the area which is considered a deficiency.

30) Camp Nelson – According to the Environmental Working Group National Drinking Water Database, the drinking water is provided by the Camp Nelson Water Company and serves 900 people. Testing conducted between 2004 and 2007 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did not indicate any water quality violations. However, more recent data is not available, therefore potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. While Camp Nelson does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Camp Nelson does include its own fire station, however, no fire hydrants exist in the area which is considered a deficiency.

31) Cedar Slope – The source of the community's water system is unknown. With no available data, it is difficult to determine the availability of groundwater in the area, as well as the water quality and deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. While Cedar Slope does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Cedar Slope does not include its own fire station, however, the nearby community of Camp Nelson has a fire station. No fire hydrants exist in the area which is considered a deficiency.

32) Fairview – The drinking water is provided by private and/or small community wells. Data related to any well monitoring in this area is unavailable. Therefore it is difficult to determine the availability of groundwater in the area, as well as the water quality and potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. While Fairview does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Fairview does not include its own fire station and the nearest fire station is in California Hot Springs, approximately 29 miles away which is considered a deficiency. In addition, no fire hydrants exist in the area which is also considered a deficiency.

33) Hartland – The drinking water is provided by private and/or small community wells. Data related to any well monitoring in this area is unavailable. Therefore it is difficult to determine the availability of groundwater in the area as well as the water quality and potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. While Hartland does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Hartland does not include its own fire station and the nearest fire station is in Badger, approximately 8.5 miles away which is considered a deficiency. In addition, no fire hydrants exist in the area which is also considered a deficiency.

34) Idlewild – The drinking water is provided by private and/or small community wells. Data related to any well monitoring in this area is unavailable. Therefore it is difficult to determine the availability of groundwater in the area as well as the water quality and potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. While Idlewild does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Idlewild does not include its own fire station, however, the nearby community of Posey has a fire station. No fire hydrants exist in the area which is considered a deficiency.

35) Johnsondale – The source of the community's water system is unknown. With no available data, it is difficult to determine the availability of groundwater in the area, as well as the water quality and deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. While Johnsondale does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. The community has streetlights, but they don't appear to be sufficient for the western side of the community and a deficiency is identified. There are no sidewalks and ADA curb ramps, therefore the community is deficient in all these areas. Johnsondale does not include its own fire station and the nearest fire station is in California Hot Springs, approximately 21 miles away which is considered a deficiency. In addition, no fire hydrants exist in the area which is also considered a deficiency.

36) Kennedy Meadows – The drinking water is provided by private and/or small community wells. Data related to any well monitoring in this area is unavailable. Therefore it is difficult to determine the availability of groundwater in the area as well as the water quality and potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. While Kennedy Meadows does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Kennedy Meadows does include its own fire station, however, no fire hydrants exist in the area which is considered a deficiency.

37) Panorama Heights – The drinking water is provided by private and/or small community wells. Data related to any well monitoring in this area is unavailable. Therefore it is difficult to determine the availability of groundwater in the area as well as the water quality and potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. While Panorama Heights does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Panorama Heights does not include its own fire station, however, the nearby community of Posey has a fire station. No fire hydrants exist in the area which is considered a deficiency.

38) Pine Flat – The community is connected to water and wastewater systems that are provided by the Pine Flat Water Company according to the Environmental Working Group National Drinking Water Database. The company provides services for 110 people. Recent data is not available for the Pine Flat Water Company, therefore potential deficiencies may exist. While Pine Flat does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Pine Flat does not include its own fire station, however, the nearby community of California Hot Springs has a fire station. No fire hydrants exist in the area which is considered a deficiency.

39) Ponderosa – The community is connected to a water system that is provided by the Ponderosa Community Services District (CSD) according to the Environmental Working Group National Drinking Water Database with services for 232 people. Testing conducted between 2004 and 2008 and provided to the Environmental Working Group (EWG) by the California Department of Public Health did not indicate any levels over the legal limits, however alpha particle activity and lead were over the health limits. Environmental Protection Agency (EPA) violations were noted for failure to report information to the public or state agency in the Consumer Confidence Report (2004) and failure to regularly monitor nitrate (2006) and coliform bacteria (2005, 2006, and 2008). Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. While Ponderosa does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Ponderosa does not include its own fire station and the nearest fire station is in Camp Nelson, approximately 10 miles away which is considered a deficiency. In addition, no fire hydrants exist in the area which is also considered a deficiency.

40) Posey – The drinking water is provided by private and/or small community wells. Data related to any well monitoring in this area is unavailable. Therefore it is difficult to determine the availability of groundwater in the area as well as the water quality and potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. While Posey does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Posey does include its own fire station, however, no fire hydrants exist in the area which is considered a deficiency.

41) Silver City – The drinking water is provided by private and/or small community wells. Data related to any well monitoring in this area is unavailable. Therefore it is difficult to determine the availability of groundwater in the area as well as the water quality and potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. While Silver City does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Silver City does not include its own fire station and the nearest fire station is in Three Rivers, approximately 25 miles away which is considered a deficiency. In addition, no fire hydrants exist in the area which is also considered a deficiency.

42) Sugarloaf Mountain Park – The drinking water is provided by private and/or small community wells. Data related to any well monitoring in this area is unavailable. Therefore it is difficult to determine the availability of groundwater in the area as well as the water quality and potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. While Sugarloaf Mountain Park does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Sugarloaf Mountain Park does not include its own fire station, however, the nearby community of Posey has a fire station. No fire hydrants exist in the area which is considered a deficiency.

43) Sugarloaf Park/Guernsey Mill – The drinking water is provided by private and/or small community wells. Data related to any well monitoring in this area is unavailable. Therefore it is difficult to determine the availability of groundwater in the area as well as the water quality and potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. While Sugarloaf Park/Guernsey Mill does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Sugarloaf Park/Guernsey Mill does not include its own fire station, however, the nearby community of Posey has a fire station. No fire hydrants exist in the area which is considered a deficiency.

44) Sugarloaf Village – The drinking water is provided by private and/or small community wells. Data related to any well monitoring in this area is unavailable. Therefore it is difficult to determine the

availability of groundwater in the area as well as the water quality and potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. While Sugarloaf Village does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Sugarloaf Village does not include its own fire station, however, the nearby community of Posey has a fire station. No fire hydrants exist in the area which is considered a deficiency.

45) Wilsonia – The drinking water is provided by private and/or small community wells. Data related to any well monitoring in this area is unavailable. Therefore it is difficult to determine the availability of groundwater in the area as well as the water quality and potential deficiencies may exist. Wastewater treatment is provided by septic systems and information is unavailable regarding any potential leaching and potential deficiencies may exist. While Wilsonia does not have any public stormwater infrastructure, the area is not prone to flooding and a deficiency is not identified. There are no streetlights, sidewalks, and ADA curb ramps, therefore the community is deficient in all these areas. Wilsonia does not include its own fire station and the nearest fire station is in Badger, approximately 16 miles away which is considered a deficiency. In addition, no fire hydrants exist in the area, which is also considered a deficiency.

4. POTENTIAL FUNDING SOURCES

4.1 General

Chapter 3 of this report identifies the infrastructure needs of each community as well as any planned and programmed projects that would provide this infrastructure. The purpose of this chapter is to describe potential funding sources that may make extension of services and infrastructure to these communities financially feasible.

4.2 Potential Funding Sources

Principal funding sources to provide infrastructure include taxes, benefit assessments, bonds, and exactions (including impact fees). The following is a list of funding options to address existing deficiencies and/or expansion of infrastructure for new development:

- User rate increases
- Revenue bonds
- Tax allocation bonds
- Certificates of Participation (COP)
- General obligation bonds
- Infrastructure financing district (IFD)
- Mello-Roos Community Facilities District (CFD)
- Assessment district (AD)

There are other funding opportunities as listed in Table 4-1. Most of the available funding sources relate to clean drinking water, community water systems, and water treatment and quality. Several of them pertain specifically to disadvantaged communities.

Table 4-1 Potential Funding Sources

Agency	Program (year passed or created)	Funding Provided (in million $)	Funding Remaining/Available (in million $)	Limitations/Barriers on Use of Funds for Drinking Water Treatment (capital or O&M)
Water				
California Department of Public Health (CDPH)	Safe Drinking Water State Revolving Fun (SDWSRF) (1996) (grants and loans)	Generally $100-$150: Low-interest loans and some grants to support water systems with technical, managerial, and financial development and infrastructure improvements.	$130-$150 (revolving funds) (annually)	* 20% to 30% of annual federal contribution can be used for grants. The remainder must be committed to loans. * Funds can be used only for capital costs. Cannot be used for O&M. * Only loans (not grants) for privately owned water systems. * Some funds available for feasibility and planning studies for eligible projects/systems. * Can only be used for Public Water Systems (not domestic wells or State Small Systems).
	Proposition 84 (2006) (grants)	$180: Small community improvements.	$0 (Over subscribed)	* Funds can be used only for capital costs. Cannot be used for O&M. * Some funding available for feasibility and planning studies for eligible projects/systems. * Can only be used for Public Water Systems not domestic wells or State Small Systems.
		$60: Protection and reduction of contamination of groundwater sources. $50: Matching funds for federal DWSRF.	$0 (Fully allocated) Will be fully committed with the current year grant but not yet liquidated	
		$10: Emergency and urgent projects.	$7	* Used to address sudden unanticipated emergency situations such as fires, earthquakes, and mud slides that damage critical water infrastructure. May fund short-term mitigations such as hauled water.
	Proposition 50 (2002) (grants) (fully allocated)	$50: Water security for drinking water systems.	$0 (Fully allocated)	* Can only be used for capital costs. Cannot be used for O&M. * Can only be used for Public Water Systems, not domestic wells or State Small Systems.
		$69: Community treatment facilities and monitoring programs.	$0 (Fully allocated)	
		$105: Matching funds for federal grants for public water system infrastructure improvements.	$0 (Fully allocated, mostly liquidated)	
State Water Resources Control Board (State Water Board)	Clean Water State Revolving Fund (Expanded Use Program) (CWSRF) (1987) (loans)	$200-$300 per year: Water quality protection projects, wastewater treatment, nonpoint source contamination control, and watershed management.	$50 per agency per year; can be waived	Eligible Uses: Stormwater treatment and diversion, sediment and erosion control, streatm restoration, land acquisition. Drinking water treatment generally not eligible except under certain Expanded Use scenarios. Capital cost only. O&M not eligible.
	Small Community Groundwater Grants (Prop 40) (2004, amended 2007) (grants)	$9.5: Assist small disadvantaged communities (<20,000pp) with projects where the existing groundwater supply exceeds maximum contaminant levels, particularly for arsenic or nitrate.	$1.4 remaining $0.3 available to encumber; $1.1 available to appropriate	$ can go to local government or NGO. Must demonstrate financial hardship. Can only provide alternate water supply. No O&M costs. Program not currently active due to staff resource limitations.
	State Water Quality Control Fund: Cleanup and Abatement Account (2009)	$10 in 2012 (varies annually): Projects to a) clean up waste or abate its effects on waters of the state, when there is no viable responsible party, or b) address a significant unforeseen water pollution problem (regional water boards only). Funds can be allocated to: Public Agencies, specified tribal governments, and not-for-profit organizations that serve disadvantaged communities.	$10, but varies	Eligible Uses: Emergency cleanup projects; projects to clean up waste or abate its effects on waters of the state; regional water board projects to address a significant unforeseen water pollution problem. Recipient must have authority to clean up waste. Under certain circumstances this fund has been used to provide drinking water O&M for limited durations.
	Integrated Regional Water Management (IRWM) (2002)	$380 (Prop 50): Planning ($15) and implementation ($365) projects related to protecting and improving water quality.	$0 (Fully committed)	
	Small Community Wastewater Grant Program	$380 (Prop 50): Planning ($15) and implementation ($365) projects related to protecting and improving water quality.	$0 (Fully committed)	

Table 4-1 Potential Funding Sources (continued)

Agency	Program (year passed or created)	Funding Provided (in million $)	Funding Remaining/Available (in million $)	Limitations/Barriers on Use of Funds for Drinking Water Treatment (capital or O&M)
Water				
State Water Resources Control Board (State Water Board)	Water Recycling Funding Program (2008) (grants)	$5 for construction.	$0 (Fully committed)	* Provide for treatment and delivery of municipal wastewater to users that replace the use of local water supply with recycled water. * Provide treatment and reuse of groundwater contaminated due to human activity; and provide local water supply benefits. * Provide for the treatment and disposal of municipal wastewater to meet waste discharge requirements imposed for water pollution control. * Projects that do not have identifiable benefits to the state or local water supply.
California Department of Water Resources (DWR)	Integrated Regional Water Management	$600 remaining (Prop 84): Regional water planning and implementation.	$28 (Central Coast projects)	Must be consistent with an adopted IRWM Plan and other program requirements. For capital investment only.
	Contaminant treatment or removal technology pilot	Up to $5 per grant	$15 available	Eligible applicants are public water systems under the regulatory jurisdiction of CDPH and other public entities. For capital investment only.
	Safe Drinking Water Bond Law (Prop 81) (1988)	Up to $74 to be awarded to current priority list. $0.025 max per project.	Remaining balance to be determined	Provides funding for projects that investigate and identify alternatives for drinking water system improvements.
	Drinking water disinfecting projects using UV technology and ozone treatment	$0.05 minimum, up to $5 per grant.	$19 remaining	Eligible applicants are public water systems under the regulatory jurisdiction of CDPH. For capital investment only.
iBank (CA Infrastructure and Development Bank)	Infrastructure State Revolving Fund (ISRF) Program (2000) (loans)	$0.25 to $10 per project to finance water infrastructure that promotes job opportunities. Eligible projects include construction or repair of publicly owned water supply, treatment, and distribution systems.	$52.6 million approved to date for Water Supply, Water Treatment and Distribution. Applications continually accepted.	Finances system capital improvements only. Must show job creation. Special loan tier for DACs was discontinued.
United States Housing and Urban Development Department (HUD)	Community Development Block Grants (CDBG) (1974) (grants)	Grants of various sizes, generally $0.25 to $100, for the construction or reconstruction of streets, water and sewer facilities, neighborhood centers, recreation facilities, and other public works.	Annually	Not less than 70% of CDBG funds must be used for activities that benefit low- and moderate-income persons. In addition, each activity must meet one of the following national objectives for the program: benefit low- and moderate-income persons, prevention or elimination of slums or blight, or address community development needs having a particular urgency because existing conditions pose a serious and immediate threat to the health or welfare of the community for which other funding is not available.

Table 4-1 Potential Funding Sources (continued)

Agency	Program	Funding Provided (in million $)	Funding Remaining/Available (in million $)	Description
Other Infrastructure				
Department of Conservation's Division of Land Resource Protection and Strategic Growth Council	Sustainable Communities Planning Grants and Incentives Program	$66.945: Dispersed to agencies in three funding cycles.	$0 (Fully allocated) Tulare County was awarded over $1.3 in Round 2 for Sustainable Highway Corridor Plan ($0.384) and AAA Water and MT Sewer Project ($0.94)	Competitive grants to cities, counties, and designated regional agencies to promote sustainable community planning and natural resource conservation. The grant program supports development, adoption, and implementation of various planning elements. It offers a unique opportunity to improve and sustain the wise use of infrastructure and natural resources through a coordinated and collaborative approach.
United State Department of Agriculture Rural Development	Community Facilities Direct Loan and Grant Program	Agencies can apply for the following types of funding: low interest direct loans, grants, or a combination of the two	N/A	Funds can be used to purchase, construct, and/or improve essential community facilities, purchase equipment and pay related project expenses. Examples of essential community facilities include: * Health care facilities such as hospitals, medical clinics, dental clinics, nursing homes or assisted living facilities * Public facilities such as town halls, courthouses, airport hangars or street improvements * Community support services such as child care centers, community centers, fairgrounds or transitional housing * Public safety services such as fire departments, police stations, prisons, police vehicles, fire trucks, public works vehicles or equipment * Educational services such as museums, libraries or private schools * Utility services such as telemedicine or distance learning equipment * Local food systems such as community gardens, food pantries, community kitchens, food banks, food hubs or greenhouses
	Emergency Community Water Assistance Grants	Water transmission line grants up to $150,000 are for construction of waterline extensions, repairs to breaks or leaks in existing water distribution lines, and related maintenance necessary to replenish water supply. Water Source grants up to $500,000 are for construction of a new water source, intake and/or treatment facility.	N/A	This program helps eligible communities prepare for, or recover from, an emergency that threatens the availability of safe, reliable drinking water for households and businesses. The following events qualify: *Drought or flood *Earthquake *Tornado or hurricane *Disease outbreak *Chemical spill, leak or seepage *Other disasters

Table 4-1 Potential Funding Sources (continued)

Agency	Program	Funding Provided (in million $)	Funding Remaining/Available (in million $)	Description
Other Infrastructure				
United State Department of Agriculture Rural Development	Water and Waste Disposal Loan and Grant Program	Agencies can apply for long-term, low-interest loans. If funds are available, grants may be combined with a loan if necessary to keep user costs reasonable.	N/A	Funds may be used to finance the acquisition, construction or improvement of: *Drinking water sourcing, treatment, storage and distribution *Sewer collection, transmission, treatment and disposal *Solid waste collection, disposal and closure *Storm water collection, transmission and disposal In some cases, funding may also be available for related activities such as: *Legal and engineering fees *Land acquisition, water and land rights, permits and equipment *Start-up operations and maintenance *Interest incurred during construction *Purchase of existing facilities to improve service or prevent loss of service *Other costs determined to be necessary for completion of the project *For a complete list, see 7 CFR Part 1780.7 and 1780.9
	Water and Waste Disposal Predevelopment Planning Grants	Maximum of $30,000 or 75% of the predevelopment planning costs. At least 25% of the project cost must come from the applicant or third party sources. In-kind contributions do not count toward this minimum.	N/A	Grants may be used to pay part of the costs of developing a complete application for USDA Rural Development Water & Waste Disposal direct loan/grant and loan guarantee programs.

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California Environmental Protection Agency, State Water Resources Control Board. *Geo Tracker GAMA.* http://geotracker.waterboards.ca.gov/gama/gamamap/public.

Environmental Working Group. *National Drinking Water Database.* *http://www.ewg.org/tap-water/whatsinyourwater/CA*.

Google Earth.

5.2 Persons and Agencies Consulted

El Monte Village Mobile Home Village. Sanitary Survey

Lemon Cove Water Company, Sanitary Survey

APPENDIX A

GROUNDWATER AMBIENT MONITORING AND ASSESSMENT (GAMA)

DOMESTIC WELL PROJECT GROUNDWATER QUALITY DATA REPORT TULARE COUNTY FOCUS AREA

California State Water Resources Control Board
Groundwater Protection Section
Revised August 2013

Table of Contents

ACKNOWLEDGEMENTS 4
ABBREVIATIONS AND ACRONYMS 5
ABSTRACT 6
INTRODUCTION 7
Domestic Well Project Overview 8
TULARE COUNTY BACKGROUND 10
HYDROGEOLOGIC SETTING 10
Well Construction Data 12
METHODS 14
Well Selection 14
Sample and Data Collection 15
Sample Analysis 15
RESULTS 16
Detections Above a Drinking Water Standard 16
Coliform Bacteria 18
General Minerals 18
Major Anions 20
Metals 22
Radionuclides 26
Pesticides 29
Volatile Organic Compounds (VOCs) 33
Isotopic Data Results 34
POSSIBLE SOURCES OF CHEMICALS IN GROUNDWATER 34
Nitrate 34
Coliform Bacteria 35
Vanadium 35
Radionuclides 35
DBCP 35
ADDITIONAL INFORMATION AND REFERENCES 36

Figures

Figure 1: Location of Sampled Domestic Wells 9
Figure 2: Well Depth Histogram by Subbasin 13
Figure 3: Top 10 California Counties, Volume of Domestic Water Use 14
Figure 4: Total and Fecal Coliform Results 19
Figure 5: Nitrate (as N) Results 21
Figure 6: Vanadium Results 24
Figure 7: Thallium and Nickel Results 25
Figure 8: Radionuclides (Gross Alpha, Radium 226+228, and Uranium) 28
Figure 9: DBCP Results 31
Figure 10: Pesticide Results (LLNL Analysis) 32

Tables

Table 1: Domestic Well Depths....12
Table 2: Summary of Detections Above a Drinking Water Standard....17
Table 3: General Minerals....18
Table 4: Major Anions....20
Table 5: Metals....23
Table 6: Radionuclides....27
Table 7: Pesticides....30
Table 8: VOCs....33

Appendices

Appendix A: LLNL Pesticide and Pharmaceutical Results....39
Appendix B: LLNL Water and Nitrate Isotopic Composition in Tulare County....40

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The GAMA Program staff and management thank all of the volunteer well owners and cooperating county and state agencies that participated in the Tulare County Domestic Well Project.

ABBREVIATIONS AND ACRONYMS

CDPH	California Department of Public Health
DWR	California Department of Water Resources
EC	Electrical Conductivity
GAMA	Groundwater Ambient Monitoring and Assessment
LLNL	Lawrence Livermore National Laboratory
MCL	Maximum Contaminant Level
NL	Notification Level
SMCL	Secondary Maximum Contaminant Level
SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solids
VOCs	Volatile Organic Compounds
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter

ABSTRACT

The State Water Resources Control Board (State Water Board) established the Groundwater Ambient Monitoring and Assessment (GAMA) Program in 2000. Private domestic wells in Tulare County were sampled in 2006 as part of the GAMA Domestic Well Project. Tulare County was selected for sampling due to the large number of domestic wells located within the county and the availability of well-owner data. A total of 181 wells were sampled by Water Board staff, primarily in the valley and foothill areas of the county.

Groundwater samples were analyzed by an accredited environmental laboratory for commonly observed chemical constituents such as bacteria (total and fecal coliform), inorganic parameters (metals, major anions and general minerals), and volatile organic compounds (VOCs). Test results were compared against three public drinking water standards established by the California Department of Public Health (CDPH): primary maximum contaminant levels (MCLs), secondary maximum contaminant levels (SMCLs), and notification levels (NLs). These water quality standards are used for comparison purposes only, since private domestic well water quality is not regulated by the State of California. A total of twenty-two constituents were detected at concentrations above public drinking water standards. Fourteen constituents were detected above a primary MCL, five constituents were above an SMCL, and three were above NLs.

The fourteen constituents were detected above MCLs included total and fecal coliform bacteria, arsenic, beryllium, chromium, nickel, nitrate, nitrite, perchlorate, thallium, 1,2-dibromo-3-chloropropane (DBCP), gross alpha activity, combined radium activity, and uranium activity. Nitrate was the most frequently detected chemical above an MCL, and was detected in 75 wells at concentrations greater than or equal to the MCL of 10 mg/L (nitrate as N). Total coliform bacteria were present in 60 wells, and fecal coliform bacteria were present in 13 wells. DBCP and thallium were detected at concentrations above the MCL in eight and six wells, respectively. All other constituents detected above an MCL were observed in three or fewer wells.

The five chemicals were detected at concentrations above SMCLs, including aluminum, iron, manganese, total dissolved solids (TDS), and zinc. The chemicals detected above an SMCL were all observed in four or fewer wells. Three chemicals were detected above NLs: boron, vanadium, and 1,2,3-trichloropropane. Vanadium was detected in 14 wells at concentrations greater than the NL of 50 µg/L. 1,2,3-trichloroproane and boron were detected above the NL in a single well each.

INTRODUCTION

More than 95 percent of Californians get their drinking water from a public or municipal source - these supplies are typically treated to ensure that the water is safe to drink. However, private domestic wells supply drinking water to approximately 1.6 million Californians. Those served by public or municipal supplies should be concerned about groundwater quality too, as groundwater supplies part or all of the water delivered to approximately 15 million municipal public water supply users. Contaminated groundwater results in treatment costs, well closures, and new well construction which increases costs for consumers.

Groundwater is also an important source of irrigation and industrial supply water. Reliance upon this resource is expected to increase in the future, in part due to increased agricultural and industrial demand, drought, climate change, and population/land-use changes. Consequently, there are growing concerns regarding groundwater quality in California, and whether decreases in quality will affect the availability of this resource. Since the 1980s, over 8,000 public groundwater drinking water sources have been shut down – some due to the detection of chemicals such as nitrate, arsenic, or methyl tert-butyl ether (MTBE).

The State Water Board created the Groundwater Ambient Monitoring and Assessment (GAMA) Program to address public concerns over groundwater quality. The primary objectives of the GAMA Program are to improve comprehensive statewide groundwater monitoring and to increase the public availability of groundwater quality information. The data gathered by GAMA highlight regional and local groundwater quality concerns, and may be used to evaluate whether there are specific chemicals of concern in specific areas throughout the state. The GAMA Program consists of four current projects:

- **Domestic Well Project**: A voluntary groundwater monitoring project that provides water quality information to private (domestic) well owners. To date, the Domestic Well Project has sampled over 1,000 private domestic wells in five county focus areas: Yuba (2002), El Dorado (2003-2004), Tehama (2005), Tulare (2006), and San Diego (2008-2009). State Water Board staff sample the participants' well at no cost to the well owner.

- **Priority Basin Project**: A comprehensive, statewide groundwater monitoring program that primarily uses public groundwater supply wells in high-use, or "priority," groundwater basins. These high-use basins contain more than 95% of all public groundwater supply wells. As of April 2009, the Priority Basin Project has sampled over 1,700 wells in over 90 different groundwater basins. The United States Geological Survey (USGS) is the project technical lead, with support from Lawrence Livermore National Laboratory (LLNL).

- **Special Studies Project**: Focuses on identification of contaminant sources and assessing the effects of remediation in private domestic and public supply wells. The Special Studies Project also studies aquifer storage and recovery projects. LLNL is the project technical lead.

- **GeoTracker GAMA**: A publicly-accessible, map-based on-line query tool that helps users find useful groundwater quality data and information.

This Data Summary Report summarizes Domestic Well Project results from 181 domestic wells sampled in the Tulare County Focus Area collected during 2006. Sampled well locations are shown in Figure 1.

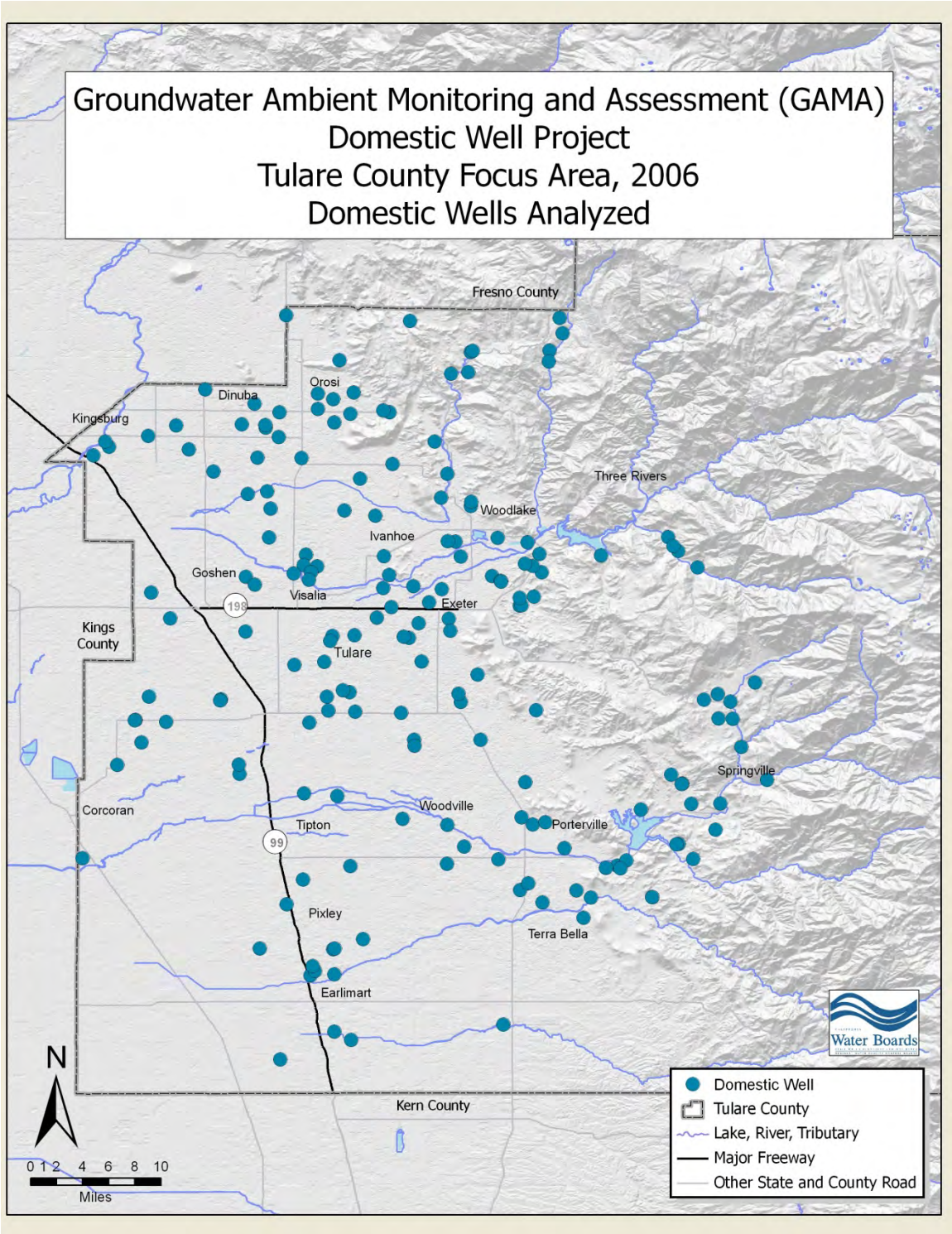
Domestic Well Project Overview

Domestic wells differ from public drinking water supply wells in several respects; domestic wells are generally shallower, are privately owned, supply a single household, and tend to be located in more rural settings where public water supply systems are not available. Census data indicate that there are over 600,000 private domestic wells in California, supplying water to approximately 1.6 million Californians. Tulare County has more than 20,000 domestic wells alone. Due to low pumping rates, the volume of groundwater use by domestic well owners is estimated at 2 percent of the total groundwater volume used in California. The State of California does not regulate water quality in private domestic wells. As a result, many well owners do not have an accurate assessment of their own well water quality.

Domestic well owners are responsible for testing the water quality of their well to know if it is safe for consumption. Domestic wells typically produce very high quality drinking water. However, poor well construction or placement close to a potential source of contamination can result in poor water quality. Chemicals from surface-related activities such as industrial spills, leaking underground fuel tanks, and agricultural applications can impact groundwater. Biological pathogens from sewers, septic systems, and animal facilities can infiltrate into groundwater. Naturally-occurring chemicals can also contaminate groundwater supplies.

Water quality testing results from the Domestic Well Project are compared to existing groundwater information and public supply well data to help assess California groundwater quality and to better identify issues that may impact private domestic well water.

Figure 1: Location of Sampled Domestic Wells



TULARE COUNTY BACKGROUND

Tulare County is part of one of the nation's most productive agricultural regions. The major economic activity in the county is agriculture, and agricultural output from Tulare County alone accounts for approximately 35% of the state's total agricultural economy. With over $3.5 billion in annual agricultural revenues, Tulare County is the most productive county in the United States in terms of revenue. Tulare has been the number one milk-producing county in the United States since 2003.

HYDROGEOLOGIC SETTING

The western half of Tulare County is comprised of flat valley lands of the southern San Joaquin Valley, while rolling foothills associated with the Sierra Nevada Mountains characterize its eastern half. Topography consists of flat valley land, gently rolling foothills, and canyons of the Sierra Nevada Mountains. Water bearing units within Tulare County include younger and older alluvium, flood-basin deposits, lacustrine, marsh and continental deposits. The older alluvium is moderately to highly permeable and is the major aquifer for Tulare County. Regional groundwater flow is generally southwestward; however, pumping can affect local groundwater flow direction.

Tulare County is located within the San Joaquin Valley Groundwater Basin. The California Department of Water Resources (DWR) Bulletin 118 identifies several groundwater subbasins in Tulare County, including the following:

- **Kings Subbasin**: The Kings Subbasin underlies northern Tulare County west of the Sierra foothills. The groundwater system consists of unconsolidated deposits of alluvium, lacustrine sediments, and flood plain deposits. Approximately 17% of the sampled wells were located in the Kings Subbasin.

- **Kaweah Subbasin**: The Kaweah Subbasin underlies central Tulare County west of the Sierra foothills. The major water-bearing units are made up of unconsolidated Pliocene, Pleistocene, and Holocene-age sediments. Continental lacustrine and marsh deposits are found in the western portion of the subbasin, closer to the Tulare Lake bed. Clay beds associated with lacustrine deposits form aquitards that influence the vertical and possibly horizontal movement of local groundwater. The most well-known clay bed is the Corcoran clay, which underlies the western half of the Kaweah Subbasin from 200 to 500 feet below ground surface (bgs). Paleosols or similar oxidized deposits outcrop in the eastern parts of the subbasin closer to the Sierra foothills. The county's population centers of Visalia and Tulare are located within the Kaweah Subbasin. Approximately 44% of the sampled wells were located in the Kaweah Subbasin.

- **Tule Subbasin**: The Tule Subbasin underlies southern Tulare County west of the Sierra foothills. Water bearing deposits in the Tulare Subbasin are comprised of flood-basin deposits, alluvium, the Tulare Formation, and undifferentiated continental sediments deposited during the Pliocene to Holocene. The Tulare Formation contains the Corcoran Clay, which is the major confining unit in the subbasin. Approximately 20% of the sampled wells were located in the Tule Subbasin.

- **Foothills**: The Foothills area is not a DWR-defined basin. It is comprised of wells located east of the valley portion of Tulare County in the higher-elevation. The water bearing unit is generally fractured crystalline rock associated with uplift and emplacement of the Sierra Nevada Mountains. Approximately 19% of the sampled wells were located in the foothills.

In Tulare County, municipal and irrigation wells are typically completed to a total depth of 100 to 500 feet bgs, except for within the Tule Subbasin where well depths range between 200 to 1,400 feet bgs (DWR, 2004). Groundwater recharge in the county occurs through river and stream seepage, percolation of irrigation water, canal seepage, and intentional recharge. Land subsidence of up to 16 feet occurred due to deep compaction of fine-grained units. This subsidence is thought to be due to groundwater withdrawal.

Well Construction Data

The completed depths of wells sampled in Tulare County as part of the Domestic Well Project are shown in Table 1 (well construction data was available for 141 of the 181 sampled wells). The data suggest that the shallow aquifer system provides adequate water supply for domestic use. Over 50% of the wells sampled as part of the Domestic Well Project were completed at a depth less than 200 feet.

Table 1: Domestic Well Depths

GAMA Domestic Well Project, Tulare County Focus Area

Total Well Depth (feet bgs)	Number of Wells
0-24	1
25-49	1
50-74	8
75-99	19
100-124	9
125-149	18
150-174	14
175-199	13
200-224	5
225-249	8
250-274	7
275-299	9
300-324	11
325-349	0
350-374	1
375-400	4
400-900	12

Note: Well depth data not available for all wells

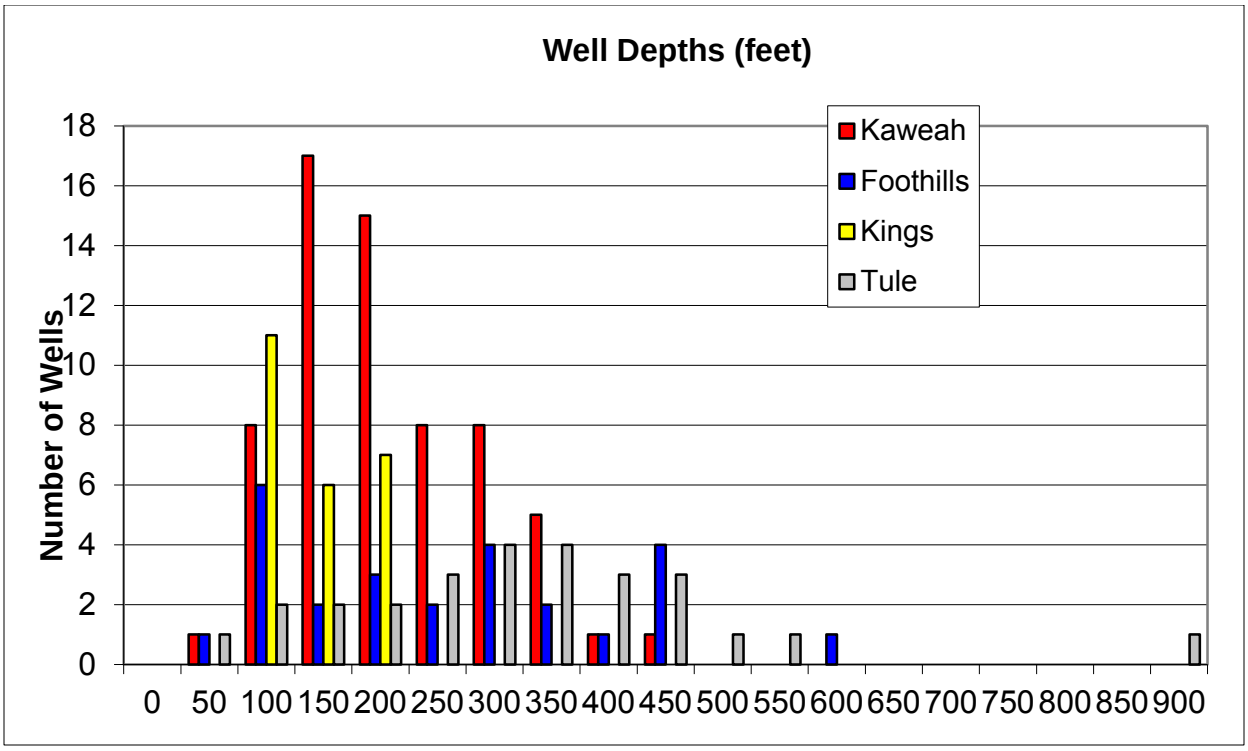


Figure 2: Well Depth Histogram by Subbasin

The depths of wells sampled as part of the Domestic Well Project were grouped by subbasin.

- Wells sampled in the Kaweah Subbasin are generally completed to depths between 100 and 250 feet bgs. However, a significant number of wells in the Kaweah Subbasin are completed at depths greater than 250 feet bgs.

- Wells sampled in the Kings Subbasin are generally completed at shallower depths – all sampled wells are less than 200 feet bgs.

- Wells sampled in the Tule Subbasin are in general deeper than wells drilled in other parts of the county. Approximately 68% of wells sampled in the Tule Subbasin are completed to depths greater than 250 feet bgs, suggesting that either depth to groundwater is greater or that domestic well owners are avoiding shallower groundwater in this subbasin.

- There is no discernable pattern observed in wells sampled in the Foothills area, where both very shallow and very deep wells are observed.

METHODS

Well Selection

Tulare County was selected by GAMA due to the large number of domestic wells within the county and the availability of electronic well owner data. Based on a 1999 survey by the State of California, Department of Finance census, over 20,000 private domestic wells are located in Tulare County. Tulare County is the eighth largest user of domestic well water in California, based upon volume of withdrawals (Figure 3).

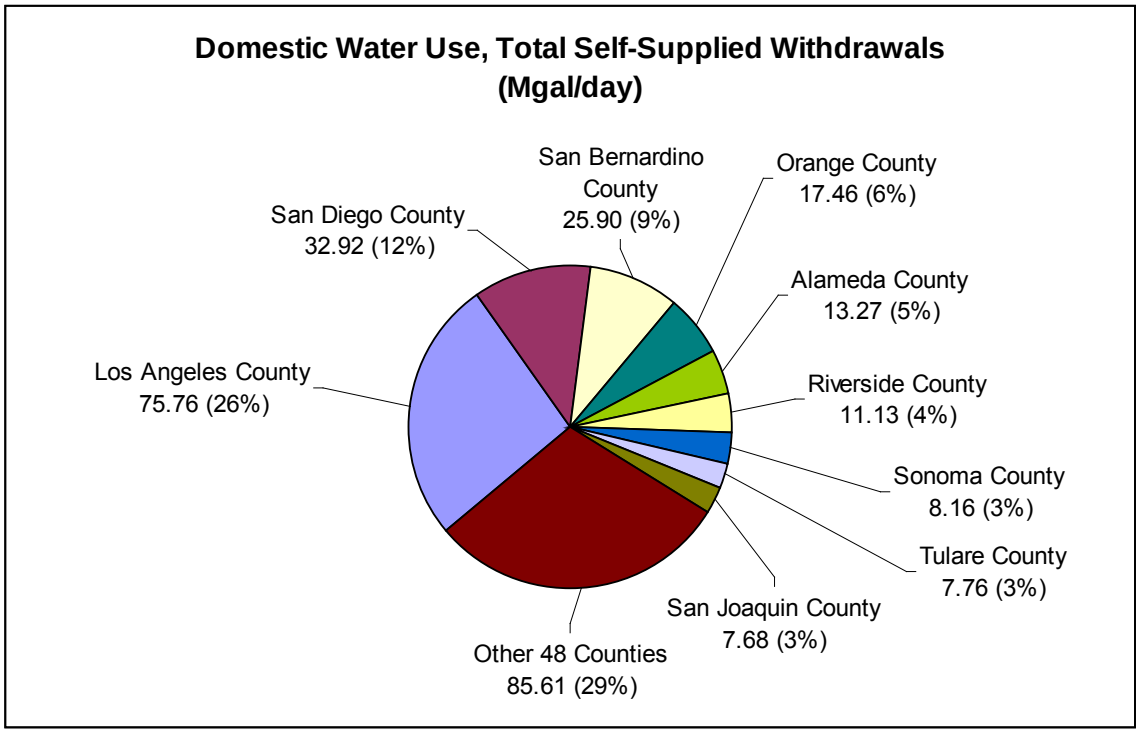


Figure 3: Top 10 California Counties, Volume of Domestic Water Use

(USGS, 2000)

The Tulare County Department of Health and Human Services provided GAMA staff with an electronic database containing the names, mailing addresses, and parcel map book numbers of domestic well owners. Approximately 1,500 of these domestic well owners were mailed a brochure in Spanish and English containing information about the GAMA well testing program and inviting them to participate. A total of 181 domestic well owners volunteered to have their well tested.

Sample and Data Collection

Well construction information was obtained from either well owners or well completion reports (well logs). Observations at each well noted the location of nearby septic systems, large-scale agriculture, or livestock enclosures that could result in contamination of the well. Well locations were recorded using a Geographic Positioning Satellite (GPS) unit. Water temperature, pH, and specific electrical conductance were measured and documented in the field.

Groundwater samples were collected as close to the well head as possible. Most often the sample was collected from a faucet or spigot just before or after the pressure tank. New nitrile gloves were worn by field staff during sample collection to minimize contamination during sampling. Samples were collected in laboratory supplied pre-cleaned bottles, and were stored in an iced cooler until delivery to the lab within 24 hours.

Trip blank and duplicate samples were collected at approximately 10 percent of the well locations. These samples are collected and analyzed to help determine if cross contamination was introduced during sample collection, processing, storage, and/or transportation. All trip blank and duplicate data results were within acceptable range criteria.

Sample Analysis

Groundwater samples were analyzed by Delta Environmental Laboratories in Benicia, California for the following:

- Bacteria (total and fecal coliform)
- Inorganic parameters (metals, major anions and general minerals)
- Volatile organic compounds (VOCs)
- Non-routine analytes: radionuclides, pesticides, perchlorate

Selected groundwater samples were also analyzed by LLNL for the following:

- Stable isotopes of oxygen and hydrogen in water
- Stable isotopes of nitrogen and oxygen in nitrate

Stable isotope results are summarized in the report by LLNL, Appendix B.

RESULTS

Detections Above a Drinking Water Standard

There are no Federal or State water quality standards that regulate private domestic well water quality. The Domestic Well Project has compared the test results to the following public drinking water standards: CDPH primary maximum contaminant levels (MCLs), secondary MCLs (SMCLs), and notification levels (NLs). The MCL is the highest concentration of a contaminant allowed in public drinking water. Primary MCLs address health concerns, while secondary MCLs (SMCLs) address aesthetics, such as taste and odor. NLs are health-based advisory levels for chemicals in public drinking water that have no formal regulatory standards.

Analytes that were detected in one or more wells above a drinking water standard:

- Total and Fecal Coliform Bacteria
- Nitrate (NO_3^-)
- Nitrite
- 1,2-Dibromo-3-Chloropropane (DBCP)
- 1,2,3-Trichloropropane
- Gross alpha activity
- Radium 226+228
- Uranium
- Perchlorate
- Arsenic
- Beryllium
- Boron
- Chromium
- Thallium
- Nickel
- Iron
- Aluminum
- Manganese
- Vanadium
- Zinc
- Total Dissolved Solids (TDS)

A summary of all analytes detected above a drinking water standard is outlined in Table 2. Detailed results of the domestic well sampling are summarized below.

Table 2: Summary of Detections Above a Drinking Water Standard

GAMA Domestic Well Project, Tulare County Focus Area, Concentrations Above Public Drinking Water Standards

Total Number of Wells Sampled: 181

Compound	Wells Above a Public Drinking Water Standard		Range of Detected Values Above Public Drinking Water Standards	Public Drinking Water Standards[3]		
	Number	Percentage		MCL	SMCL	NL
Major Ions & General Chemistry						
Nitrate (as N)	72	40%	10.1 - 54 mg/L	10 mg/L		
Perchlorate	2 (of 30 sampled)	6%	7.9 - 13 µg/L	6 µg/L		
Nitrite (as N)	4	2%	1.52 - 4.08 mg/L	1 mg/L		
Total Diss. Solids (TDS)	4	2%	1,002 - 1,052 mg/L		1,000 mg/L	
Metals						
Vanadium	14	8%	50.1 - 42.9 µg/L			50 µg/L
Aluminum	2	1%	275 - 450 µg/L		200 µg/L	
Arsenic	2	2%	10.4 - 14 µg/L	10 µg/L		
Beryllium	1	<1%	113 µg/L	4 µg/L		
Boron	1	<1%	48.4 mg/L			1 mg/L
Chromium	2	1%	76.7 - 91.9 µg/L	50 µg/L		
Iron	2	1%	608 - 650 µg/L		300 µg/L	
Manganese	2	1%	93.5 - 172 µg/L		50 µg/L	
Nickel	3	2%	121 - 213 µg/L	100 µg/L		
Thallium	6	3%	2.11 - 7.32 µg/L	2 µgL		
Zinc	1	<1%	17.3 mg/L		5 mg/L	
Radionuclides						
Gross Alpha	3 (of 13 sampled)	23%	15.1 - 602 pCi/L	15 pCi/L[1]		
Radium 226+228	1 (of 13 sampled)	8%	5.1 pCi/L	5 pCI/L[1]		
Uranium	1 (of 13 sampled)	8%	228 pCi/L	20 pCi/L[1]		
Bacteria Indicators						
Total Coliform	60	33%	NA[2]	Present		
Fecal Coliform	13	7%	NA[2]	Present		
Organic Compounds (Pesticides and VOCs)						
1,2-dibromo 3-chloropropane (DBCP)	8	4%	0.221 - 2.83 µg/L	0.2 µg/L		
1,2,3-trichloropropane	1	<1%	0.8			0.005 µg/L

Notes:

1. pCi/L = picocuries per liter; mg/L = milligrams per liter, or parts per million (ppm); µg/L = micrograms per liter or parts per billion (ppb)
2. Coliform are evaluated on a presence/absence criteria. No range can be determined
3. MCL = California Department of Public Health (CDPH) Primary Maximum Contaminant Level; SMCL = CDPH Secondary Maximum Contaminant Level; NL = CDPH Notification Level

Coliform Bacteria

Total coliform bacteria were detected in 60 wells (33% of total samples). Thirteen of the wells with positive total coliform detections also tested positive for fecal coliform (7% of sampled wells). Figure 4 shows the distribution of total and fecal coliform bacteria detected in sampled domestic wells.

General Minerals

General minerals detected in domestic well samples are summarized in Table 3. General minerals include measures of alkalinity, hardness, and total dissolved solids (TDS). All of the general minerals listed in Table 3, with the exception of foaming agents (MBAS), naturally occur in groundwater. However, human activities can sometimes change the concentrations of these minerals in groundwater.

There are no established regulatory levels for many general mineral analytes; only foaming agents (MBAS), EC, and TDS have SMCLs. MBAS, which are typically associated with the presence of detergents, were not detected at a concentration above the MCL. TDS, which is an estimate of the total concentration of all non-settleable (dissolved) components in water, was detected at concentrations above the SMCL (1,000 mg/L) in four wells.

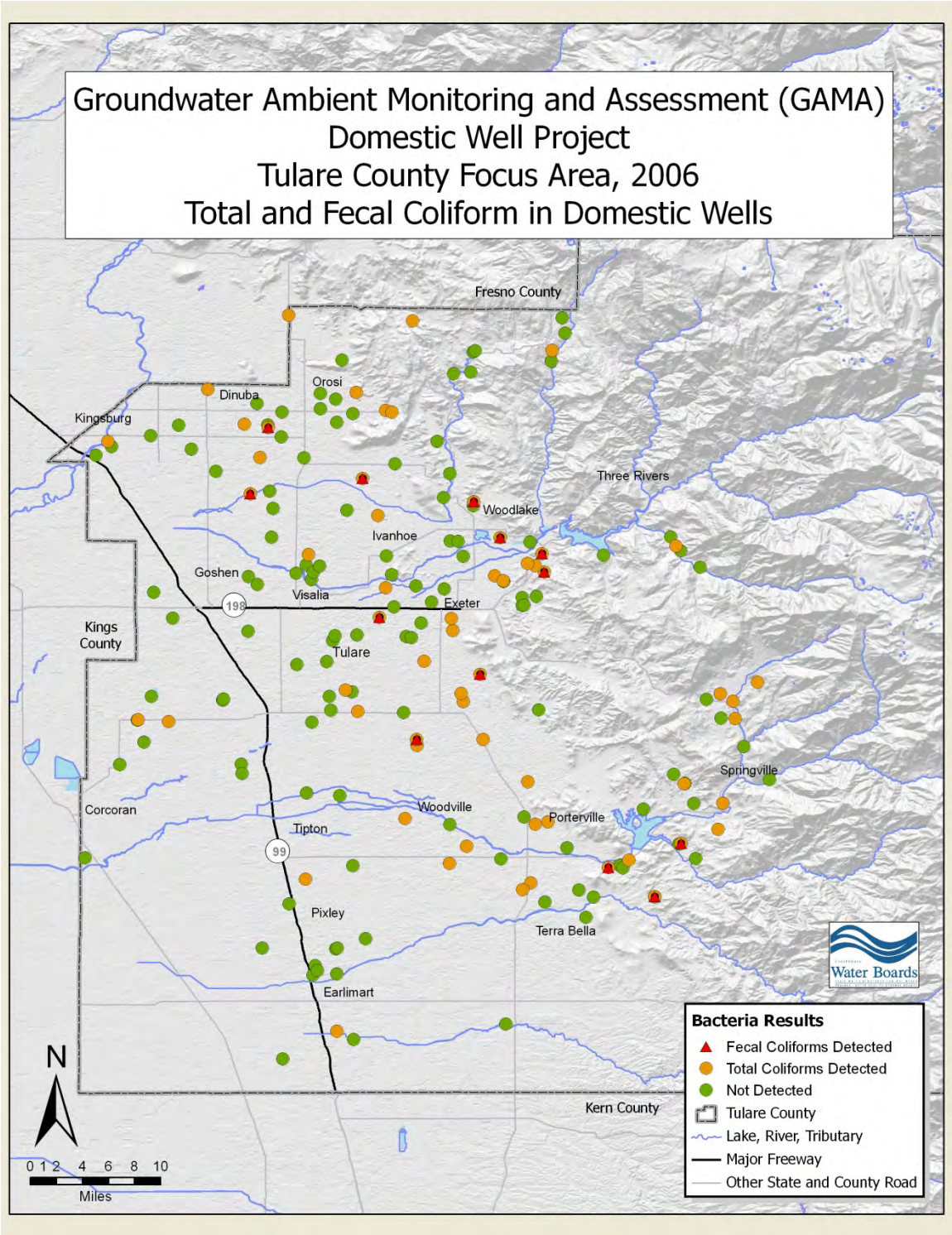
Table 3: General Minerals

GAMA Domestic Well Project, Tulare County Focus Area

Analyte	Range of Detected Values (mg/L)	Public Drinking Water Standard (mg/L)	Number of Wells Above Standard
Total Alkalinity (as $CaCO_3$)	34 - 660	NA	0
Bicarbonate	41 - 805	NA	0
Carbonate	122	NA	0
Calcium	7.92 - 169	NA	0
Magnesium	0.42 - 93.3	NA	0
Potassium	0.35 - 14.1	NA	0
Sodium	230 - 296	NA	0
Foaming Agents (MBAS)	0.06 - 0.07	0.5 (SMCL)	0
Hardness (Total) as $CaCO_3$	19.8 - 608	NA	0
pH, Laboratory	5.48 - 8.39	NA	0
Total Dissolved Solids (TDS)	5.52 – 1,052	1,000 (SMCL)	4

Notes:
1. SMCL = Secondary Maximum Contaminant Level
2. mg/L = milligrams per liter
3. NA = Health or aesthetic standards are not available for this constituent

Figure 4: Total and Fecal Coliform Results



Major Anions

Major anions detected in domestic well samples are summarized in Table 4. Nitrate (NO_3^-), nitrite (NO_2), and perchlorate were detected at concentrations above a drinking water standard. Nitrate was measured as mg/L as N. Nitrate was detected in 173 wells at concentrations ranging from 0.11 to 54 mg/L (as N). Nitrate was detected above the MCL (10 mg/L as N) in 72 wells. The distribution of nitrate in domestic wells is shown on Figure 5. Nitrite was detected in 68 wells, and was detected at concentrations above the MCL (1.0 mg/L) in four wells. Perchlorate was sampled in a smaller subset of wells (30 wells), and was detected above the MCL (0.006 mg/L) in two wells.

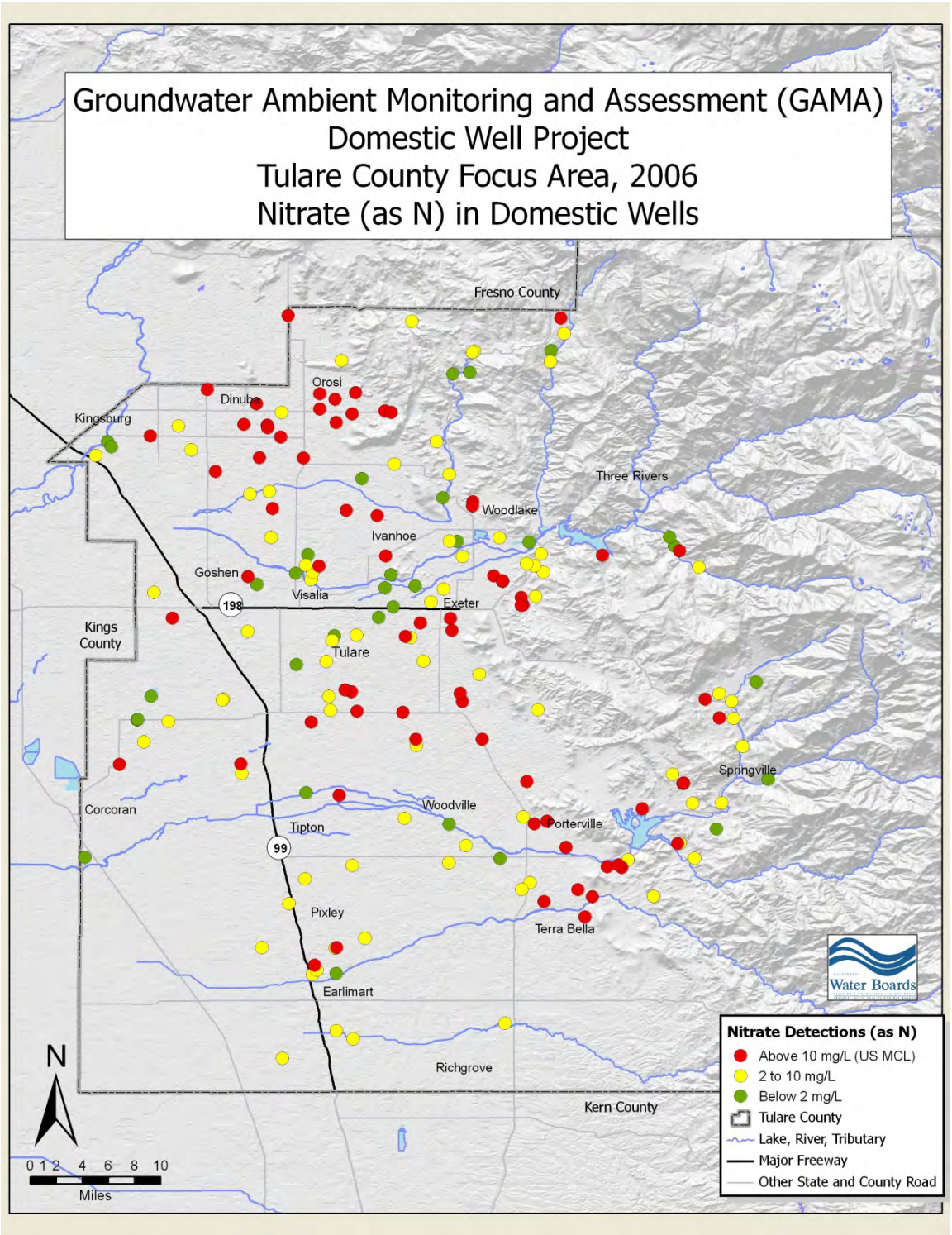
Table 4: Major Anions

GAMA Domestic Well Project, Tulare County Focus Area

Analyte	Range of Detected Values (mg/L)	Public Drinking Water Standard (mg/L)	Number of Wells Above Standard
Chloride	1.1 - 341	500 SMCL	0
Fluoride	0.1- 0.7	2 MCL	0
Nitrate (as N)	0.11 - 54	10 MCL	72
Nitrite (as N)	0.1 - 4.1	1 MCL	4
Perchlorate	0.6 - 13	0.006 MCL	2
Sulfate	2.4 - 220	500 SMCL	0

Notes: MCL = Maximum Contaminant Level, SMCL = Secondary Maximum Contaminant Level. mg/L = milligrams per liter

Figure 5: Nitrate (as N) Results



Metals

Metals detected in domestic well samples are shown in Table 5. Eleven metals (aluminum, arsenic, beryllium, boron, chromium, iron, manganese, nickel, thallium, vanadium, and zinc) were detected at concentrations above a public drinking water standard. A summary of metals detected above a drinking water standard is provided below. The locations of wells with detections of vanadium are shown in Figure 6. The locations of thallium and nickel above a drinking water standard are shown in Figure 7.

- Aluminum was detected in 120 wells at concentrations ranging from 5.85 to 450 µg/L. Aluminum was detected above the SMCL (200 µg/L) in two wells.

- Arsenic was detected in 126 wells at concentrations ranging from 0.1 to 14 µg/L. Arsenic was detected above the MCL (10 µg/L) in two wells.

- Beryllium was detected in one sample at 113 µg/L. This concentration is above the MCL of 4 µg/L.

- Boron was detected in 161 wells at concentrations ranging from 7.8 to 48,400 µg/L. Boron was detected above the NL (1,000 µg/L) in one well.

- Total chromium was detected in 42 wells at concentrations ranging from 2.36 to 91.9 µg/L. Chromium was detected above the MCL (50 µg/L) in two wells.

- Manganese was detected in 149 wells at concentrations ranging from 0.11 to 172 µg/L. Manganese was detected above the SMCL (50 µg/L) in two wells.

- Iron was detected in 44 wells at concentrations ranging from 20.1 to 650 µg/L. Iron was detected above the SMCL (300 µg/L) in two wells.

- Nickel was detected in 55 wells at concentrations ranging from 2.16 to 213 µg/L. Nickel was detected above the MCL (100 µg/L) in three wells.

- Thallium was detected in 25 wells at concentrations ranging from 0.2 to 7.32 µg/L. Thallium was detected above the MCL (2 µg/L) in six wells.

- Vanadium was detected in 165 wells at concentrations ranging from 3.77 to 92.9 µg/L. Vanadium was detected above the NL (50 µg/L) in 14 wells.

- Zinc was detected in 171 wells at concentrations ranging from 1.37 to 17,300 µg/L. Zinc was detected above the SMCL (5 mg/L) in one sample.

Table 5: Metals

GAMA Domestic Well Project, Tulare County Focus Area

Analyte	Range of Detected Values (µg/L)	Public Drinking Water Standard (µg/L)	Number of Wells Above Standard
Aluminum	5.85 - 450	200 SMCL	2
Arsenic	0.1 - 14	10 MCL	2
Barium	1.54 - 495	1,000 MCL	0
Beryllium	113	4 MCL	1
Boron	7.8 – 48,400	1,000 NL	1
Cadmium	1.16	5 MCL	0
Chromium (Total)	0 - 91.9	50 MCL	2
Copper	1.1 - 60.6	1,000 SMCL	0
Iron	20.1 - 650	300 SMCL	2
Lead	0.11 - 6.48	15 NL	0
Manganese	0.11 - 172	50 SMCL	2
Nickel	3.16 - 213	100 MCL	3
Selenium	0.11 - 1.55	50 MCL	0
Silver	33.6	100 SMCL	0
Thallium	0.2 - 7.32	2 MCL	6
Vanadium	0.2 92.9	50 NL	14
Zinc	1.37 - 17,300	5,000 SMCL	1

Notes:

1. MCL = Maximum Contaminant Level, SMCL = Secondary Maximum Contaminant Level, NL = Notification level
2. µg/L = micrograms per liter

Figure 6: Vanadium Results

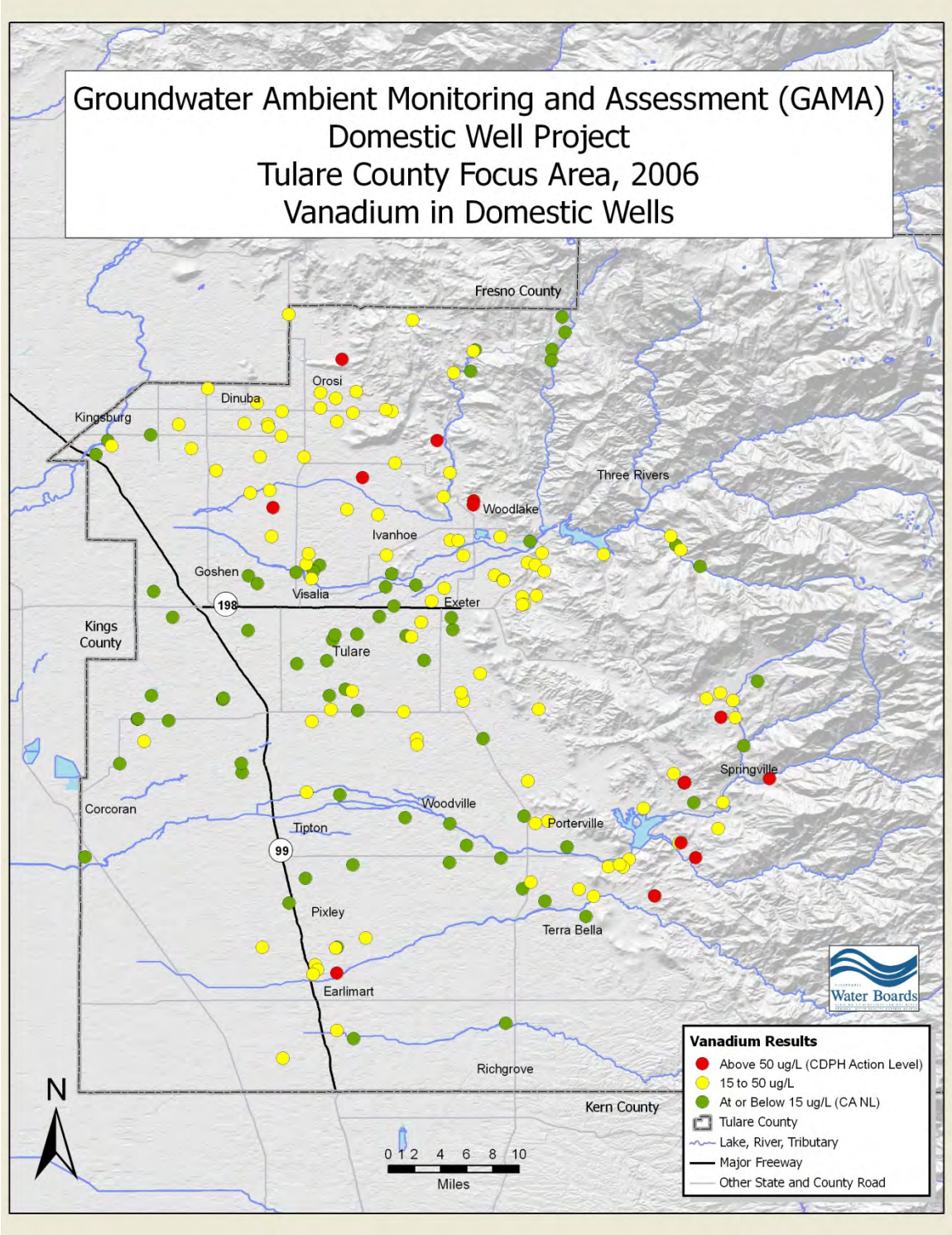
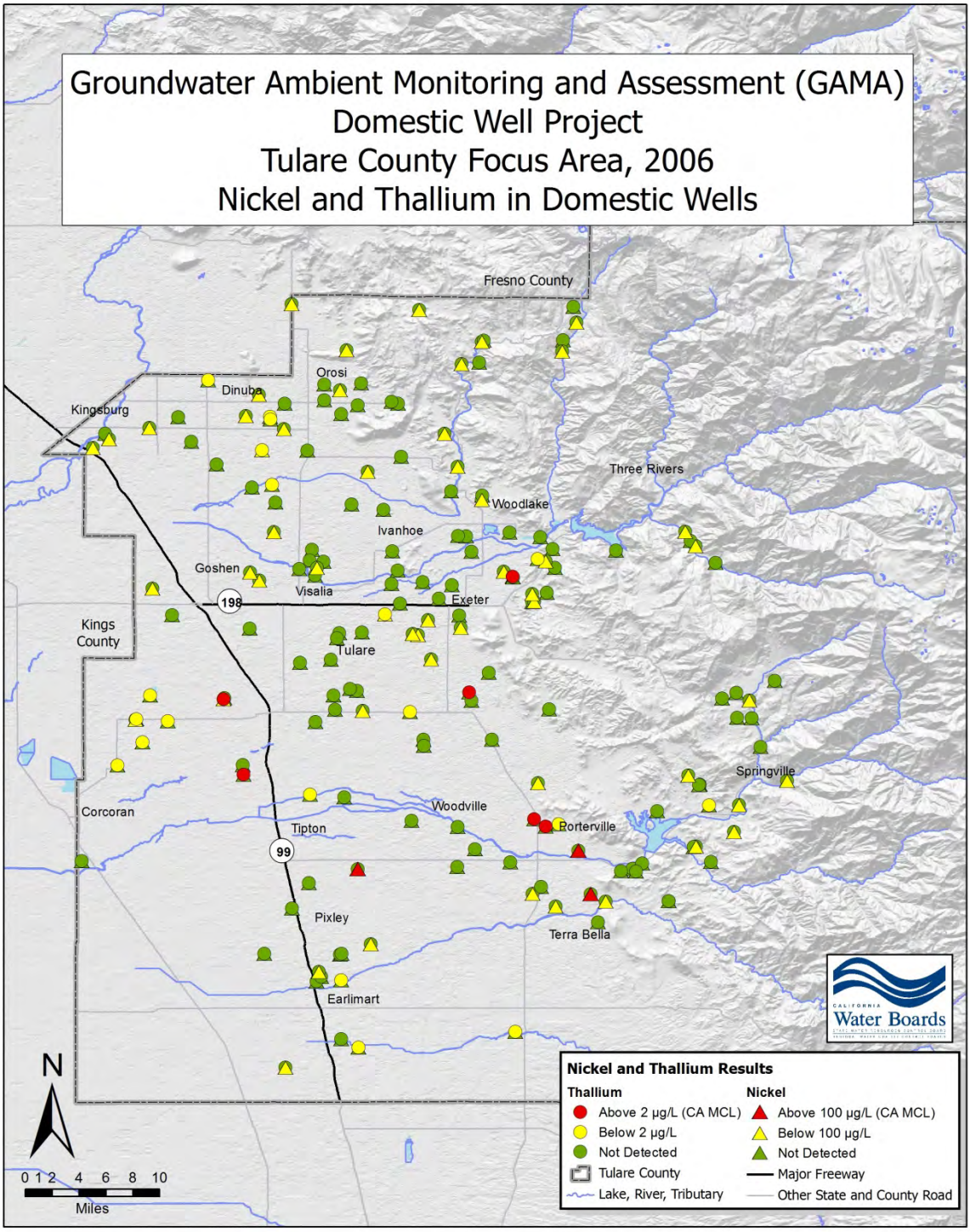


Figure 7: Thallium and Nickel Results



Radionuclides

Thirteen domestic wells were selected for radionuclide analyses. Test results are shown in Table 6. Radionuclide analyses included gross alpha particle activity, gross beta particle activity, combined radium (the activity of radium-226 and radium-228), tritium, and uranium. Drinking water standards for radionuclides are in picocuries per liter (pCi/L) or millirems per year (millirem/yr). A curie is the radioactivity associated with one gram of radium – a picocurie is one trillionth of a curie. The gross beta activity drinking water standard is in terms of millirems per year. A 'rem' is a unit of measure describing how a specific type of radiation damages biologic tissue. A millirem is one thousandth of a rem. There is no simple conversion between a curie and a rem. Gross beta activity previously had an MCL of 50 pCi/L, which was replaced by the 4 millirem/yr standard. Gross beta activity of 50 pCi/L is still used as a trigger for additional testing by CDPH. A summary of radionuclide test results is included below. The locations of wells sampled for uranium, gross alpha activity, and radium (226+228) is shown in Figure 8.

- Gross alpha activity was detected in all thirteen sampled wells at activities ranging from 2.8 to 602 pCi/L. Gross alpha activity was above the MCL (15 pCi/L) in three wells.

- Gross beta activity was detected in twelve of the thirteen sampled wells, with activities ranging from 2.8 to 7.15 pCi/L. None of the gross beta activities were above the NL of 50 pCi/L.

- Combined radium (radium 226+228) activity was detected in nine of thirteen wells at activities ranging from 0.71 to 5.2 pCi/L. Radium activity was above the MCL (5 pCi/L) in one well.

- Tritium activity was detected in ten of thirteen sampled wells at activities ranging from 181 to 1,264 pCi/L. None of the wells were above the MCL (20,000 pCi/L).

- Uranium activity was detected in all thirteen sampled wells at activities ranging from 2.15 to 228 pCi/L. Uranium activity was above the MCL (20 pCi/L) in one well.

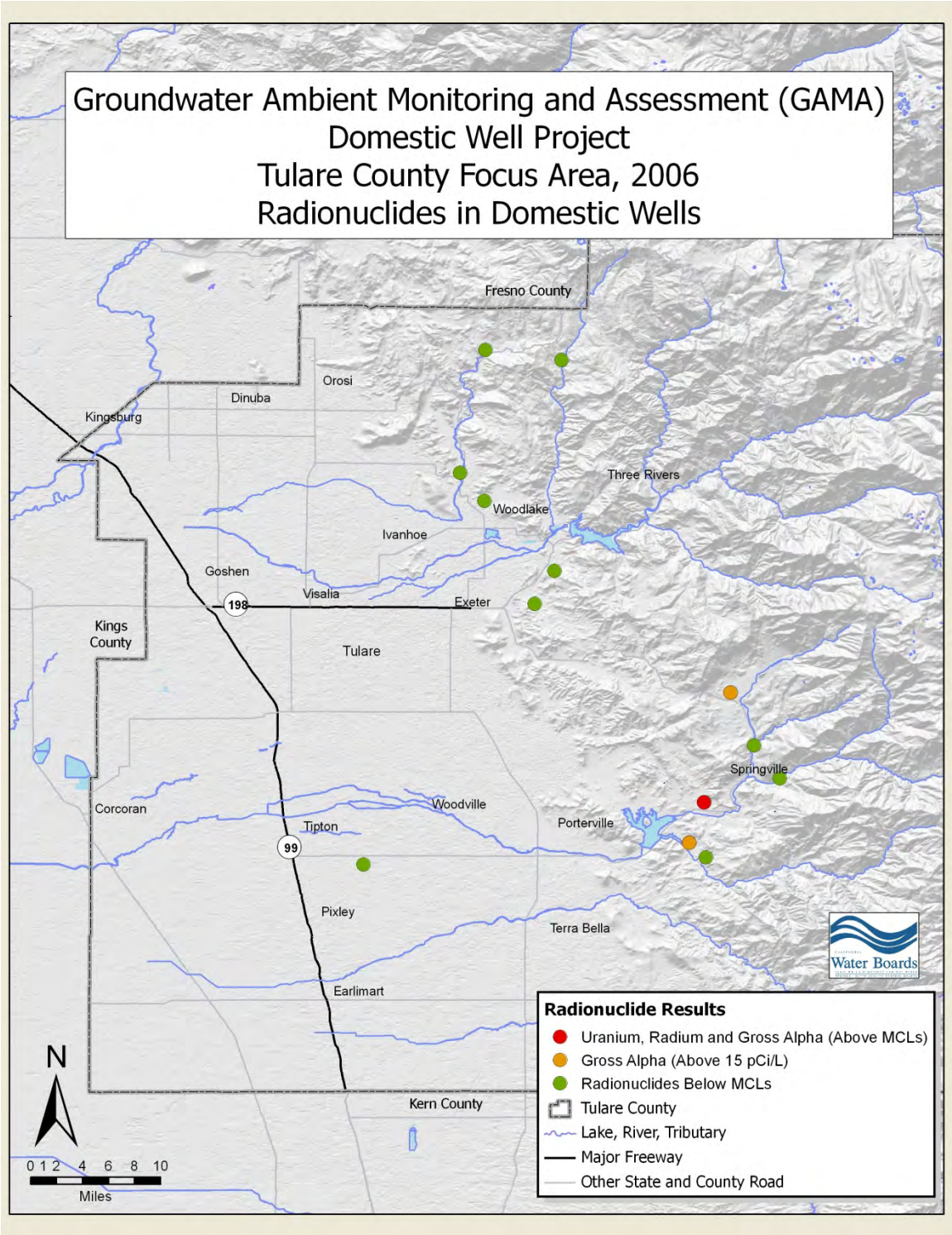
Table 6: Radionuclides

GAMA Domestic Well Project, Tulare County Focus Area

Analyte	Range of Detected Values (pCi/L)	Public Drinking Water Standard (pCi/L)	Number of Wells Above Standard
Gross alpha	2.8 - 602	15 MCL	3
Gross beta	2.8 - 7.15	50 NL 4 milirem/yr MCL	0
Radium 226+228	0.71 - 5.2	5 MCL	1
Tritium	181 – 1,264	20,000 MCL	0
Uranium	2.15 - 228	20 MCL	1

Notes: MCL = Maximum Contaminant Level. pCi/L = picocurie per liter. milirem/yr = milirems per year

Figure 8: Radionuclides (Gross Alpha, Radium 226+228, and Uranium)



Pesticides

Pesticides have been used on crops for decades to maintain high production and prevent loss.

Historically, 1,2-dibromo-3-chloropropane (DBCP) has been detected in groundwater in the San Joaquin Valley at concentrations greater than the MCL. All 181 samples were analyzed for DBCP, EDB and 1,2,3-TCP using EPA method E504.1. Only DBCP was detected using this method; the locations of wells with detections of DBCP are shown in Figure 9.

Eighteen selected domestic well samples were also tested by LLNL for additional pesticides and pesticide degradates using California Department of Food and Agriculture (CDFA) method EMON-SM-62.9. Results are displayed on Figure 10 and detailed in the table shown in Appendix A. Prometon, metribuzin, and prometryn were not detected in any of the wells selected for pesticide testing. All pesticides, with the exception of DBCP, were detected at concentrations less than established drinking water standards. Pesticide compounds were detected as follows:

Analyzed in all 181 wells:

- DBCP was detected in 27 wells at concentrations ranging from 0.01 to 1.63 µg/L. Concentrations of DBCP were above the MCL of 0.2 µg/L in eight wells.

Analyzed in 18 selected wells by LLNL (CDFA Method):

- Hexazinone was detected in one sample at a concentration of 0.027 µg/L.

- Metolachlor was detected in one sample at a concentration of 0.077 µg/L.

- Cyanazine was detected in two samples, both at concentrations of 0.012 µg/L.

- Atrazine was detected in three wells at concentrations ranging from 0.012 to 0.037 µg/L.

- Deisopropyl-atrazine (DIA was detected in eleven wells at concentrations ranging from 0.016 to 0.732 µg/L.

- Diaminochlorotriazine (DACT) was detected in five wells at concentrations ranging from 0.031 to 0.099 µg/L.

- Deethyl-atrazine (DEA) was detected in six wells at concentrations ranging from 0.012 to 0.050 µg/L.

- Diuron was detected in nine wells at concentrations ranging from 0.011 to 0.750 µg/L.
- Simazine was detected in ten wells with concentrations ranging from 0.011 to 0.158 µg/L.
- Bromacil was detected in eight wells at concentrations ranging from 0.016 to 1.021 µg/L.
- Norflurazon was detected in five wells at concentrations ranging from 0.022 to 1.390 µg/L.
- Desmethyl Norflurazon (a degradate of norflurazon) was detected in four wells at concentrations ranging from 0.093 to 0.323 µg/L

.

In addition to pesticides, LLNL detected primidone at concentration of 0.067µg/L. This was confirmed in a duplicate sample at 0.070µg/L. Primodone is a pharmaceutical (anticonvulsant), and may indicate a connection between septic leachate and groundwater.

Table 7: Pesticides

GAMA Domestic Well Project, Tulare County Focus Area

Analyte	Range of Detected Values (µg/L)	Public Drinking Water Standard (µg/L)	Number of Wells Above Standard	Wells Sampled/Detection
DBCP	0.01 - 1.63	0.2 MCL	8	181/28
Diuron	0.011 - 0.750	NA	0	18/9
DACT	0.031 - 0.099	NA	0	18/5
DIA	0.016 - 0.732	NA	0	1812
DEA	0.012 - 0.050	NA	0	18/7
Prometon	Not Detected	NA	0	18/0
Simazine	0.011 - 0.158	4 MCL	0	18/11
Atrazine	0.012 - 0.037	1 MCL	0	18/4
Metribuzin	Not Detected	NA	0	18/0
Prometryn	Not Detected	NA	0	18/0
Bromacil	0.016 - 1.021	NA	0	18/8
Cyanazine	0.012	NA	0	18/2
Hexazinone	0.027	NA	0	18/1
Primidone*	0.070	NA	0	18/1
Metolachlor	0.077	NA	0	18/1
Norflurazon	0.022 - 1.390	NA	0	18/5
Desmethyl Norflurazon	0.093 - 0.323	NA	0	18/4

Notes: NA = Not Available
Public Drinking Water Standards are not available for all chemicals
MCL = Maximum Contaminant Level
µg/L = micrograms per liter
*= Primidone is a pharmaceutical

Figure 9: DBCP Results

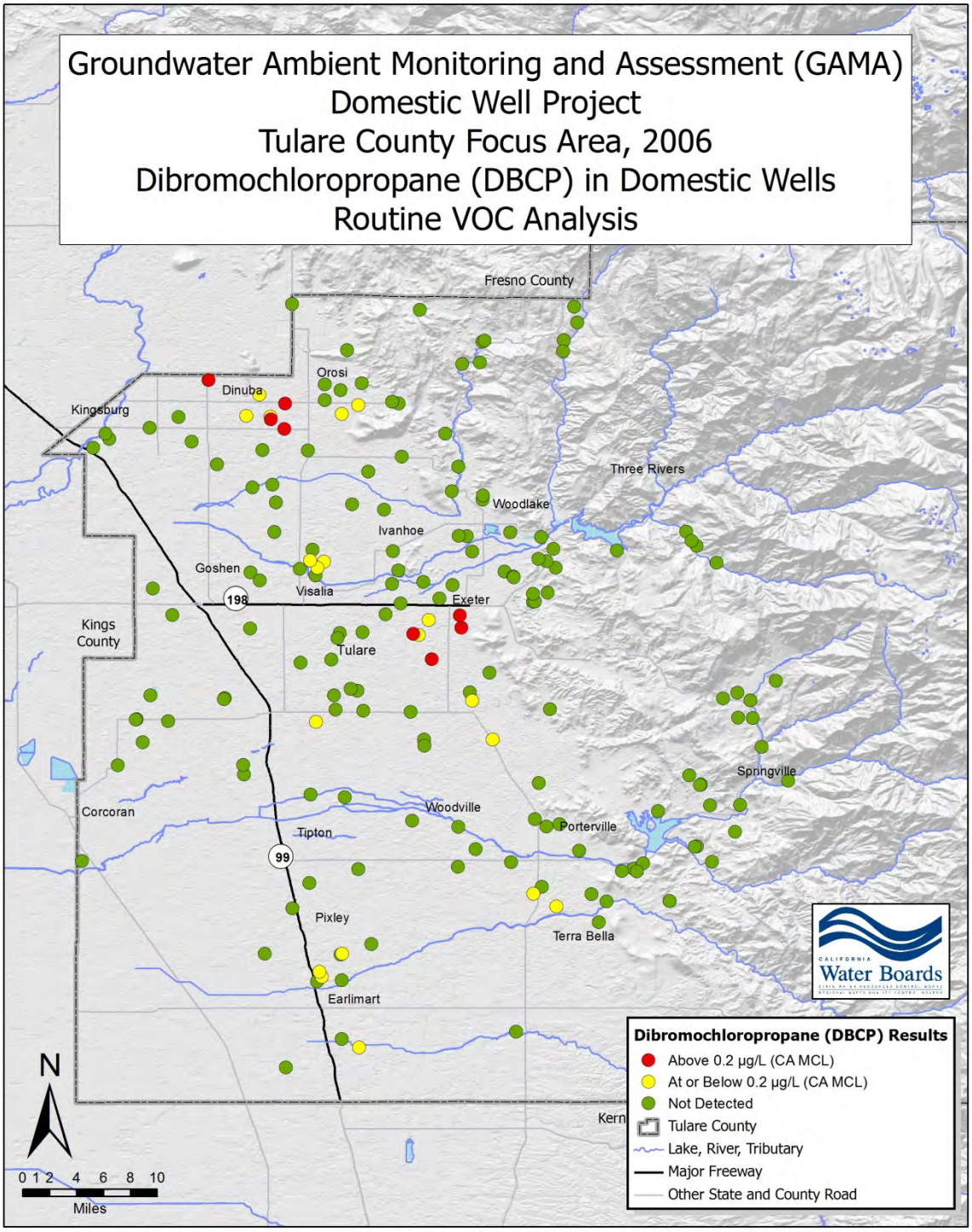
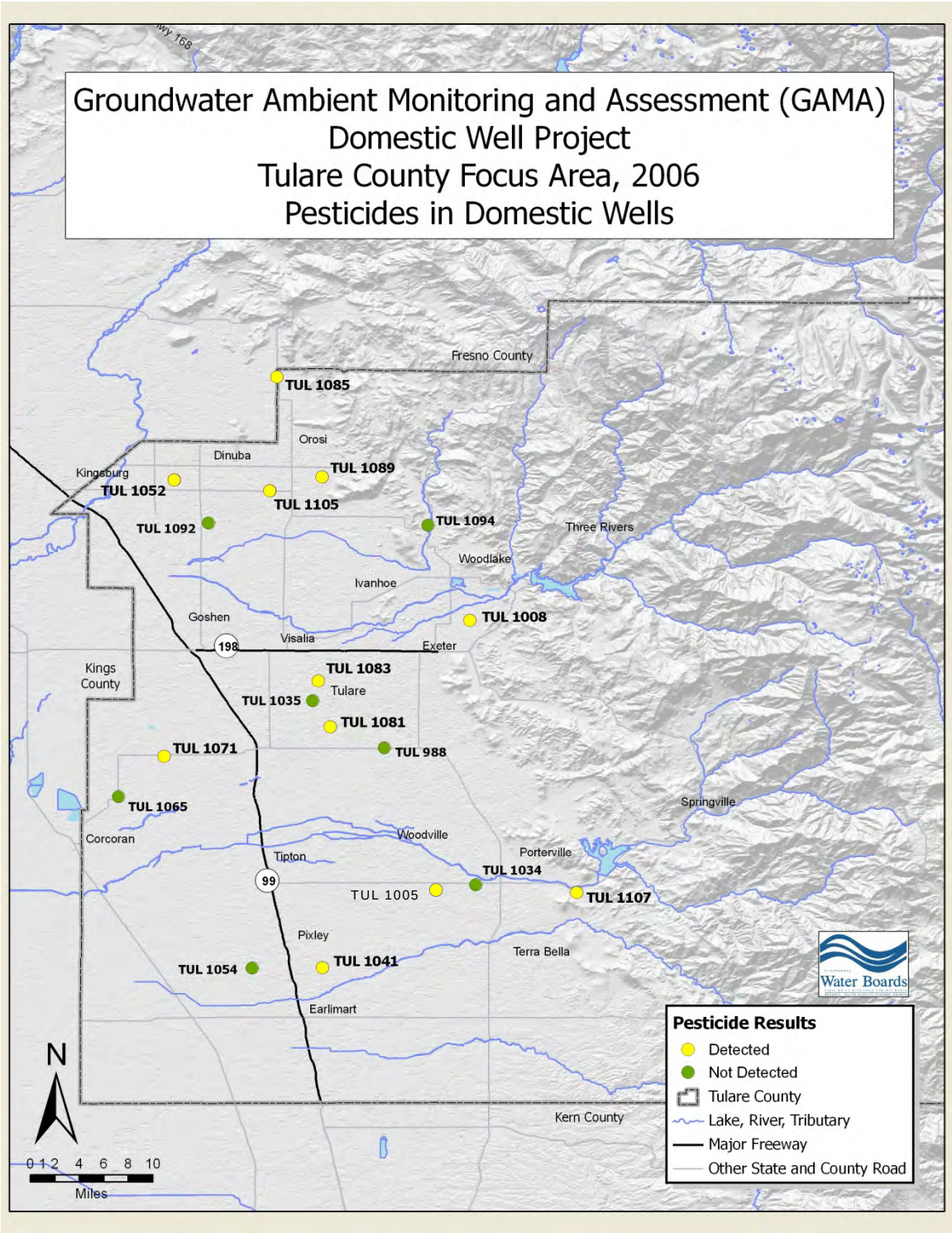


Figure 10: Pesticide Results (LLNL Analysis)



Volatile Organic Compounds

Volatile Organic Compounds (VOCs) detected in domestic wells are summarized in Table 8. Dozens of VOCs were tested including benzene, toluene, ethylbenzene and xylenes. For a full list of analytes see table 8. A single VOC, 1,2,3-Trichloropropane was detected above a public drinking water standard (NL) in wells sampled as part of the Domestic Well Project. Low-level concentrations, below public drinking water standards, of six additional VOCs were detected.

- 1,1-Dichloroethane at a concentration of 0.6 µg/L in one well
- 1,2,3-Trichloropropane at a concentration of 0.8 µg/L in one well. This concentration is above the NL (0.005 µg/L).
- Chloroform at concentrations ranging from 0.7 to 15.8 µg/L in five wells
- Chloromethane at a concentration of 1 µg/L in one well
- N-butylbenzene at a concentration of 0.2 µg/L in one well
- Tetrachloroethene (PCE) at a concentration of 2.33 µg/L in one well
- Toluene at a concentration of 22 µg/L in one well

Table 8: VOCs

GAMA Domestic Well Project, Tulare County Focus Area

Analyte	Range of Detected Values (µg/L)	Public Drinking Water Standard (µg/L)	Number of Wells Above Standard
1,1-Dichloroethane	0.6	5 MCL	0
1,2,3-Trichloropropane	0.8	0.005 NL	1
Chloroform	0.7 - 15.8	80 MCL	0
Chloromethane	1.0	NA	0
n-butylbenzene	0.2	260 NL	0
Tetrachloroethene (PCE)	2.33	5 MCL	0
Toluene	22	150 MCL	0

Notes:
1. MCL = Maximum Contaminant Level , NL = Notification Level
2. µg/L = micrograms per liter
3. NA = Public drinking water standards are not available for this constituent

Isotopic Data Results

LLNL's data of stable isotope compositions of oxygen (O) and hydrogen in water show that private domestic wells in the Sierra foothills above an elevation of 400 feet mean sea level receive groundwater recharge derived from local precipitation that has experienced some evaporation. In contrast, Central Valley private domestic wells below an elevation of 400 feet mean sea level draw on groundwater heavily affected by irrigation from Kings and Kaweah River source water, as indicated by water isotopic composition.

Measured nitrate isotopic composition in the wells sampled varies with land use (dairies, agricultural/residential, and natural settings). Dairy nitrate-N (nitrogen) isotopic compositions are consistent with a manure source. Nitrate-O isotopic compositions are consistent with local nitrification of ammonium from manure, septic effluent, and/or synthetic ammonium fertilizer. In similar hydrogeologic settings, private domestic wells located close to dairies frequently have a different nitrate isotopic composition than wells distant from dairies. The isotopic compositions measured in wells distant from dairies are consistent with suspected sources of nitrate such as soil, fertilizer, manure, septic and/or community wastewater. Regardless of land-use, high concentrations of nitrate were detected in wells located in every land use category that has been developed.

Detailed description of data and methodology are described in the LLNL report, Appendix B.

POSSIBLE SOURCES OF CHEMICALS IN GROUNDWATER

Twenty one constituents were detected above water quality standards in the Tulare County Focus Area. Five of these constituents were observed in more than five percent of the sampled wells. Potential sources for these constituents, summarized from groundwater collected across the country, are discussed below. The focus of this sampling was not to pinpoint a source of chemicals found in groundwater, and the source descriptions do not imply that a chemical observed in a domestic well comes from any single, specific source. The summaries are provided as information for well owners. Additional information for domestic well owners is available on the GAMA website at: http://www.waterboards.ca.gov/gama/wq_privatewells.shtml

Nitrate

Nitrate is commonly found in groundwater. Low levels of nitrate may be natural in origin; however, high concentrations of nitrate are generally related to fertilizer production and application, septic systems, agricultural and animal waste ponds, leaking sewer lines, sludge or manure application, and the production of

explosives. The most significant health threat associated with nitrate is associated with methemoglobinaemia ("blue baby" syndrome). Toxic effects occur when bacteria in an infant's stomach convert nitrate to more toxic nitrite, interfering with the body's ability to carry oxygen. High nitrate levels are also a health risk for pregnant women. Some studies suggest an association between high nitrate in drinking water and certain types of cancers (Weyer et al., 2001).

Coliform Bacteria

Total coliform bacteria are naturally present in the environment, and in general are harmless to people. However, some coliforms may cause illness in humans, and the presence of coliforms is an indication that other micro-organisms may be present. Fecal coliforms are found in human and animal wastes and, when present, indicate contamination. Drinking water that contains coliform bacteria increases the risk of becoming ill. Well owners should not drink water with fecal coliform in it.

Vanadium

Vanadium enters the environment from natural sources and from the burning of fossil fuels. It is generally considered a naturally-occurring element in groundwater although some industrial activities, such as mining, may result in increased groundwater concentrations. The health effects of ingesting high doses of vanadium are relatively unknown. Some animals that have ingested vanadium over a long time have developed minor kidney and liver damage, while ingestion of high levels of vanadium by pregnant animals has resulted in minor birth defects.

Radionuclides

Radionuclides are a natural component of groundwater, and are naturally present, typically at very low levels. Most radiation detected in groundwater is the result of interactions with natural geologic materials that contain trace levels of radioactive elements. Different radionuclides will interact and damage biologic activity differently – as a result, some constituents have greater or lower MCLs than others. Drinking water with concentrations of radionuclides above a public drinking water standard increases the risk of certain types of cancers.

DBCP

DBCP was used as a soil fumigant to control nematodes. Prior to 1979, DBCP was widely applied to over 40 types of crops. In California, DBCP was primarily used on grapes and tomatoes. DBCP was banned in the continental United States in 1979. However, DBCP travels easily in groundwater and may persist in groundwater for long periods of time. In sunlight, DBCP is rapidly degraded. Data collected on workers involved in manufacturing DBCP has shown that

DBCP can cause sterility or other reproductive effects at very low levels of exposure. There is some evidence that DBCP may have the potential to cause cancer with lifetime exposure at levels above the MCL.

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Appendix A: LLNL Pesticide and Pharmaceutical Results (Part 1 of 2)

Well ID	Diuron	DACT	DIA	DEA	Prometon	Simazine	Atrazine	Metribuzin	Prometryn	Bromacil	Cyanazine	Norflourazon	Hexazinone
MDL(µg/L)	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
TUL1005	0.045	ND	0.016	ND	ND	0.011	ND	ND	ND	ND	ND	1.390	ND
TUL1008	0,750	0.099	0.732	0.022	ND	0.065	ND	ND	ND	1.021	ND	0.053	ND
TUL1034	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TUL1035	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TUL1041	0.226	0.031	0.400	0.014	ND	0.100	ND	ND	ND	0.590	ND	ND	ND
TUL1043	ND	ND	0.025	0.031	ND	0.011	0.022	ND	ND	ND	ND	ND	ND
TUL1052*	ND	ND	0.055	0.050	ND	0.023	0.037	ND	ND	0.016	0.012	ND	ND
TUL1054	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TUL1065	0.498	ND	0.174	0.020	ND	0.062	0.017	ND	ND	0.060	ND	ND	0.027
TUL1071	0.011	0.049	0.620	ND	ND	ND	ND	ND	ND	0.053	ND	ND	ND
TUL1081	ND	ND	0.113	ND	ND	0.054	ND	ND	ND	ND	ND	0.019	ND
TUL1083	0.548	ND	0.130	ND	ND	0.155	ND	ND	ND	ND	ND	ND	ND
TUL1085	0.041	0.054	0.499	ND	ND	0.094	ND	ND	ND	0.054	ND	ND	ND
TUL1089	0.464	0.065	0.650	0.012	ND	0.048	ND	ND	ND	0.757	ND	0.155	ND
TUL1092	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TUL1094	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TUL1105	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TUL1107	0.050	ND	0.419	0.027	ND	0.158	0.012	ND	ND	0.772	0.012	0.022	ND
TUL988	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
All results reported in micrograms per liter (µg/L, parts per billion)
MDL = Method Detection Limit
ND = Non-Detect, reported as below MDL
*Duplicate of TUL1043

Appendix A: LLNL Pesticide Results (Part 2 of 2)

Well ID	Desmethyl Norflurazone	DBCP	Metolachlor	Primidone**
MDL (µg/L)	0.010	0.010	0.010	0.040
TUL1005	ND	ND	ND	ND
TUL1008	0.202	ND	0.077	ND
TUL1034	0.093	ND	ND	ND
TUL1035	ND	ND	ND	ND
TUL1041	ND	ND	ND	ND
TUL1043	ND	ND	ND	0.067
TUL1052*	ND	ND	ND	0.070
TUL1054	ND	ND	ND	ND
TUL1065	ND	ND	ND	ND
TUL1071	ND	ND	ND	ND
TUL1081	0.210	ND	ND	ND
TUL1083	ND	ND	ND	ND
TUL1085	ND	ND	ND	ND
TUL1089	0.323	ND	ND	ND
TUL1092	ND	ND	ND	ND
TUL1094	ND	ND	ND	ND
TUL1105	ND	0.221	ND	ND
TUL1107	ND	ND	ND	ND
TUL988	ND	ND	ND	ND

Notes:
All results reported in micrograms per liter(µg/L, parts per billion)
MDL = Method Detection Limit
ND = Non-Detect, reported as below MDL
*Duplicate of TUL1043
**Primidone is a pharmaceutical (anticonvulsant), indicating a possible septic system impact

Appendix B: Nitrate and Water Isotopic Data for Tulare County (LLNL report, January 2011)

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LLNL-TR-450497

California GAMA Domestic Wells: Nitrate and Water Isotopic Data for Tulare County

Michael J. Singleton, Sarah K. Roberts, Jean E. Moran and Bradley K. Esser

Lawrence Livermore National Laboratory

January 2011
August 2013 revised

Final Report for the California State Water Resources Control Board

GAMA Special Studies Task 7.2:
Specialized Analyses for GAMA Domestic Wells

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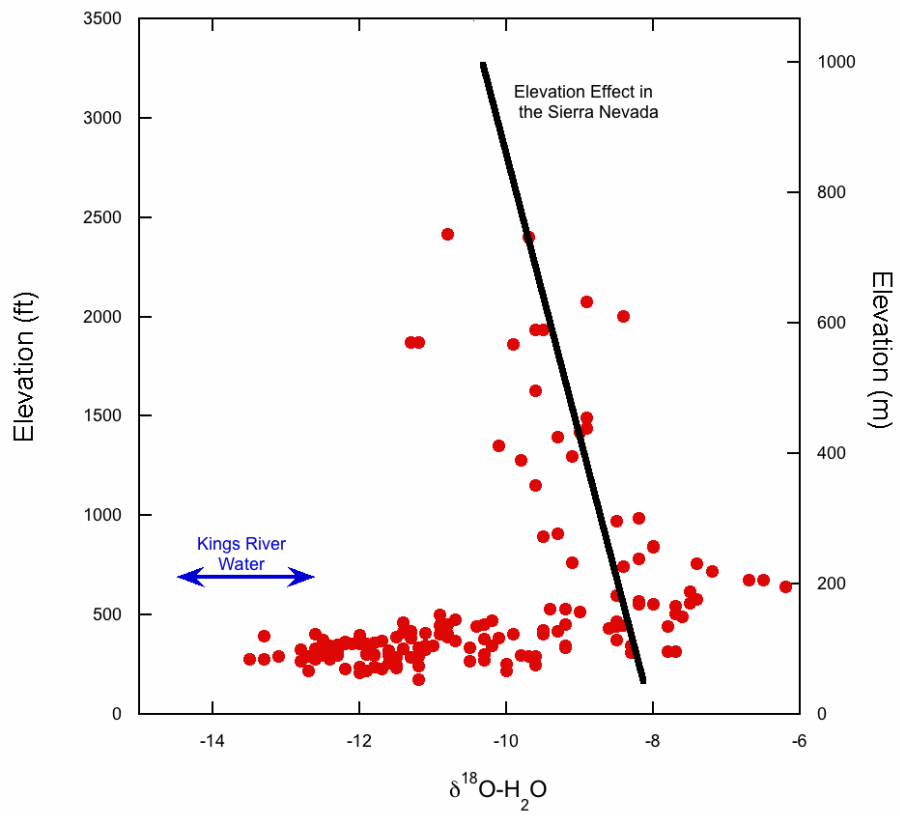
GAMA: AMBIENT GROUNDWATER MONITORING & ASSESSMENT PROGRAM SPECIAL STUDY

California GAMA Domestic Wells: Nitrate and Water Isotopic Data for Tulare County

By Michael J. Singleton, Sarah K. Roberts, Jean E. Moran and Bradley K. Esser

Lawrence Livermore National Laboratory



Final Report for GAMA Special Studies Task 7.2
Specialized Analyses for GAMA Domestic Wells
LLNL-TR-450497

Prepared in cooperation with the California
State Water Resource Control Board
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California GAMA Domestic Wells: Nitrate and Water Isotopic Data for Tulare County

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Prepared in cooperation with the California State Water Resource Control Board

Introduction and Executive Summary

The Groundwater Ambient Monitoring and Assessment (GAMA) Program is a comprehensive groundwater quality monitoring program managed by the California State Water Resources Control Board (SWRCB). The goals of the GAMA Domestic Well Project are to provide specific information on water quality to domestic well owners, to provide a public outreach component to aid the public in understanding water quality issues affecting domestic water wells, and to help assess California groundwater quality and identify issues that may impact private domestic well water. The State Water Board works with local county agencies and Regional Water Boards to arrange sampling, which is voluntary and at no cost to the well owner. Results are shared with the well owners and used by GAMA to evaluate the quality of groundwater used by private well owners, which is largely unknown in the State of California. Lawrence Livermore National Laboratory performs specialized analyses of domestic well groundwater for the SWRCB.

In 2006, the Domestic Well Project sampled wells in Tulare County. LLNL analyzed 151 of the 181 domestic well water samples collected by the SWRCB for stable isotopes of oxygen and hydrogen in water; and analyzed 29 samples for stable isotopes of nitrogen and oxygen in dissolved nitrate. These isotopic data constrain the source of water recharging the groundwater produced by the domestic wells in this survey, and help to constrain the source of nitrate in these groundwaters.

For the purpose of discussion, wells with ground surface elevations below 400 feet are referred to as “valley” wells, and wells with ground surface elevations above 400 feet are referred to as “foothill” wells. The water isotopic evidence shows that domestic wells in the foothills (with elevations above 400 feet) receive recharge derived from local precipitation that has experienced some evaporation. In contrast, valley domestic wells below 400 feet surface elevation draw on groundwater heavily impacted by irrigation with Kings and Kaweah River water, as indicated by water isotopic composition. This finding is consistent with both the long and heavy usage of Kings River water for irrigation in this area, and with the assumed shallow depth of these domestic wells. Nitrate associated with these waters is presumably associated with the same source (chemical or organic fertilizer in irrigation water) or is mobilized by irrigation (septic effluent or soil nitrogen compounds).

Foothill and valley domestic wells in Tulare County differ in dissolved nitrate concentration (SWRCB, 2010). In general, foothill wells have low nitrate concentrations, while valley wells have moderate to high nitrate concentrations. Nitrate concentrations in the most polluted wells are sufficiently high to preclude a significant contribution from soil or atmospheric sources. Such

sources cannot be precluded in wells with nitrate concentrations below the regulatory drinking water limit, however the data set does not include enough samples near typical background concentration levels to assess the isotopic characteristics of natural nitrate sources in this area.

Nitrate isotopic compositions indicate a dairy manure or septic effluent source for the majority of the most heavily impacted wells, with the exception of one well with high nitrate concentration and an isotopic composition indicative of a synthetic fertilizer source. For less heavily impacted wells, the sparse nitrate isotopic data alone does not definitively constrain the nitrate source. The observed pattern could be produced by a single source (natural soil N) or by mixing between multiple sources (fertilizer, manure, septic). An analysis of land use and the distribution of potential nitrate sources would be extremely useful.

A preliminary investigation of the correlation between land use and nitrate isotopic composition was conducted (see Appendix "GAMA Domestic Well Project - Tulare County. Nitrate Source Attribution: The Isotopic Evidence"). The sparse nitrate isotopic data set, and the cursory approach to assigning land use limit conclusions, but patterns observed are suggestive of multiple anthropogenic sources, including dairy wastewater, septic effluent and synthetic fertilizer.

Significant findings of the study are listed below:

- Nitrate isotopic composition appears to vary with land use
  - Dairy, agricultural/residential, and wild-land sites are isotopically distinct
  - Dairy site nitrate-N isotopic data are isotopically consistent with a manure source
  - Nitrate-O isotopic data are isotopically consistent with local nitrification of ammonium (from manure, septic effluent, or synthetic ammonium fertilizer)
- The isotopic evidence is consistent with more than one nitrate source
  - Domestic wells located close to dairies frequently have a different nitrate isotopic composition than wells not close to dairies in similar hydrogeologic settings.
  - The isotopic compositions measured are consistent with the suspected sources of nitrate to these wells (soil, fertilizer, manure, septic or community wastewater).
  - High concentrations of nitrate occur in all developed land use categories.

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Sampling Protocols and Analytical Methods

SAMPLE HANDLING

Sampling and handling requirements, including hold times, are listed in Table 1. Groundwater samples for the project were collected by State Water Resources Control Board. Samples for specialized analyses were collected following guidance provided by LLNL. When possible, wells were purged by pumping at least three (3) well casing volumes were pumped prior to collecting the water sample. Samples collected for determination of nitrate and water stable isotope composition do not require filtering.

Stable isotopes of water: A 30-mL glass bottle (clear, French-square type) with Qorpak™ polyseal-lined cap is triple rinsed with water directly from the sampling port, then filled just below the threads on the bottle. Filtering, preservatives and/or refrigeration are not required, but the cap should be tightly closed. Samples may be shipped at room temperature or in a cooler with ice, and are stored at room temperature.

Stable isotopes of nitrate: Either a 50-mL polyethylene centrifuge tube or a small (60-mL or 125-mL) HDPE bottle is triple rinsed with water directly from the sampling port, then filled with approximately 40-mL of sample water leaving sufficient head space to accommodate freezing.

Shipping and preservation: During field sampling, samples were shipped to LLNL by next-day service within three days of collection. Upon arrival at LLNL, samples were logged with both the supplied GAMA Domestic Wells Project ID and with a unique LLNL ID and preserved appropriately. Water Board staff also supplied LLNL with nitrate concentration data for collected samples to allow appropriate aliquoting for nitrate isotopic composition analysis. For samples collected for nitrate isotopic composition determination, a small aliquot was taken for confirmation of nitrate concentration by ion chromatography as necessary and the remainder of the sample was frozen. Samples collected for determination of water isotopic composition were stored at room temperature with a tightly sealed cap.

Table 1: Sampling and Handling Requirements for Stable Isotope Analysis

Determination	Container	Min. sample size (mL)	Preservation	Recommended Hold	Regulatory hold
Nitrate $\delta^{18}O$ and $\delta^{15}N$	Plastic	30 mL	Refrigerate at 6°C or freeze	6 months after thawing	Not applicable
Water $\delta^{18}O$ and $\delta^{2}H$	Glass	30 mL	None	1 year	Not applicable

STABLE ISOTOPE TERMINOLOGY AND REPORTING

Isotopic composition is determined by measuring the atom ratio of a minor abundance isotope to a major abundance isotope. For oxygen, the ratio measured is $^{18}O/^{16}O$, i.e. the atom ratio of Oxygen-18 to Oxygen-16. Oxygen-18 is a minor isotope of oxygen (approximately 0.2% of oxygen isotopes are ^{18}O), while Oxygen-16 is the major isotope of oxygen (approximately 99.76% of oxygen isotopes are ^{16}O).

For hydrogen, the ratio measured is $^{2}H/^{1}H$, i.e. the atom ratio of hydrogen-2 (~0.015%, abundant) to hydrogen-1 (~99.985% abundant). Hydrogen-2 is also referred to as deuterium (D). For nitrogen, the ratio measured is $^{15}N/^{14}N$, i.e. the atom ratio of nitrogen-15 (~0.37% abundant) to nitrogen-14 (~99.63% abundant).

Isotope ratios are reported in the standard delta (δ) notation as parts per thousand (per mil or ‰) variations relative to a reference material of known composition and defined by the following equation:

$$\delta_x = 1000 \frac{R_x - R_{ref}}{R_{ref}}$$

where R_x is the ratio of the sample and R_{ref} is the ratio of the reference material. For oxygen and for hydrogen in water, we use Vienna Standard Mean Ocean Water (VSMOW; Craig, 1961). We also use VSMOW for oxygen in nitrate. For nitrogen in nitrate, we use air as a reference material.

ANALYTICAL METHODS—STABLE ISOTOPES OF WATER

Water $\delta^{18}O$ and $\delta^{2}H$ values are determined on unfiltered samples. Water $\delta^{2}H$ is also referred to as δD. Water $\delta^{2}H$ is determined on unfiltered samples, usually the same bottle collected for water-$\delta^{18}O$. Oxygen isotope analyses are conducted using the carbon dioxide equilibration method for $^{18}O/^{16}O$ and analyzed with an automated water equilibration unit. Hydrogen isotope compositions of water were analyzed using the Pt-H_2 equilibration method. Isotope ratio measurements are performed on a VG PRISM III isotope ratio mass spectrometer housed in the Chemical Sciences Division at Lawrence Livermore National Laboratory. The LLNL standard operating procedure for determination of the stable isotopic composition of water in groundwater samples is SOP-UGTA-128, and is available upon request.

Analyses in the Stable Isotope Laboratory are calibrated to internal standards referenced against National Institute of Standards and Technology (NIST) standard reference materials. The waters chosen as in-house standards consist of three isotopically distinct water samples ($\delta^{18}O$ = -3.1, -9.9 and -15.5‰). The composition and isotopic values of these internal standards span the range of natural waters typically observed in potable groundwater of California. For each set of $\delta^{18}O$ analyses, 2 each of 3 internal standards are also analyzed and used for calibration. The internal standards are periodically compared to the three NIST reference standards (NIST RM 8535; NIST RM 8536; NIST RM 8537): SMOW, Standard Light Antarctic Precipitation (SLAP), and Greenland Ice Sheet Precipitation (GISP). The analytical precision for these $\delta^{18}O$

measurements, from one run to the next, is ± 0.10‰, and the analytical precision for δ^2H values is ± 2‰.

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ANALYTICAL METHOD—STABLE ISOTOPES OF NITRATE

The isotopic composition of dissolved nitrate ($\delta^{15}N$ and $\delta^{18}O$) is determined on water samples filtered through 0.2 μm syringe filters (0.45 μm filters may be used for pre-filtering sediment-laden water). The samples are stored frozen in pre-cleaned, HDPE bottles. Samples are analyzed using an automated version of a new microbial denitrifier method (Casciotti et al., 2002; Sigman et al., 2001). In this method, a strain of denitrifying bacteria is used to reduce dissolved nitrate in water samples to N_2O gas that can be analyzed for N and O isotopic composition on the MicroMass IsoPrime IRMS. Dr. Mike Singleton, the Stable Isotope Mass Spectrometry Laboratory Manager, has implemented this method at the Center for Isotope Geochemistry at Lawrence Berkeley National Laboratory (LBNL) and in the Chemical Sciences Division at LLNL. He has safely carried out hundreds of successful analyses over a period of four years. The original method has been adapted to decrease the time required for culture preparation and sample processing.

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DATA QUALITY OBJECTIVES AND QUALITY CONTROL

Data Objectives: Minimum acceptable measurement quality objectives (MQOs) for analytical techniques used in this project are summarized in Table 2. The MQOs for isotopic analyses

reflect "accepted methods" for publication in high-quality scientific journals. Whenever possible, the methods with greater sensitivity and lowest detection limit will be employed as the primary method. Methods with lesser sensitivity and higher detection limits will be used for samples known to contain high concentrations of analytes, field confirmations, or as back-up methods in the case that the primary methods are not available or functioning properly for a particular sampling event. Analyses that do not meet minimum acceptable data quality objectives will be re-run when sample is available. When sample is not available, such data will not be reported or will be reported and flagged.

Precision and Accuracy: Precision (e.g., the reproducibility among replicate samples) will be determined by analysis of duplicate samples, laboratory control standards and matrix spikes as appropriate for each method. Precision is determined as the standard deviation of measurements divided by the mean and multiplied by 100. Precision measurements will be determined on both field and laboratory replicates).

Accuracy (e.g., how close the measurement is to the true value) will be measured on one or more quality control check standards (QCCS) prepared exactly as the calibration standards. The QCCS is analyzed after the calibration standards. The QCCS should be within 10% of the actual concentration or problems will be resolved and samples re-analyzed. For some methods, accuracy cannot be rigorously determined because there are no absolute external standards available.

Quality Control: Quality control samples will be analyzed to ensure valid data are collected. Field duplicates are collected and analyzed for at least every 20th sample. The precision of duplicates and splits are used to help identify sampling handling and preparation problems. All samples that fall outside the expected range for the sample type, location, and collection time are assessed for proper size and instrument function. The expected ranges are dependent on many factors and cannot easily be defined. Expected ranges are therefore determined on a case by case basis, initially by the analyst and finally by the PI in charge of data interpretation. Samples are re-analyzed as necessary to achieve the desired precision.

Instrument behavior is assessed by analysis of working standards as described in the individual SOPs for the various analysis types. Instruments are regularly tested for stability and linearity as described in Section 15 below. LLNL laboratories routinely participate in international calibration exercises to ensure the precision and accuracy of data reported. All instruments are regularly calibrated using NIST or IAEA standard reference materials with internationally-agreed-upon values. When in-run reference standards do not meet precision or accuracy criteria, samples from the same run will be re-analyzed. Records of instrument performance will be maintained indefinitely. All laboratories use Good Laboratory Practices (GLP), and routine analyses follow SOPs.

Table 2: Data Quality Objectives and Reporting for Stable Isotope Analysis.

Parameter	Method/ Range	Units	Reference	External Precision[1]	Instrumental precision[2]
Nitrate $\delta^{18}O$ **Nitrate $\delta^{15}N$**	Continuous Flow Mass Spectrometry	Per mil (‰)	$\delta^{15}N$: Air $\delta^{18}O$: VSMOW	$\delta^{15}N$ ± 0.3 ‰ $\delta^{18}O$ ± 0.8 ‰	$\delta^{15}N$ ± 0.2 ‰ $\delta^{18}O$ ± 0.5 ‰
Water $\delta^{18}O$ **Water $\delta^{2}H$**	Dual Inlet and/or Continuous Flow Mass Spectrometry	Per mil (‰)	$\delta^{18}O$: VSMOW $\delta^{2}H$: VSMOW	$\delta^{18}O$ ± 0.3 ‰ $\delta^{2}H$ ± 2 ‰	± 0.15 ‰ ± 1 ‰

1. External (1 sigma) precision objectives apply to replicate analyses of a single sample.
2. Instrumental precision (1 sigma) applies to calibration check samples, laboratory control samples and other measurements of samples of known concentration and isotopic composition where the known value is compared to the measured value.
3. VSMOW = Vienna Standard Mean Ocean Water.

Data: Tulare County Domestic Wells

SAMPLE ISOTOPIC DATA

This data report represents specialized analyses performed by LLNL on domestic well groundwater samples collected in Tulare County by State Water Resources Control Board staff for the GAMA Domestic Wells Project. Samples were collected between April, May and June of 2006. In total, LLNL analyzed 151 samples for water isotopic composition of both oxygen and hydrogen, and 29 samples for nitrate isotopic composition of both nitrogen and oxygen. Analyzed samples included 15 field duplicates for water isotopic composition; and two field duplicates for nitrate isotopic composition. Data are tabulated in Table 3. Sample name are of the form “TUL nnnn”. Samples with nnnn less than 1000 are labeled to as either “TUL nnn” or “TUL 0nnn” or “TULnnnn”. These three forms are equivalent, e.g. TUL 979, TUL 0979, and TUL0979 all refer to the same sample.

Table 3: Water and Nitrate Isotopic Composition in Tulare County Domestic Well Water Samples

SWRCB ID	LLNL ID	Collection Date	Water-$\delta^{18}O$ (‰, VSMOW)	Water-$\delta^{2}H$ (‰, VSMOW)	Nitrate-$\delta^{15}N$ (‰, Air)	Nitrate-$\delta^{18}O$ (‰, VSMOW)
TUL 901	103893	04/18/2006	-12.4	-89		
TUL 902	103894	04/18/2006	-12.8	-93		
TUL 903	103895	04/18/2006	-12.5	-89		
TUL 904	103896	04/18/2006	-10.2	-74		
TUL 905	103897	04/18/2006	-12.2	-87		
TUL 906	103898	04/18/2006	-12.2	-87		
TUL 907	103899	04/18/2006	-10.8	-81		
TUL 908	103900	04/18/2006	-12.5	-89		
TUL 909	103904	04/19/2006	-12.0	-84		
TUL 910	103905	04/19/2006	-10.8	-79		
TUL 911	103906	04/19/2006	-11.3	-81		
TUL 912	103907	04/19/2006	-10.9	-82		
TUL 913	103908	04/19/2006	-11.4	-81	0.0	3.7
TUL 914	103909	04/19/2006	-10.9	-80		
TUL 915	103910	04/19/2006	-8.0	-59		
TUL 916	103911	04/19/2006	-7.7	-58		
TUL 917	103912	04/19/2006	-10.8	-80	7.7	-1.7
TUL 918	103915	04/20/2006	-9.6	-67		
TUL 919	103913	04/19/2006	-7.5	-58		
TUL 920	103916	04/20/2006	-8.9	-65	1.5	2.8
TUL 921	103917	04/20/2006	-8.2	-58		
TUL 922	103918	04/20/2006	-9.9	-74		
TUL 923	103919	04/20/2006	-9.2	-63		
TUL 924	103920	04/20/2006	-9.4	-71	5.6	1.8
TUL 925	103921	04/20/2006	-11.3	-83		
TUL 926	103922	04/20/2006	-12.4	-87		
TUL 927	103923	04/20/2006	-11.2	-79		
TUL 928	103924	04/20/2006	-8.3	-64	6.2	11.0
TUL 929	103901	04/18/2006	-11.9	-86		
TUL 930	103954	04/25/2006	-11.3	-82		
TUL 932	103956	04/25/2006	-10.1	-76	3.5	-4.3
TUL 933	103957	04/25/2006	-10.7	-80		
TUL 934	103958	04/25/2006	-7.7	-64		
TUL 935	103976	04/27/2006	-9.2	-71	6.6	3.8
TUL 936	103966	04/26/2006	-11.8	-86		
TUL 937	103967	04/26/2006	-12.7	-91		
TUL 938	103968	04/26/2006			4.8	-3.2
TUL 939	103969	04/26/2006	-12.8	-92		
TUL 941	103960	04/25/2006	-12.4	-86	8.2	-0.3
TUL 943	103962	04/25/2006	-11.2	-79		
TUL 944	103980	04/27/2006	-10.4	-74	8.6	1.3
TUL 945	103977	04/27/2006	-7.8	-63		
TUL 946	103978	04/27/2006	-11.1	-77		
TUL 947	103963	04/25/2006	-12.0	-84		
TUL 948	103970	04/27/2006				

SWRCB ID	LLNL ID	Collection Date	Water-$\delta^{18}O$ (‰, VSMOW)	Water-$\delta^{2}H$ (‰, VSMOW)	Nitrate-$\delta^{15}N$ (‰, Air)	Nitrate-$\delta^{18}O$ (‰, VSMOW)
TUL 949	103971	04/26/2006				
TUL 950	103972	04/26/2006			8.0	1.8
TUL 951	103973	04/26/2006				
TUL 952	103974	04/26/2006				
TUL 954	103964	04/26/2006	-12.4	-88	8.1	-0.8
TUL 955	103965	04/26/2006	-7.8	-63		
TUL 956	103975	04/25/2006				
TUL 957	103979	05/09/2006	-7.8	-63		
TUL 978	104106	06/06/2006	-8.5	-62	6.4	3.1
TUL 979	104107	06/06/2006	-7.8	-60	6.1	8.2
TUL 980	104108	06/06/2006	-9.1	-63	3.3	3.8
TUL 981	104025	05/16/2006	-6.5	-55		
TUL 981-1	104027	05/16/2006	-6.7	-55		
TUL 982	104026	05/16/2006	-8.5	-62		
TUL 983	104028	05/17/2006	-11.5	-85	7.2	3.8
TUL 984	104029	05/17/2006	-9.3	-66		
TUL 985	104030	05/16/2006	-9.6	-66		
TUL 986	104031	05/18/2006	-10.3	-72		
TUL 987	104032	05/18/2006	-9.6	-66		
TUL 988	104109	06/06/2006	-8.3	-62	7.2	1.8
TUL 989	104116	06/07/2006	-10.1	-74		
TUL 990	104033	05/16/2006	-7.4	-59		
TUL 991	104034	05/16/2006	-9.2	-71		
TUL 992	104035	05/18/2006	-11.5	-81		
TUL 993	104036	05/17/2006	-13.3	-98		
TUL 994	104037	05/17/2006	-9.5	-70		
TUL 995	104038	05/17/2006	-7.4	-54		
TUL 996	104039	05/16/2006	-11.8	-83		
TUL 997	104040	05/17/2006	-9.3	-71	7.0	3.3
TUL 998	104041	05/17/2006	-7.2	-60		
TUL 999	104042	05/18/2006	-11.2	-79		
TUL 1000	104043	05/18/2006	-12.0	-87		
TUL 1001	104044	05/16/2006	-10.8	-74		
TUL 1002	104045	05/16/2006	-8.9	-65		
TUL 1003	104046	05/18/2006	-12.3	-88		
TUL 1004	104047	05/18/2006	-11.5	-82		
TUL 1005	104110	06/06/2006	-10.7	-76	2.9	-0.3
TUL 1006	104117	06/08/2006	-10.3	-74	5.1	0.3
TUL 1007	104118	06/07/2006	-12.7	-94	5.3	-0.2
TUL 1008	104119	06/08/2006	-9.5	-73		
TUL 1009	104120	06/07/2006	-8.0	-59		
TUL 1010	104066	05/24/2006	-13.3	-97		
TUL 1011	104067	05/24/2006	-10.0	-70		
TUL 1012	104068	05/24/2006	-10.3	-72		
TUL 1013	104069	05/24/2006	-11.6	-84	8.6	-2.6
TUL 1014	104070	05/25/2006	-13.1	-96		
TUL 1015	104071	05/23/2006	-10.2	-75		

SWRCB ID	LLNL ID	Collection Date	Water-$\delta^{18}O$ (‰, VSMOW)	Water-$\delta^{2}H$ (‰, VSMOW)	Nitrate-$\delta^{15}N$ (‰, Air)	Nitrate-$\delta^{18}O$ (‰, VSMOW)
TUL 1016	104072	05/23/2006	-8.5	-66		
TUL 1017	104073	05/24/2006	-11.5	-84		
TUL 1019	104074	05/23/2006	-9.3	-66		
TUL 1020	104075	05/25/2006	-11.6	-84		
TUL 1021	104076	05/23/2006	-9.2	-68		
TUL 1022	104077	05/24/2006	-11.2	-83		
TUL 1024	104078	05/25/2006	-8.2	-61		
TUL 1025	104079	05/23/2006	-11.9	-88		
TUL 1026	104080	05/23/2006	-8.5	-63		
TUL 1027	104081	05/23/2006	-12.4	-86		
TUL 1028	104082	05/23/2006	-12.3	-89		
TUL 1029	104083	05/25/2006	-11.9	-83		
TUL 1031	104084	05/24/2006	-13.5	-98		
TUL 1032	104085	05/25/2006	-10.5	-77		
TUL 1033	104086	05/25/2006	-11.5	-85		
TUL 1034	104121	06/08/2006	-11.3	-76		
TUL 1035	104111	06/06/2006	-12.5	-89	4.1	-1.0
TUL 1036	104112	06/06/2006	-12.5	-89	4.6	-2.4
TUL 1038	104087	05/23/2006	-12.0	-90		
TUL 1039	104088	05/24/2006	-11.2	-83		
TUL 1040	104089	05/25/2006	-11.5	-81		
TUL 1041	104122	05/24/2006	-10.5	-75		
TUL 1042	104123	06/07/2006	-11.8	-80		
TUL 1043	104124	06/08/2006	-8.5	-67		
TUL 1044	104125	06/08/2006	-12.6	-89		
TUL 1050	104113	06/06/2006	-12.4	-89	4.3	-3.2
TUL 1051	104126	06/07/2006	-11.8	-80		
TUL 1052	104127	06/08/2006	-8.5	-67		
TUL 1053	104128	06/07/2006	-8.0	-58		
TUL 1054	104134	06/13/2006	-10.0	-67		
TUL 1055	104135	06/13/2006	-11.9	-87		
TUL 1056	104136	06/13/2006	-12.5	-88		
TUL 1057	104149	06/14/2006	-11.4	-84		
TUL 1058	104150	06/14/2006	-8.5	-64	6.3	4.9
TUL 1059	104151	06/14/2006	-8.4	-65		
TUL 1060	104152	06/15/2006	-11.0	-81		
TUL 1061	104153	06/14/2006	-8.5	-65		
TUL 1062	104154	06/15/2006	-8.6	-65		
TUL 1063	104155	06/14/2006	-9.1	-67		
TUL 1064	104137	06/13/2006	-12.8	-93		
TUL 1065	104138	06/13/2006	-12.0	-87		
TUL 1066	104139	06/13/2006	-12.2	-86		
TUL 1070	104156	06/14/2006	-11.6	-85		
TUL 1071	104140	06/13/2006	-11.7	-85		
TUL 1072	104157	06/14/2006	-9.6	-69		
TUL 1073	104158	06/14/2006	-11.9	-88		
TUL 1074	104159	06/14/2006	-11.2	-80		

SWRCB ID	LLNL ID	Collection Date	Water-$\delta^{18}O$ (‰, VSMOW)	Water-$\delta^{2}H$ (‰, VSMOW)	Nitrate-$\delta^{15}N$ (‰, Air)	Nitrate-$\delta^{18}O$ (‰, VSMOW)
TUL 1075	104160	06/15/2006	-11.7	-84		
TUL 1076	104161	06/15/2006	-11.1	-81		
TUL 1077	104141	06/13/2006	-12.5	-87	5.4	-0.2
TUL 1078	104162	06/14/2006	-9.7	-69		
TUL 1079	104163	06/15/2006	-12.5	-91		
TUL 1080	104164	06/15/2006	-12.3	-84		
TUL 1081	104165	06/15/2006	-11.9	-84	11.2	-1.9
TUL 1082	104166	06/15/2006	-12.6	-89		
TUL 1083	104167	06/15/2006	-12.6	-89		
TUL 1084	104169	06/20/2006	-12.6	-93		
TUL 1085	104170	06/20/2006	-10.9	-79		
TUL 1086	104171	06/20/2006	-9.7	-67		
TUL 1087	104172	06/20/2006	-8.9	-65		
TUL 1088	104173	06/20/2006	-8.2	-61		
TUL 1089	104174	06/20/2006	-10.3	-77		
TUL 1090	104180	06/21/2006	-7.5	-59		
TUL 1091	104181	06/21/2006	-7.6	-60		
TUL 1092	104182	06/21/2006	-11.2	-84		
TUL 1093	104183	06/21/2006	-9.8	-72		
TUL 1094	104184	06/21/2006	-9.0	-62		
TUL 1095	104185	06/21/2006	-9.8	-70		
TUL 1096	104190	06/22/2006	-8.4	-61		
TUL 1097	104191	06/22/2006	-9.9	-71		
TUL 1098	104186	06/21/2006	-11.8	-85		
TUL 1099	104192	06/22/2006	-8.4	-63		
TUL 1100	104175	06/20/2006	-9.0	-62		
TUL 1101	104193	06/22/2006	-6.2	-52		
TUL 1103	104176	06/20/2006	-12.5	-89		
TUL 1104	104194	06/22/2006	-9.5	-67		
TUL 1105	104177	06/20/2006	-11.1	-81	8.2	1.4
TUL 1106	104195	06/22/2006	-12.3	-87		
TUL 1107	104196	06/22/2006	-8.2			
TUL 1108	104178	06/20/2006	-10.9	-80		
TUL 1109	104187	06/21/2006	-9.0	-62		
TUL 1110	104197	06/22/2006	-9.5	-66		
TUL 1111	104198	06/22/2006	-9.5	-72	7.2	3.1
TUL 1201	103902	04/18/2006	-12.1	-87		
TUL 1202	103925	04/20/2006	-11.3	-79		
TUL 1205	103914	04/19/2006	-11.4	-82		
TUL 1505	104090	06/08/2006	-10.0	-70	3.7	4.2

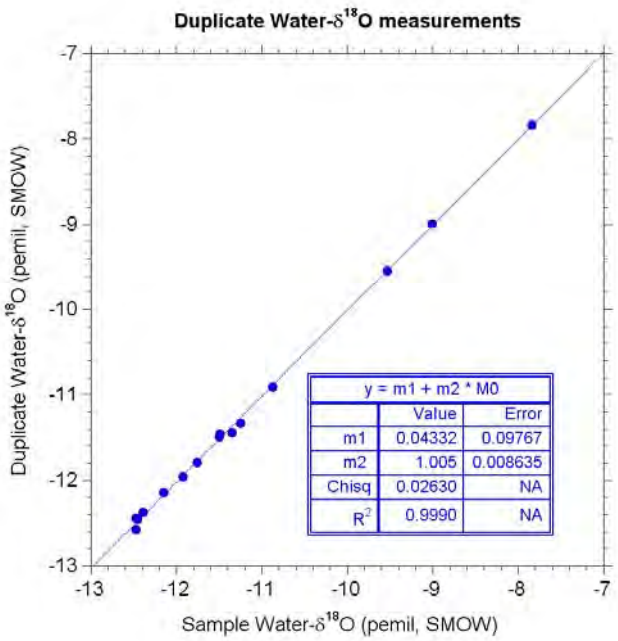
SAMPLE QA/QC DATA

Field duplicate data are tabulated in Table 4. For the two nitrate field duplicates, nitrate-$\delta^{15}N$ analyses agreed to better than 0.3‰, and nitrate-$\delta^{18}O$ analyses agreed to better than 0.8‰. For the 15 water field duplicates, water-$\delta^{18}O$ analyses agreed to within 0.1‰. Water-$\delta^{2}H$ analyses agreed to 2‰ or better with the exception of three samples which agreed to within 4‰. The agreement between the original and duplicate water isotopic composition determinations is shown in Figure 1.

Table 4: Isotopic Composition Analyses of Field Duplicates

SWRCB ID	LLNL ID	Collection Date	Water-$\delta^{18}O$ (‰, SMOW)	Water-$\delta^{2}H$ (‰, SMOW)	Nitrate-$\delta^{15}N$ (‰, Air)	Nitrate-$\delta^{18}O$ (‰, SMOW)
TUL0945	103977	4/27/06	-7.8	-63		
TUL0957	103979	4/27/06	-7.8	-63		
TUL0992	104035	5/18/06	-11.5	-81		
TUL1004	104047	5/18/06	-11.5	-82		
TUL0941	103960	4/25/06	-12.4	-86	8.2	-0.3
TUL0954	103964	4/25/06	-12.4	-88	8.1	-0.8
TUL1104	104194	6/22/06	-9.5	-67		
TUL1110	104197	6/22/06	-9.5	-66		
TUL1036	104112	6/6/06	-12.5	-89	4.6	-2.4
TUL1050	104113	6/6/06	-12.4	-89	4.3	-3.2
TUL1079	104163	6/15/06	-12.5	-91		
TUL1083	104167	6/15/06	-12.6	-89		
TUL0906	103898	4/18/06	-12.2	-87		
TUL1201	103902	4/18/06	-12.1	-87		
TUL1056	104136	6/13/06	-12.5	-88		
TUL1077	104141	6/13/06	-12.5	-88		
TUL1033	104086	5/25/06	-11.5	-85		
TUL1040	104089	5/25/06	-11.5	-81		
TUL1042	104123	6/7/06	-11.8	-80		
TUL1051	104126	6/7/06	-11.8	-80		
TUL0927	103923	4/20/06	-11.3	-79		

SWRCB ID	LLNL ID	Collection Date	Water-$\delta^{18}O$ (‰, SMOW)	Water-$\delta^{2}H$ (‰, SMOW)	Nitrate-$\delta^{15}N$ (‰, Air)	Nitrate-$\delta^{18}O$ (‰, SMOW)
TUL1202	103925	4/20/06	-11.3	-79		
TUL0911	103906	4/19/06	-11.4	-81		
TUL1205	103914	4/19/06	-11.4	-82		
TUL1094	104184	6/21/06	-9.0	-62		
TUL1109	104187	6/21/06	-9.0	-62		
TUL1025	104079	5/23/06	-11.9	-88		
TUL1038	104087	5/23/06	-12.0	-91		
TUL1085	104170	6/20/06	-10.9	-79		
TUL1108	104178	6/20/06	-10.9	-80		



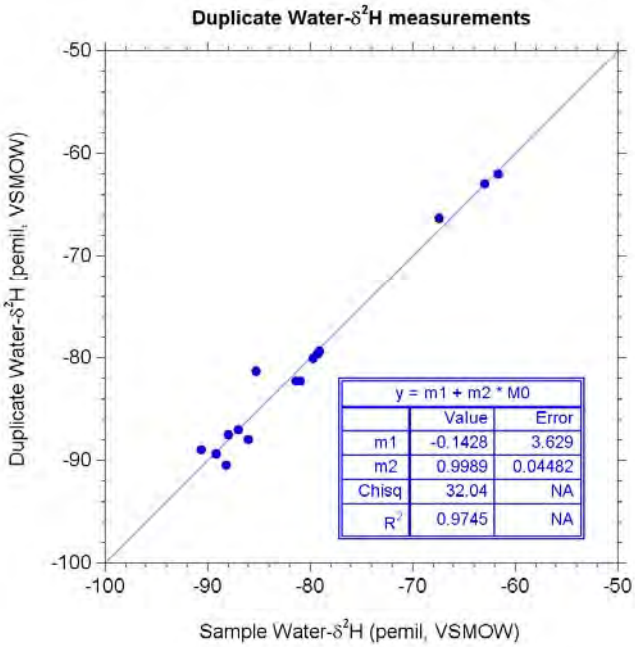


Figure 1. Plot of field duplicate water isotopic composition measurement against sample water isotopic composition measurements.

Discussion and Interpretation

ANALYSES

The spatial distribution of sampling for nitrate concentration, isotopic composition of water and isotopic composition of nitrate is shown in Figure 2.

Approximately 204 samples (including duplicates) were collected from domestic wells in Tulare County for the State Water Board GAMA Domestic Wells Project. These wells had NO_3 concentrations ranging from 0.8 to 240 mg/L as NO_3. The highest nitrate concentrations were observed from wells located in the valley and along the margin of the foothills. Above 1000 ft elevation, only two samples had nitrate concentrations above the MCL.

A majority (151) of the samples from the Tulare County Private Domestic Well study area were analyzed for O and H isotope compositions of water. A small number (29) of samples were analyzed for the isotopic composition of N and O isotopic compositions of nitrate. The small number of nitrate isotopic samples analyzed were biased toward waters containing high concentrations of nitrate (median and mean of 23 and 49 mg/L as nitrate versus 12 and 26 mg/L for the entire sample set). The isotopic composition of water for samples analyzed for nitrate isotopic composition was not significantly different than for the entire data set (mean $\delta^{18}O$-H_2O of -10.8‰ versus -10.4‰ for the entire data set).

ISOTOPIC COMPOSITION OF WATER

A total of 151 samples were analyzed for O and H isotope compositions of water from the Tulare County Private Domestic Well study area. A large range in both $\delta^{18}O$ and $\delta^{2}H$ is observed, from a very light $\delta^{18}O$ value of -13.5‰ to a rather heavy $\delta^{18}O$ of -6.2‰ (Figure 3).

Typically for stable isotopes of water, there is a correlated decrease in the isotopic composition of precipitation with increasing elevation. In the Sierra, this correlation has been observed to be approximately -2.3‰ in $\delta^{18}O$-H_2O per kilometer of elevation (Figure 4; Rose et al., 1996). This general pattern is observed in GAMA Private Domestic Well study results from El Dorado County, where lighter signatures (more negative $\delta^{18}O$ values) were observed with increasing elevation and heavier signatures (less negative $\delta^{18}O$ values) were observed in the valley floor, indicating the predominance of locally-derived water in the domestic wells sampled. The Tulare County pattern is distinctly different (Figure 5a). Many of the samples collected from lower elevations have *lower* $\delta^{18}O$-H_2O and δD-H_2O values than would be predicted for precipitation at those elevations (Figure 4).

This apparent discrepancy is caused by extensive use of imported water from the Kings and Kaweah Rivers, which are fed from the upper Sierra. This water is used for irrigation, and recharges the shallow aquifer. Coplen and Kendall (2000) report $\delta^{18}O$-H_2O values in the Kings River at Trimmer (elev. 942 ft RMSL) that range from -14.6 to -12.5 ‰, with an average value of -13.3 ‰. The low $\delta^{18}O$-H_2O and δD-H_2O values in samples collected from domestic wells on the valley floor (Figures 4 and 5) indicate that these wells tap groundwater that is a mix of irrigation return water and locally derived precipitation. The extent of King's river water present in parts of the Tulare County valley groundwater system may be up to 100 percent.

The excess irrigation water has not experienced significant evaporation, despite the fact that it is applied mainly during summer months. Infiltration must take place relatively quickly after application. Evidence for lack of evaporative effects on these isotopically light samples comes from a plot of $\delta^{18}O$ vs. $\delta^{2}H$ (Figure 3). Samples with isotope pairs that fall below the global meteoric water line (GMWL) have experienced significant evaporation, but for Tulare samples, only samples with $\delta^{18}O$ values greater than -9‰ show an evaporation effect. Samples with water $\delta^{18}O$ values greater than -9‰ are found on the eastern side of the study area, primarily in the foothills (Figures 4 and 5). These areas are not surrounded by irrigated agricultural fields, and irrigation return flow is not a likely source of significant recharge. Rather, $\delta^{18}O$ results from wells in the eastern portion of the study area suggest that local precipitation is the main source of recharge and that evaporation prior to recharge affects some wells. The $\delta^{18}O$ value for precipitation in the Tulare County valley area is predicted to be approximately -7.5‰ to -8‰. A pattern of decreasing $\delta^{18}O$ with increasing elevation within the foothill samples is evident in Figure 3. This is further evidence that recharge to wells in the foothill area is mainly from locally derived precipitation.

ISOTOPIC COMPOSITION OF NITRATE

The nitrate N and O isotope data set consists of 29 distinct samples (plus two duplicates), and is small relative to the total set of samples collected (n=203 including 22 duplicates). Of the samples analyzed for N and O isotope compositions, only two samples are from wells above 800 ft elevation (Figure 6). Most samples are collected from the valley and the margins of the foothills (Figures 7 and 8). We have delineated the sample set into two groups based on elevation (Figures 6): the valley wells (<400 ft. MSL) and the foothills and margins of the foothills (>400 ft. MSL). In general, these two areas are distinct in both hydrogeology and land use. The valley wells are located in the thick alluvial fan deposits, while the margin/foothills wells are more likely to overly a thinner sequence of alluvium and bedrock. Dairy operations, orchards and row crops are densely distributed at the valley elevations, while the margins and upper foothills are commonly planted with orchards. Most of Tulare County's population (which can be used as a proxy for septic effluent sources of nitrate) is located below 400 feet.

Seven samples that were analyzed for nitrate N and O isotopic composition had nitrate concentrations over the MCL. These seven samples with high NO_3 concentration have $\delta^{15}N$-NO_3 values that range from 3.7 to 11.2 ‰, with an average of 6.9 ‰. Nitrate $\delta^{15}N$-NO_3 values in this range are typically consistent with nitrification of ammonium from human waste or animal waste, i.e. septic effluent or dairy manure (see Figure 9).

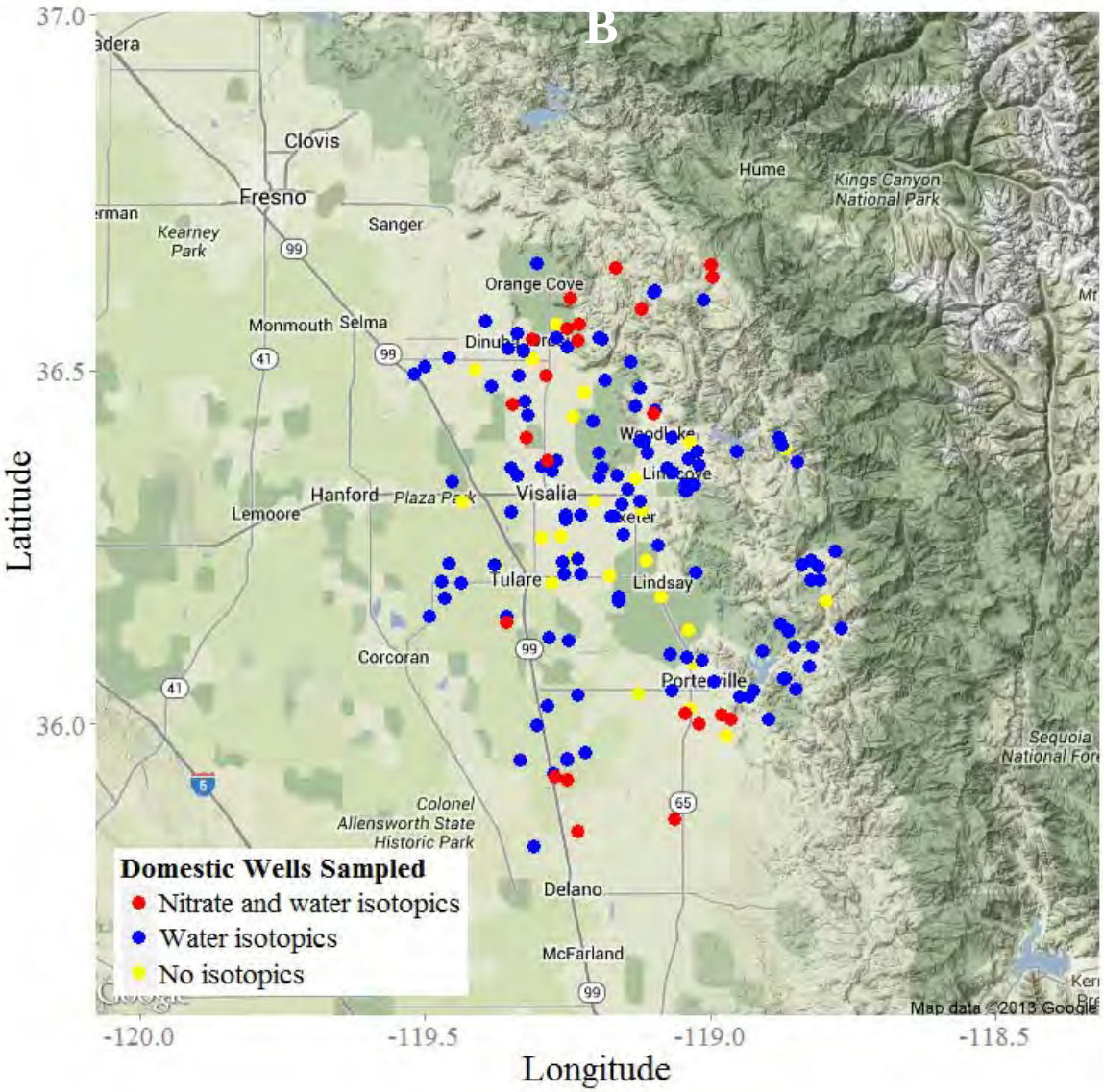


Figure 2. Tulare County domestic wells sampled for analysis of water and/or nitrate isotopic composition for the State Water Board GAMA Domestic Well Project.

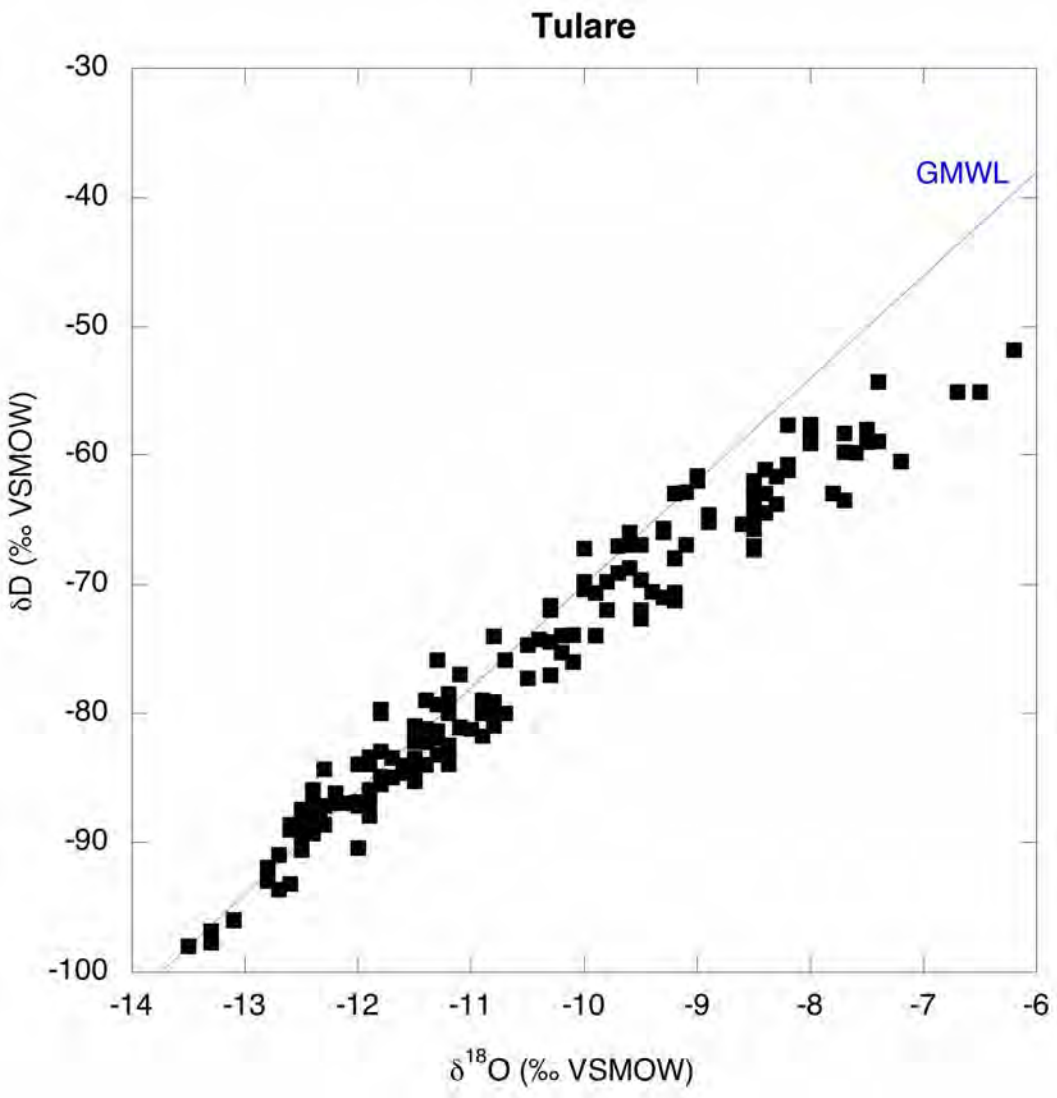


Figure 3. Stable isotope plot for samples from Tulare County Private Domestic wells. The most depleted (most negative) ratios observed are typical for Sierran River runoff sourced at high elevation. Enriched ratios (less negative) show evidence for evaporation, plotting below the meteoric water line.

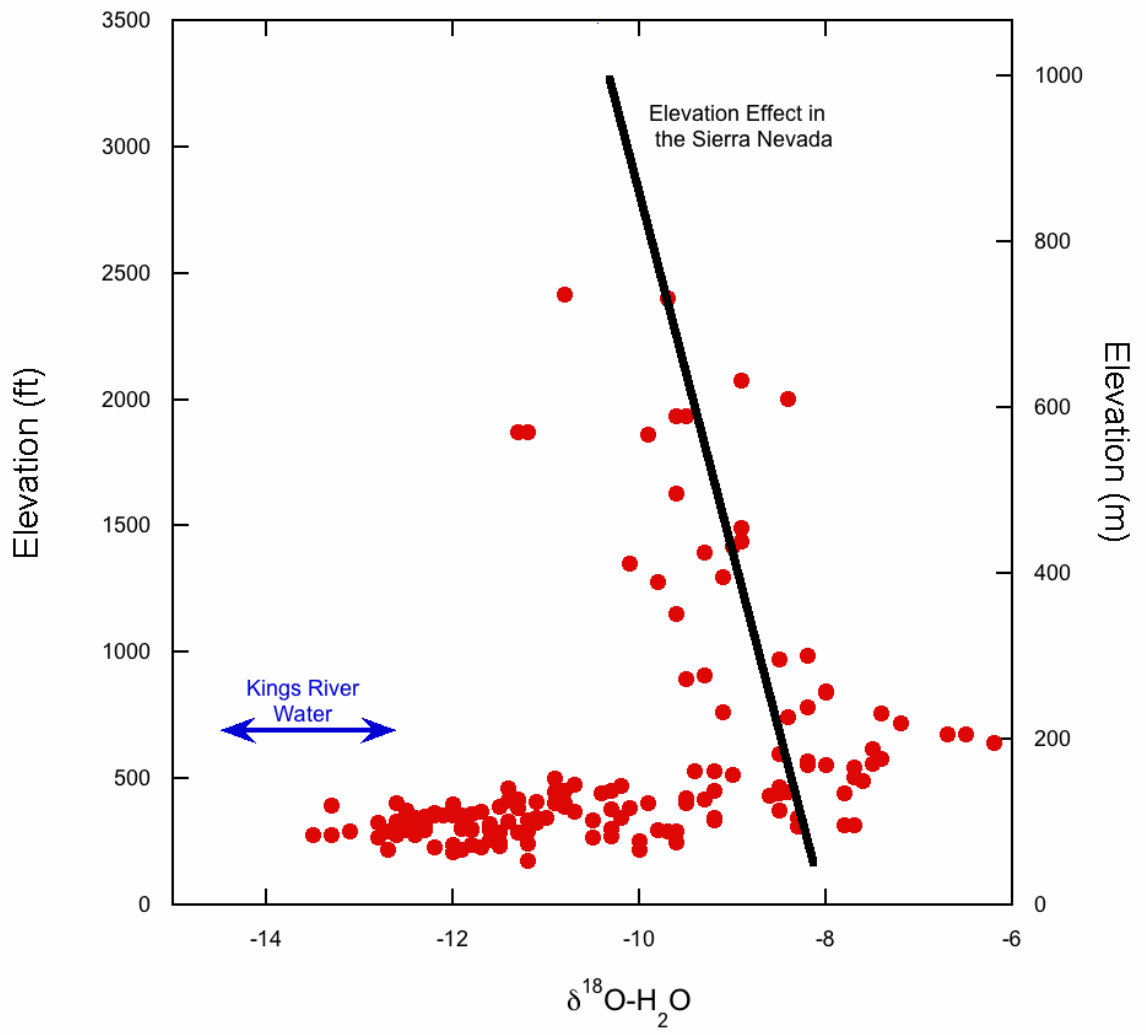


Figure 4. The elevation and oxygen isotope composition of waters collected from Tulare County domestic wells. The solid line shows the observed relation between elevation and $\delta^{18}O\text{-}H_2O$ in the Sierra (Rose et al., 1996). The observed range of Kings River water is shown based on data from Coplen and Kendall (2000).

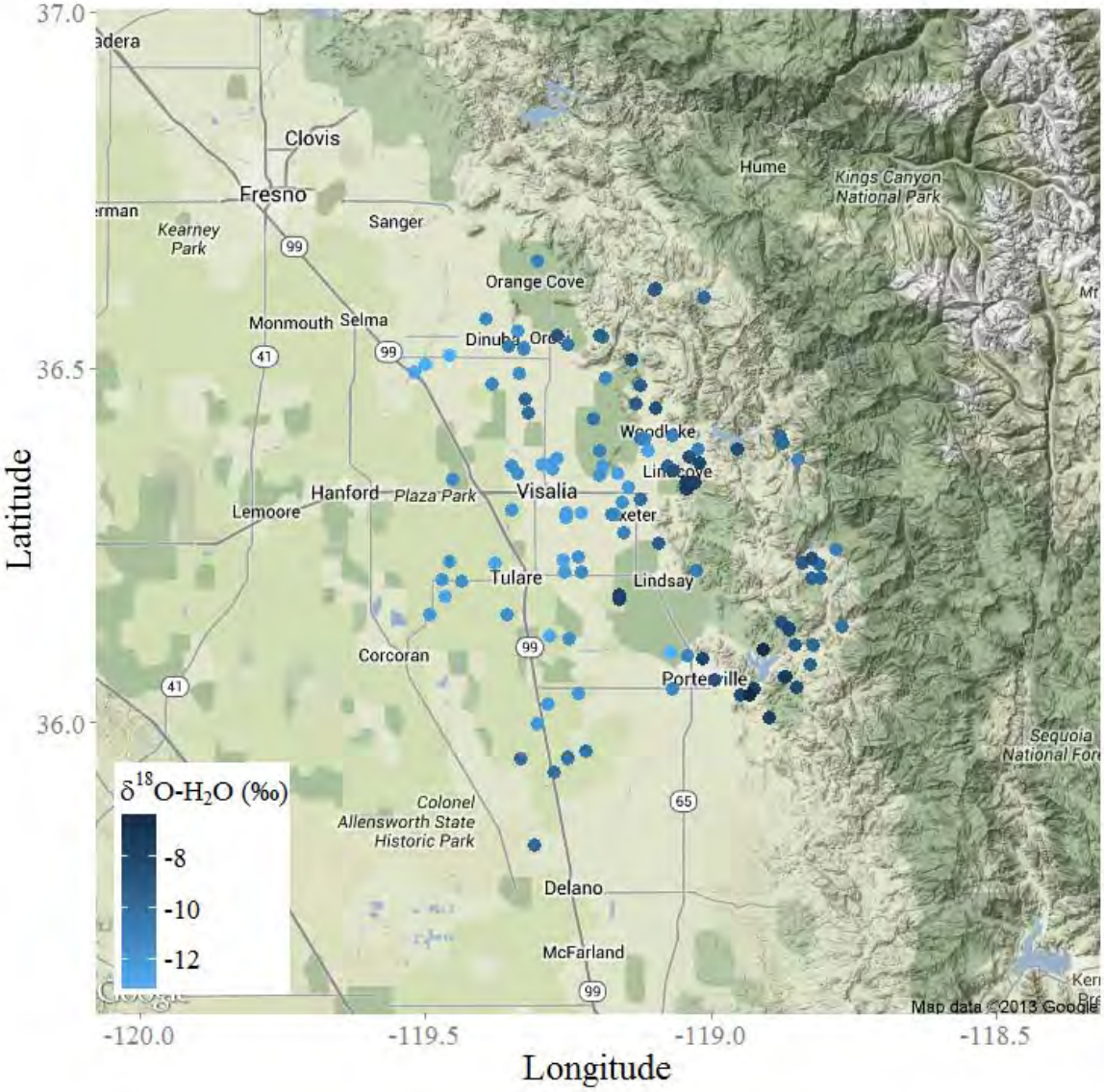


Figure 5a. Spatial distribution of water isotopic composition in Tulare County domestic wells.

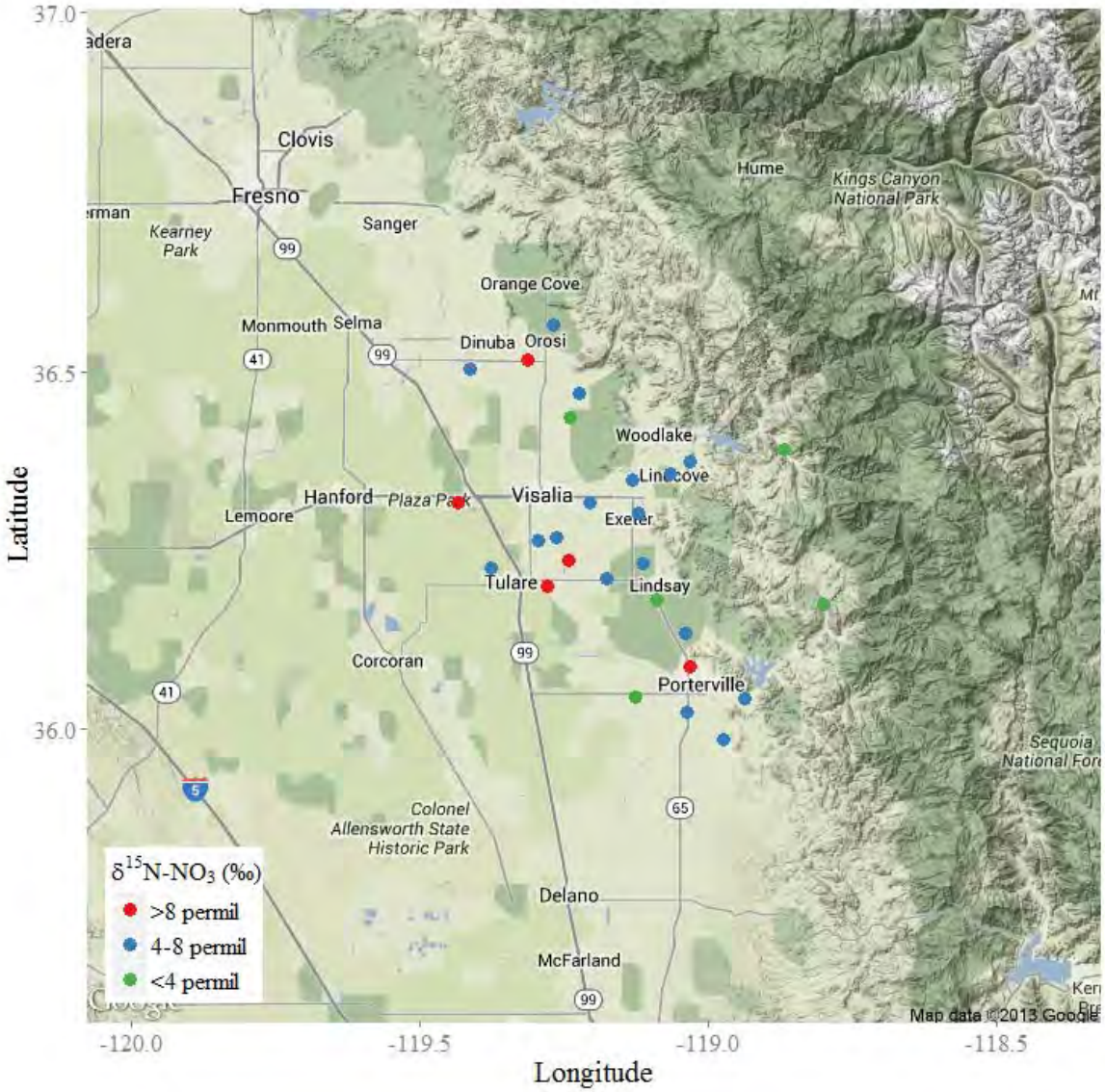


Figure 5b. Spatial distribution of nitrate isotopic composition in Tulare County domestic wells

The highest concentration sample, TUL 0979, was 240 mg/L-NO_3 and had a $\delta^{15}N$-NO_3 value of 6.1‰ and a $\delta^{18}O$-NO_3 value of 8.2‰ (Figure 6 and 7). The isotopic composition of nitrate in TUL 0979 is generally consistent with containing a component of nitrate or mixed nitrate/ammonium synthetic fertilizer (Figure 9). Nitrate in TUL 0928 also has an isotopic composition consistent with synthetic nitrate, but its nitrate concentration is low (1.6 mg/L-NO_3).

In general, the oxygen isotope composition of nitrate ($\delta^{18}O$-NO_3) produced by nitrification of ammonium is correlated with the oxygen isotope composition of local water ($\delta^{18}O$-H_2O). This correlation is due to incorporation of local water and atmospheric oxygen, typically in a 2:1 ratio, during production of nitrate from ammonium from either synthetic ammonium fertilizer or animal/human waste. The relation of oxygen isotope compositions in nitrate and water for Tulare County domestic wells is shown in Figure 10. Lines showing the predicted nitrate and water $\delta^{18}O$ values produced from nitrification of ammonium are also plotted, with a range reflecting uncertainty in the local pore water $\delta^{18}O$ values in the unsaturated zone where nitrification is most likely to occur. Most samples have nitrate and water $\delta^{18}O$ values that are consistent with nitrification of ammonium in the presence of local water. Samples from the valley fall lower on the plot and reflect nitrification of ammonium in the presence of the irrigation return water with low $\delta^{18}O$-H_2O. Mixing with synthetic NO_3 fertilizer would cause samples to fall above the predicted lines.

Coplen, T.B., and Kendall, C. 2000. Stable Hydrogen and Oxygen Isotope Ratios for Selected Sites of the U.S. Geological Survey's NASQAN and Benchmark Surface-water Networks. USGS Open-File Report 00-160.

Kendall, C. 1998. Tracing nitrogen sources and cycling in catchments. In: Kendall, C. and McDonnell, J. J. Eds.), *Isotope Tracers in Catchment Hydrology*. Elsevier, New York.

SWRCB. 2010. GAMA Domestic Well Project Groundwater Quality Data Report: Tulare County Focus Area (Draft). California State Water Resources Control Board Groundwater Protection Section (Groundwater Ambient Monitoring & Assessment Program). http://www.swrcb.ca.gov/gama/domestic_well.shtml.

Rose, T.P., Davisson, M.L., and Criss, R.E. 1996. Isotope hydrology of voluminous cold springs in fractured rock from an active volcanic region, northeastern California. *Journal of Hydrology* **179**, 207-236.

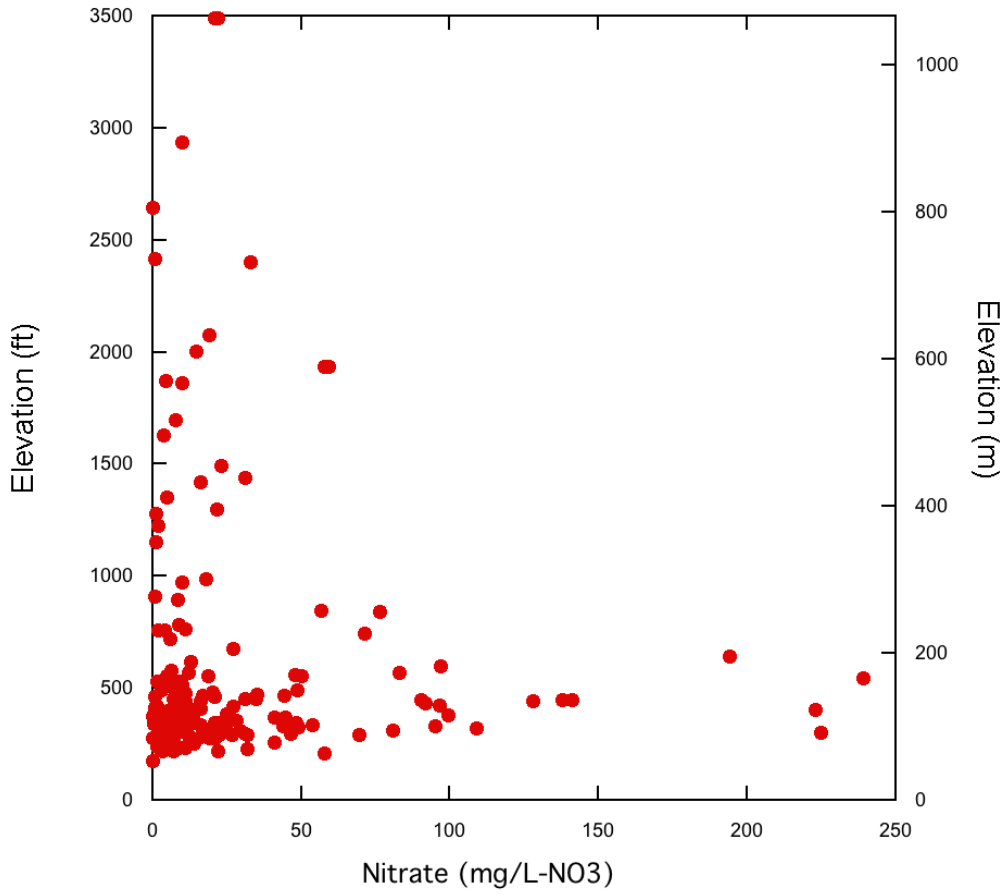


Figure 6. Well elevation versus dissolved nitrate concentrations in Tulare County domestic well samples.

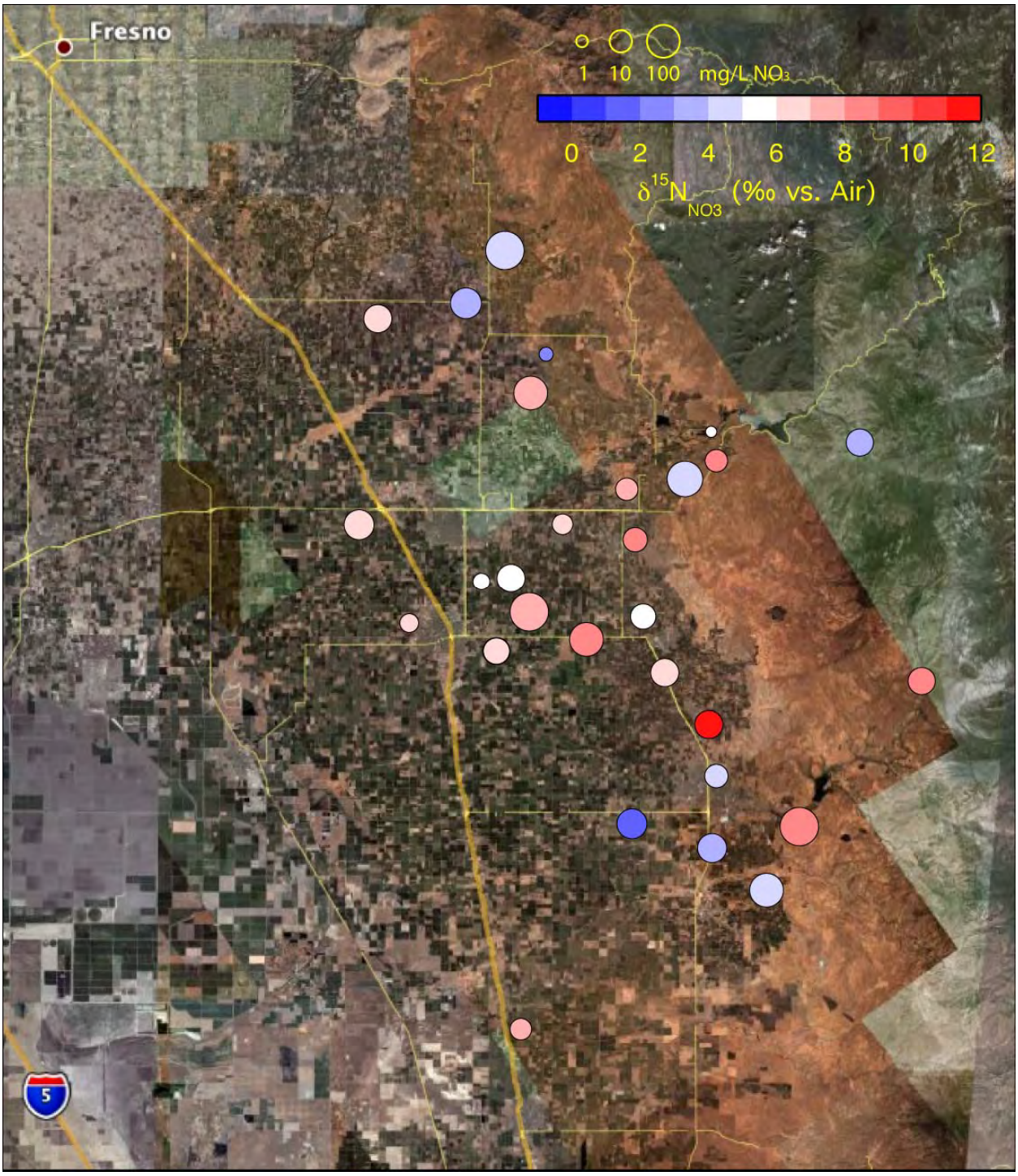


Figure 7. Wells analyzed for N isotope compositions in nitrate are shown on a Google Earth satellite image. The isotopic composition of nitrate-N ($\delta^{15}N$-NO_3) is represented by the color of the dot. The nitrate concentration of each well is represented by the size of the dot.

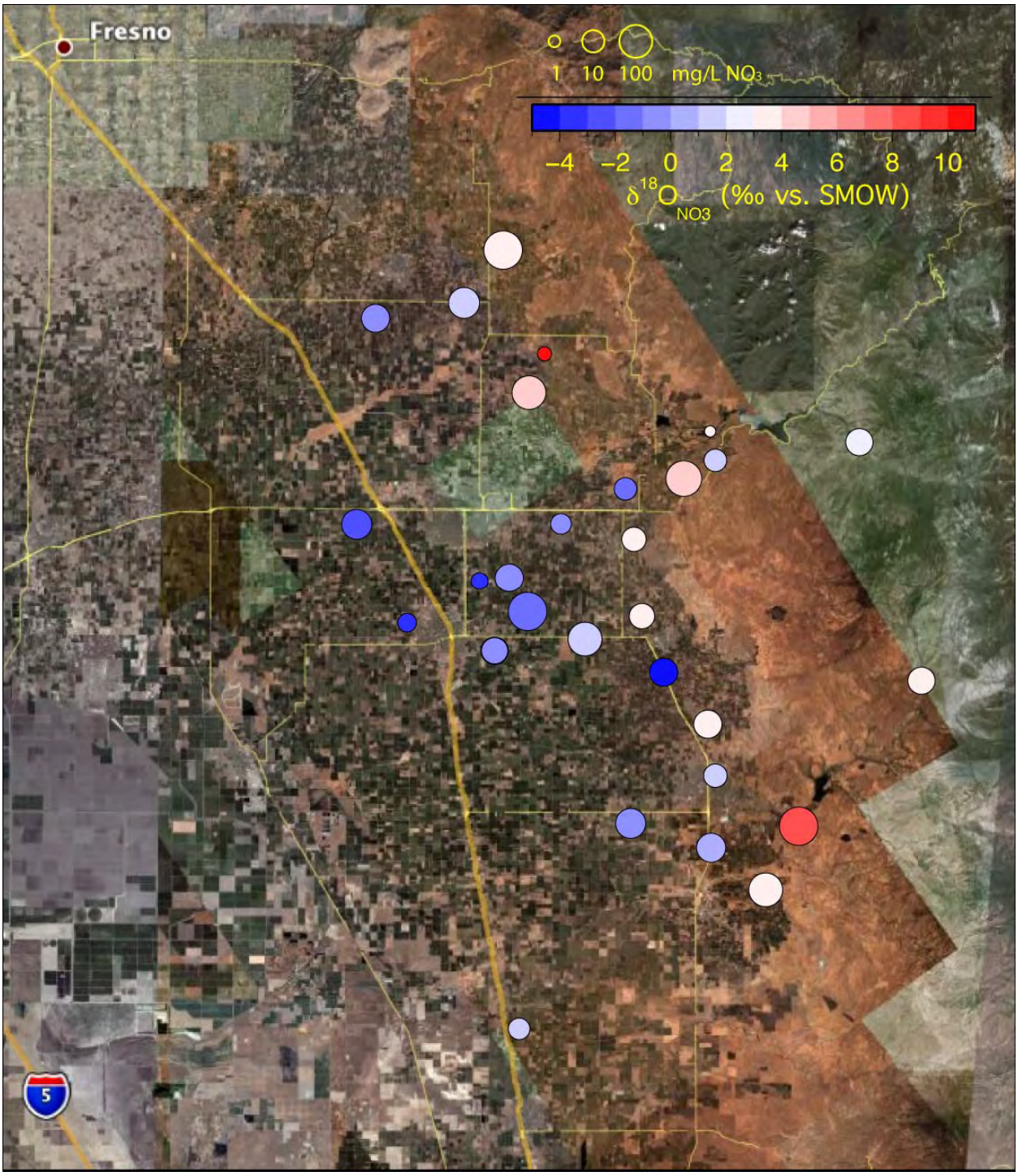


Figure 8. Wells analyzed for O isotope compositions in nitrate are shown on a Google Earth satellite image. The isotopic composition of nitrate-O ($\delta^{18}O$-NO_3) is represented by the color of the dot. The nitrate concentration of each well is represented by the size of the dot.

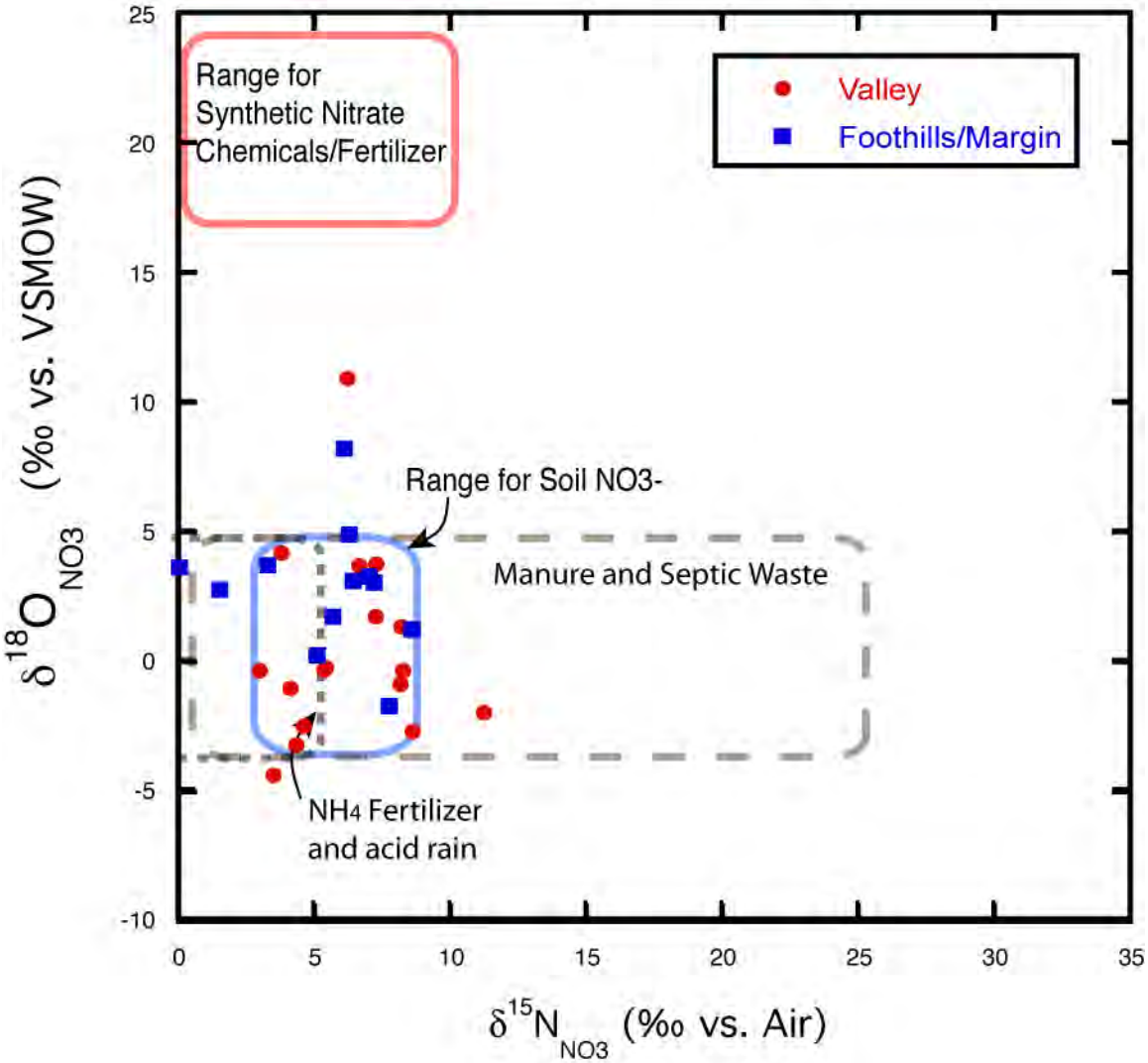


Figure 9. Nitrogen and oxygen isotope compositions of dissolved nitrate in Tulare County wells. Observed ranges from nitrate sources are modified from Kendall (1998) based on the observed oxygen isotope composition of water from this study.

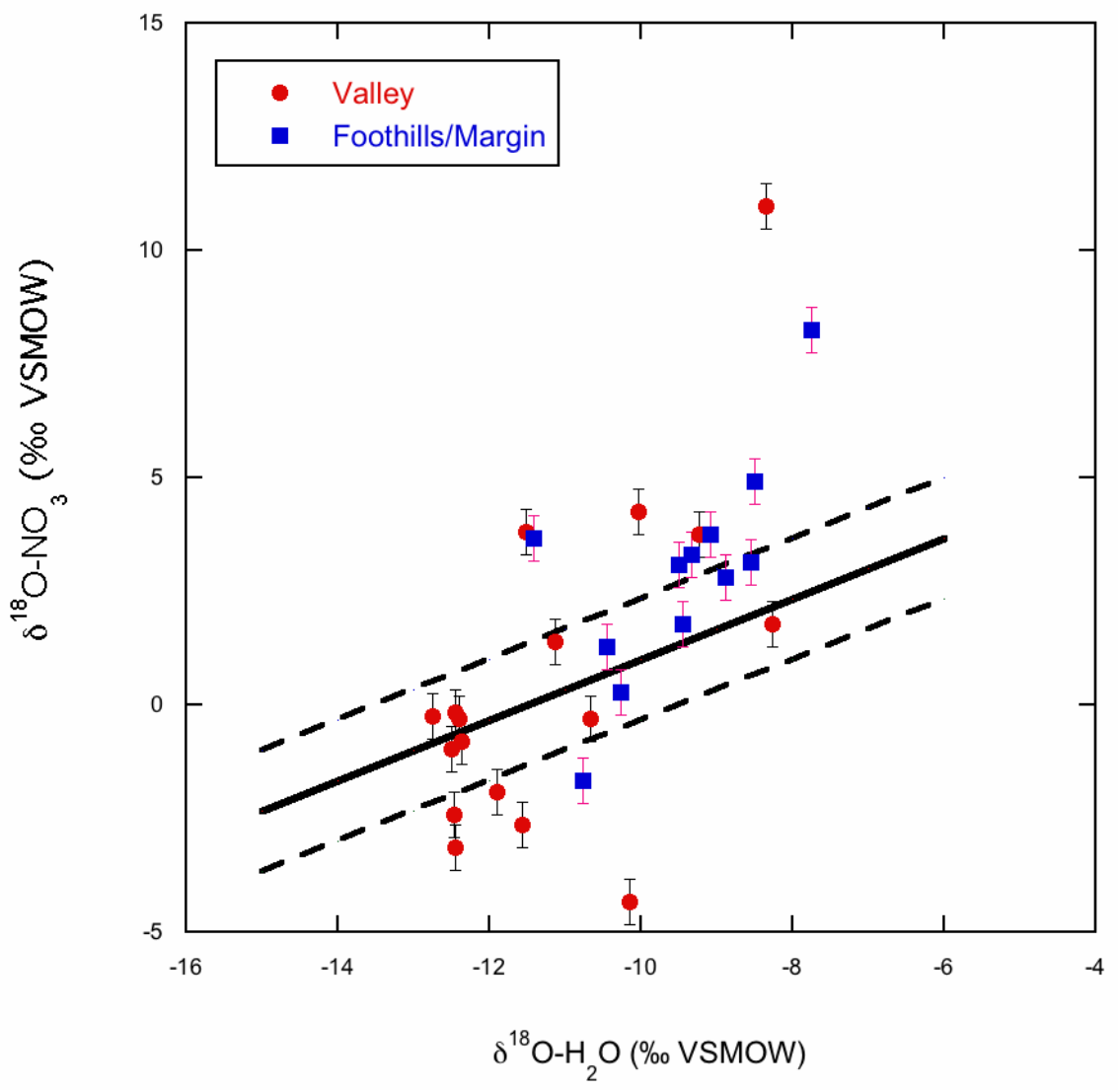


Figure 10. Oxygen isotope compositions in water and nitrate from Tulare County domestic wells. The predicted relation between oxygen isotope compositions in water and nitrate produced by nitrification of ammonium are shown (solid line) with additional lines to account for a range of $\delta^{18}O$-H_2O values that may occur in unsaturated zone pore waters where nitrification is likely to occur (dashed lines).

Figure 11. Location of duplicate samples TUL 0941 and TUL 0954 on a Google Earth 2010 satellite image. Both isotopic composition and concentration for these samples reproduced well: 19 vs. 21 mg/L nitrate; 8.2 vs. 8.1 ‰ $\delta^{15}N\text{-}NO_3$,, -0.3 vs. -0.8 ‰ $\delta^{18}O\text{-}NO_3$ (TUL 0941 vs TUL 0954). This valley well (elevation 279 feet) is close to two dairy operations, and the groundwaters have nitrate isotopic compositions within the range of nitrate associated with a dairy manure source.

Figure 12. Location of well TUL979 on a Google Earth 2010 satellite image. This foothill well (elevation 546 feet) is in a sparsely populated area surrounded by orchards and has high nitrate concentration (240 mg/L nitrate). The nitrate isotopic composition ($\delta^{15}N$-NO_3= 6.1, $\delta^{18}O$-NO_3 = 8.2), in particular the high $\delta^{18}O$-NO_3, is indicative of a synthetic fertilizer source.

SIGNIFICANT FINDINGS

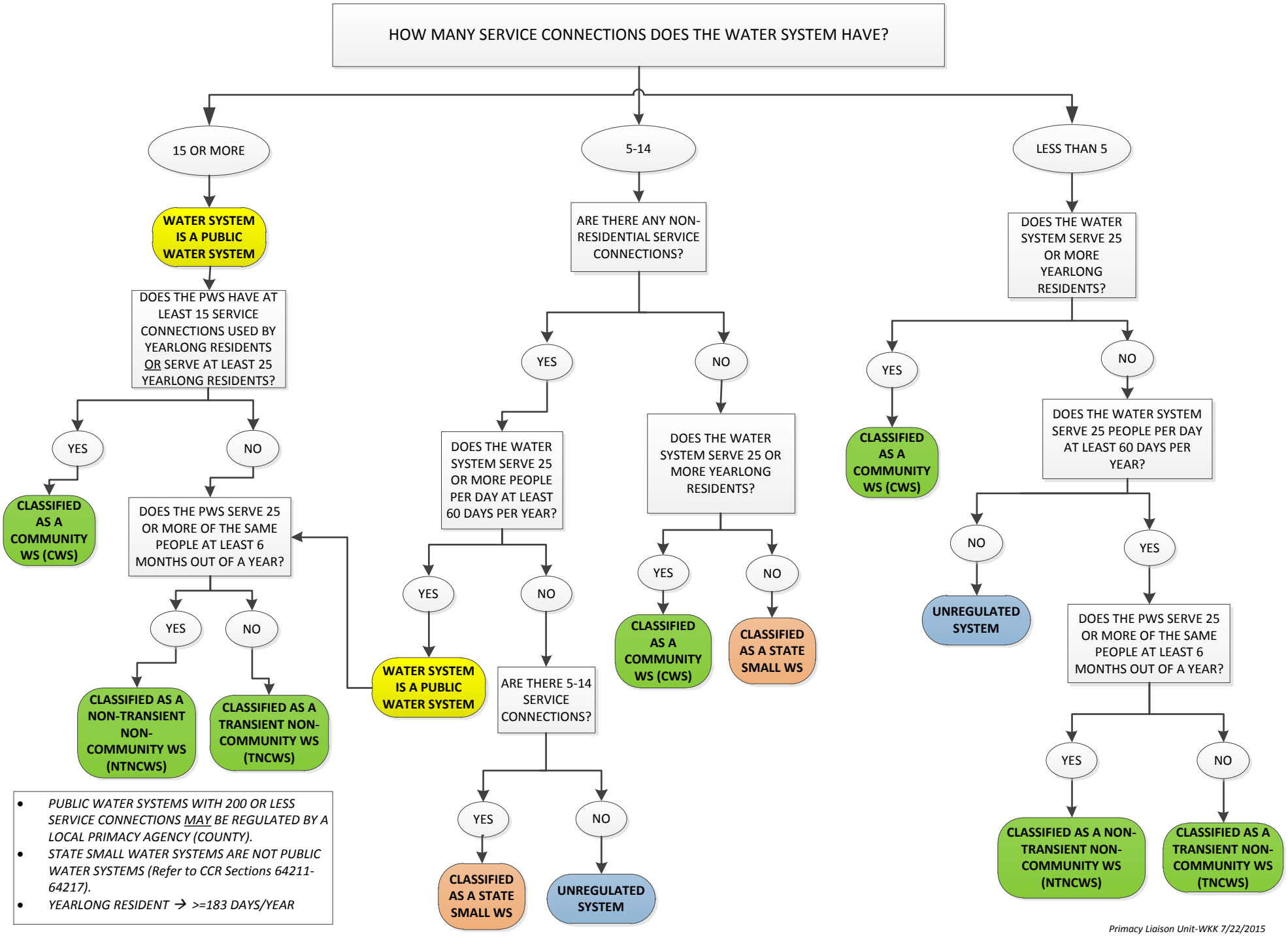
- In general, higher domestic well water nitrate concentrations are found in valley wells below 400 feet surface elevation.
- Domestic wells below 400 feet surface elevation draw on groundwater heavily impacted by irrigation with Kings and Kaweah River water, as indicated by water isotopic composition. This finding is consistent with both the long and heavy usage of Kings River water for irrigation in this area, and with the assumed shallow depth of these domestic wells. Nitrate associated with these waters is presumably associated with the same source (chemical or organic fertilizer in irrigation water) or is mobilized by irrigation (septic effluent or soil nitrogen).
- Domestic wells in the foothills (with elevations above 400 feet) receive recharge derived from local precipitation that has experienced some evaporation.
- Nitrate concentrations in the most polluted wells are sufficiently high to preclude a significant contribution from soil or atmospheric sources. Such sources cannot be precluded in wells with nitrate concentrations below the regulatory drinking water limit, however the data set does not include enough samples near typical background concentration levels to assess the isotopic characteristics of natural nitrate sources in this area.
- Nitrate isotopic compositions indicate a dairy manure or septic effluent source for the majority of the most heavily impacted wells, with the exception of one well with high nitrate concentration and an isotopic composition indicative of a synthetic fertilizer source. An analysis of land use and the distribution of potential nitrate sources would be extremely useful.

A preliminary investigation of the correlation between land use and nitrate isotopic composition was conducted (see Appendix “GAMA Domestic Well Project - Tulare County. Nitrate Source Attribution: The Isotopic Evidence”). The sparse nitrate isotopic data set is under-represented by domestic wells with no potential anthropogenic sources within 500 m of the well, and the method used to assign land use is cursory. Patterns observed, however, are consistent with multiple anthropogenic sources, including dairy wastewater, septic effluent and synthetic fertilizer.

- Nitrate isotopic composition does appear to vary with land use
  - Dairy, agricultural/residential, and wild-land sites are isotopically distinct
  - Dairy site nitrate-N isotopic data are isotopically consistent with a manure source
  - Nitrate-O isotopic data are isotopically consistent with local nitrification of ammonium (from manure, septic effluent, or synthetic ammonium fertilizer)
- The isotopic evidence is consistent with more than one nitrate source
  - Domestic wells located close to dairies do have a different nitrate isotopic composition than wells not close to dairies in similar hydrogeologic settings.
  - The isotopic compositions measured are consistent with the suspected sources of nitrate to these wells (soil, fertilizer, manure, septic or community wastewater).
  - High concentrations of nitrate occur in all developed land use categories.

APPENDIX B

DECISION TREE FOR CLASSIFICATION OF WATER SYSTEMS



Tulare County General Plan

Appendix E

Historical Data on Wildfires

November 2016

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Part I Appendix E Health and Safety Element
Historical Data on Wildfires (Added November 15, 2016 as per GPA 16-004)

The Table below contains historical information regarding recorded wildfires in Tulare County that occurred between 1910 and 2014. A total of 610 wildfires that burned approximately 1,328,000 acres were recorded during this 104 year time period. The following causes represent approximately 94% of the 610 recorded wildfires (1,283,600 acres), and are included as follows, miscellaneous 36% (532,800 acres), lightning 27% (309,000 acres), unknown or unidentified 14% (97,000 acres), Arson 8% (63,300 acres), equipment use 4% (43,500 acres), smoking 3% (53,400 acres), and Campfires 2% (184,600 acres). The remaining causes which include escaped prescribed burns, debris, vehicles, structures, powerlines, railroads and playing with fire account for the remaining 6% (44,400 acres) of the recorded wildfires. The locations of these wildfires are displayed in Part I Chapter 10 Health and Safety Element Figures 10-6 and 10-6 A-G.

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
1910		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	2,060
1910		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	2,046
1910		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	981
1910		Sequoia National Forest	USDA Forest Service	Unknown / Unidentified	Suppression (Wildfire)	843
1910		Sequoia National Forest	USDA Forest Service	Unknown / Unidentified	Suppression (Wildfire)	598
1910		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	329
1911		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	277
1911		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	157
1912		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	5,379
1912		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	1,370

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
1914		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	861
1914		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	362
1914		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	197
1914		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	139
1914		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	116
1915		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	270
1916		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	4,707
1916		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	639
1916		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	561
1916		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	385
1916		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	133
1917		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,616
1917		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,153
1917		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	687
1917		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	673

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
1917		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	649
1917		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	487
1917		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	431
1917		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	329
1917		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	322
1918		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	748
1918		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	656
1918		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	553
1919		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	466
1919		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	215
1919		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	195
1919		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	169
1919		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	151
1920		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	512
1921		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	13,172

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
1921	ELK CREEK	Sequoia - Kings Canyon NP	National Park Service	Campfire	Suppression (Wildfire)	1,551
1921		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	677
1921		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	486
1921		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	221
1921		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	178
1921		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	125
1922		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	5,101
1922	HOSPITAL	Sequoia - Kings Canyon NP	National Park Service	Campfire	Suppression (Wildfire)	667
1922	PANTHER	Sequoia - Kings Canyon NP	National Park Service	Lightning	Suppression (Wildfire)	536
1922	E.FORK	Sequoia - Kings Canyon NP	National Park Service	Campfire	Suppression (Wildfire)	450
1923		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	774
1923		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	334
1924		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	12,523
1924		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	8,603
1924		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	4,284

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
1924		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	295
1924		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	229
1924		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	174
1924		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	172
1924		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	131
1924		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	119
1924		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	111
1924	MUIR GROVE	Sequoia - Kings Canyon NP	National Park Service	Unknown / Unidentified	Suppression (Wildfire)	108
1925		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	627
1925	UNKNOWN	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	467
1925		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	334
1926	KAWEAH	Sequoia - Kings Canyon NP	National Park Service	Arson	Suppression (Wildfire)	34,358
1926		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	14,969
1926		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	5,957
1926		Sequoia	USDA Forest	Miscellaneous	Suppression	1,553

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
		National Forest	Service		(Wildfire)	
1926		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	1,363
1926		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	918
1926	POTWISHA	Sequoia - Kings Canyon NP	National Park Service	Smoking	Suppression (Wildfire)	881
1926		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	656
1926		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	556
1926		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	396
1926		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	258
1926		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	217
1926		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	203
1926		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	158
1926		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	137
1926		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	133
1927		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	3,461
1927		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,751
1927		Sequoia	USDA Forest	Miscellaneous	Suppression	629

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
		National Forest	Service		(Wildfire)	
1927		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	278
1928		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	22,144
1928	S FORK	Sequoia - Kings Canyon NP	National Park Service	Unknown / Unidentified	Suppression (Wildfire)	21,998
1928		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	11,993
1928		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	3,363
1928		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	3,192
1928		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	3,181
1928		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	2,940
1928		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	2,825
1928		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	1,952
1928		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,879
1928		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,320
1928		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	694
1928		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	201
1928		Sequoia	USDA Forest	Lightning	Suppression	134

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
		National Forest	Service		(Wildfire)	
1929		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,480
1929		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,461
1929		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	354
1929		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	323
1929		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	227
1929		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	220
1929		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	107
1930	SOUTH FORK	Sequoia - Kings Canyon NP	National Park Service	Unknown / Unidentified	Suppression (Wildfire)	1,075
1930		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	905
1930	RED HILL	Sequoia - Kings Canyon NP	National Park Service	Debris	Suppression (Wildfire)	132
1930		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	119
1931		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	6,097
1931		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	2,002
1931		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	632
1931		Sequoia	USDA Forest	Miscellaneous	Suppression	579

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
		National Forest	Service		(Wildfire)	
1931		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	504
1931		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	329
1931	COW CREEK	Sequoia - Kings Canyon NP	National Park Service	Arson	Suppression (Wildfire)	219
1931		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	176
1932		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,329
1932		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,064
1932	UNKNOWN	Sequoia National Forest	USDA Forest Service	Unknown / Unidentified	Suppression (Wildfire)	1,022
1932	UNKNOWN	Sequoia National Forest	USDA Forest Service	Unknown / Unidentified	Suppression (Wildfire)	179
1933		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,001
1933	BEAR MTN	Sequoia - Kings Canyon NP	National Park Service	Equipment Use	Suppression (Wildfire)	487
1933		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	405
1934		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	2,896
1934	SOUTH FORK	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	2,403
1934		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,731
1934	CASE MTN	Tulare	California	Unknown /	Suppression	1,633

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
		County	Department of Forestry and Fire Protection	Unidentified	(Wildfire)	
1934		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	971
1934	SOUTH FOR	Sequoia - Kings Canyon NP	National Park Service	Unknown / Unidentified	Suppression (Wildfire)	529
1934		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	386
1934	TRAUGER	Sequoia - Kings Canyon NP	National Park Service	Smoking	Suppression (Wildfire)	206
1934		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	187
1934		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	141
1935		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,069
1935		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	366
1935		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	157
1936		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,701
1938	UNKNOWN	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	266
1938		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	109
1939	RED HILL	Sequoia - Kings Canyon NP	National Park Service	Smoking	Suppression (Wildfire)	2,227

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
1939	FLUME	Sequoia - Kings Canyon NP	National Park Service	Lightning	Suppression (Wildfire)	681
1939		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	281
1939	YUCCA CREEK	Sequoia - Kings Canyon NP	National Park Service	Structure	Suppression (Wildfire)	145
1940		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	4,012
1940		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,861
1940		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	331
1940		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	323
1940	PARADISE	Sequoia - Kings Canyon NP	National Park Service	Campfire	Suppression (Wildfire)	113
1941		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	2,970
1941		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	934
1942		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	26,979
1942		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	25,219
1942		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	23,910
1942		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	19,833
1942		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	7,559

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
1942		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	812
1942		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	764
1942	GODDARD CREEK	Sequoia - Kings Canyon NP	National Park Service	Lightning	Suppression (Wildfire)	172
1945	NORTH FORK	Sequoia - Kings Canyon NP	National Park Service	Smoking	Suppression (Wildfire)	2,258
1945		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,589
1946		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,566
1946	ATWELL MI	Sequoia - Kings Canyon NP	National Park Service	Smoking	Suppression (Wildfire)	222
1947		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	880
1947	CASTLE GROVE	Sequoia - Kings Canyon NP	National Park Service	Smoking	Suppression (Wildfire)	370
1947		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	150
1947		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	140
1947	MORO CREEK	Sequoia - Kings Canyon NP	National Park Service	Playing with fire	Suppression (Wildfire)	132
1948	SIMPSON M	Sequoia - Kings Canyon NP	National Park Service	Smoking	Suppression (Wildfire)	11,121
1948		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	324
1949		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,068

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
1949	KERN CANYON	Sequoia - Kings Canyon NP	National Park Service	Lightning	Suppression (Wildfire)	793
1949		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	587
1949		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	392
1949	KERN CANYON	Sequoia - Kings Canyon NP	National Park Service	Lightning	Suppression (Wildfire)	140
1949		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	107
1950		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	3,256
1950	THREE RIVERS	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	1,178
1950	KING GEORGE	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	788
1950	STWART MOUNTAIN	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	653
1950	DEER COVE	Sequoia - Kings Canyon NP	National Park Service	Smoking	Suppression (Wildfire)	567
1950	GILL #6	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	555
1950	DRY CREEK	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	298
1950	EAGLE PEAK	Sequoia -	National	Lightning	Suppression	276

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
		Kings Canyon NP	Park Service		(Wildfire)	
1950		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	230
1950		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	202
1950		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	122
1951		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,227
1951	GILL #2	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	629
1951		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	368
1952	FRAZIER VALLEY	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	416
1952		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	105
1953		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,547
1953		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	918
1953	TOMBSTONE	Sequoia - Kings Canyon NP	National Park Service	Lightning	Suppression (Wildfire)	403
1953	DUPREE	Tulare County	California Department of Forestry and Fire Protection	Miscellaneous	Suppression (Wildfire)	236
1954	DAVIS #2	Tulare	California	Unknown /	Suppression	5,202

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
		County	Department of Forestry and Fire Protection	Unidentified	(Wildfire)	
1954	DAVIS RAN	Sequoia - Kings Canyon NP	National Park Service	Unknown / Unidentified	Suppression (Wildfire)	4,299
1954	ELLIOTT	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	1,952
1954	SMITH RANCH	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	1,437
1954	RED MOUNTAIN	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	799
1954		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	772
1954	ELLIOTT R	Sequoia - Kings Canyon NP	National Park Service	Unknown / Unidentified	Suppression (Wildfire)	634
1954	KIRK	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	193
1954		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	175
1955	MCGEE	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	18,253
1955	UNKNOWN	Sequoia National Forest	USDA Forest Service	Unknown / Unidentified	Suppression (Wildfire)	368
1955	SENTINAL RIDGE	Sequoia - Kings Canyon NP	National Park Service	Lightning	Suppression (Wildfire)	258

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
1955		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	254
1956	GILL #3	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	313
1956		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	167
1957	CHARLEY CREEK	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,564
1957		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	803
1957	KING GEORGE	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	453
1957		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	379
1957	CONLEY CREEK	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	219
1957		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	216
1958	MEHRTEN	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	2,016
1958	BLACK MOUNTAIN	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	1,277
1958	WOODLAKE MTN.	Tulare County	California Department	Unknown / Unidentified	Suppression (Wildfire)	769

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
			of Forestry and Fire Protection			
1958	ROCKY HILL	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	392
1958	CLATTE	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	390
1958	CARTER-WE	Sequoia - Kings Canyon NP	National Park Service	Lightning	Suppression (Wildfire)	386
1958		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	261
1958		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	186
1959		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	9,433
1960	TUNNEL RA	Sequoia - Kings Canyon NP	National Park Service	Equipment Use	Suppression (Wildfire)	5,795
1960		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	916
1960		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	133
1961	WHITE DEER	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	4,967
1961		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,336
1961	GREENHOE	Sequoia - Kings Canyon NP	National Park Service	Arson	Suppression (Wildfire)	219
1961		Sequoia National	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	180

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
		Forest				
1962		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	823
1962	LEFEVER	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	701
1962		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	210
1962		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	137
1963	WIGGLETAIL	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	588
1963	BALANCE ROCK	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	327
1963	BALD MOUNTAIN	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	313
1964		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,184
1964		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	744
1965		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	179
1966		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	1,571
1966	JOHN NOYER CANYON	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	789
1966		Sequoia National	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	541

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
		Forest				
1966	GILL #2	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	359
1966		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	209
1966		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	150
1967	SHEPHERD PEAK	Tulare County	California Department of Forestry and Fire Protection	Lightning	Suppression (Wildfire)	1,985
1967		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	762
1967	FOUNTAIN SPRINGS	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	353
1967		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	336
1968	LEWIS CREEK	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	2,052
1968		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	759
1968	RANCHERIA	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	477
1969		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,165
1969		Sequoia	USDA Forest	Lightning	Suppression	577

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
		National Forest	Service		(Wildfire)	
1969		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	451
1969	TEAPOT DOME HILL	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	275
1969	BALD MOUNTAIN	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	242
1969		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	213
1970	RED MOUNTAIN	Sequoia National Forest	USDA Forest Service	Smoking	Suppression (Wildfire)	25,492
1970	JAMES	Sequoia National Forest	USDA Forest Service	Equipment Use	Suppression (Wildfire)	1,512
1970	POWERHOUSE	Sequoia National Forest	USDA Forest Service	Smoking	Suppression (Wildfire)	692
1970	GIBBON	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	493
1970	BUBBS CRE	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	424
1970	PROJECT	Sequoia National Forest	USDA Forest Service	Equipment Use	Suppression (Wildfire)	327
1970	HUME	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	179
1970	LOOKOUT P	Sequoia - Kings Canyon NP	National Park Service	Smoking	Suppression (Wildfire)	170
1970	OAT CANYON	Tulare	California	Unknown /	Suppression	139

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
		County	Department of Forestry and Fire Protection	Unidentified	(Wildfire)	
1971	BLOOMFIELD	Sequoia National Forest	USDA Forest Service	Smoking	Suppression (Wildfire)	1,701
1971	UNKNOWN	Sequoia National Forest	USDA Forest Service	Unknown / Unidentified	Suppression (Wildfire)	379
1971	ROCKY	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	360
1971	BALL DOME	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	244
1972	LONG	Sequoia National Forest	USDA Forest Service	Campfire	Suppression (Wildfire)	1,201
1972		Sequoia National Forest	USDA Forest Service	Campfire	Suppression (Wildfire)	262
1972		Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	239
1972	TEHIPITE	Sequoia - Kings Canyon NP	National Park Service	Campfire	Suppression (Wildfire)	115
1972		Sequoia National Forest	USDA Forest Service	Smoking	Suppression (Wildfire)	104
1973	SO SENTIN	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	2,679
1973	MORAINE C	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	1,873
1973	CHAGOOPA	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	430
1974	COMANCHE	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	3,012
1974	ROBLE LOMAS	Tulare County	California Department	Unknown / Unidentified	Suppression (Wildfire)	1,535

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
			of Forestry and Fire Protection			
1974		Sequoia National Forest	USDA Forest Service	Debris	Suppression (Wildfire)	828
1974	DUDLEY	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	697
1974	OWL PEAK	Sequoia National Forest	USDA Forest Service	Campfire	Suppression (Wildfire)	532
1974		Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	362
1974	H S T	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	170
1974		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	163
1974		Sequoia National Forest	USDA Forest Service	Playing with fire	Suppression (Wildfire)	154
1974		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	115
1975	FLAT	Sequoia National Forest	USDA Forest Service	Campfire	Suppression (Wildfire)	18,737
1975	YOKOHL	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	1,595
1975	WOODLAKE MOUNTAIN	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	1,574
1975	BOYDE'S GRADE	Tulare County	California Department of Forestry	Unknown / Unidentified	Suppression (Wildfire)	602

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
			and Fire Protection			
1975		Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	450
1975		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	412
1975		Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	339
1976	SPHINX	Sequoia - Kings Canyon NP	National Park Service	Campfire	Suppression (Wildfire)	2,873
1976		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	302
1977	FERGUSON	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	10,422
1977	BONITA	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	7,428
1977	BEAR TRAP	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	4,045
1977		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,527
1977	SUGARLOAF	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	652
1978		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	128
1978	POTWISHA	Sequoia - Kings Canyon NP	National Park Service	Arson	Suppression (Wildfire)	102
1979	WOODLAKE MTN.	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	1,871
1979	COW	Sequoia National	USDA Forest Service	Playing with fire	Suppression (Wildfire)	1,545

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
		Forest				
1979	TAYLOR	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	1,498
1979		Sequoia National Forest	USDA Forest Service	Smoking	Suppression (Wildfire)	1,283
1979	ANTELOPE VALLEY	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	1,279
1979		Sequoia National Forest	USDA Forest Service	Smoking	Suppression (Wildfire)	751
1979	SENTINEL	Sequoia - Kings Canyon NP	National Park Service	Lightning	Suppression (Wildfire)	593
1979	LIGHTNING #2	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	370
1979		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	330
1979	CORP'S OF ENGINEER#3	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	284
1979	KENNEDY	Sequoia - Kings Canyon NP	National Park Service	Lightning	Suppression (Wildfire)	211
1980	LEWIS CRK	Sequoia - Kings Canyon NP	National Park Service	Equipment Use	Suppression (Wildfire)	8,327
1980	CLOVER	Sequoia National Forest	USDA Forest Service	Campfire	Suppression (Wildfire)	4,998
1980	LEWIS CREEK	Sequoia National Forest	USDA Forest Service	Equipment Use	Suppression (Wildfire)	1,923

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
1980	TENT	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	999
1980		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	676
1980		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	589
1980		Sequoia National Forest	USDA Forest Service	Vehicle	Suppression (Wildfire)	519
1980	DOME FIRE	Sequoia - Kings Canyon NP	National Park Service	Escaped Prescribed Burn	Suppression (Wildfire)	472
1980	ROARING	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	420
1980	CALDWELL	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	110
1981	FLAT	Sequoia National Forest	USDA Forest Service	Playing with fire	Suppression (Wildfire)	1,730
1981	DAVIS	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	1,376
1981	NELLIE DENT	Sequoia National Forest	USDA Forest Service	Campfire	Suppression (Wildfire)	1,318
1981	GILL	Tulare County	California Department of Forestry and Fire Protection	Arson	Suppression (Wildfire)	717
1981	OAT CREEK	Tulare County	California Department of Forestry and Fire Protection	Equipment Use	Suppression (Wildfire)	593
1981		Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	270
1981	POTWISHU	Sequoia - Kings	National Park Service	Vehicle	Suppression (Wildfire)	186

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
		Canyon NP				
1982	COW	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	1,473
1982		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,094
1982	ROBLE LOMAS	Tulare County	California Department of Forestry and Fire Protection	Equipment Use	Suppression (Wildfire)	685
1982	OAK FLAT	Tulare County	California Department of Forestry and Fire Protection	Miscellaneous	Suppression (Wildfire)	614
1982	USFS #20 CHIMNEY	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	594
1982	AVENUE 2	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	424
1982		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	211
1982	RATTLESNA	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	101
1983	COOPER	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	1,544
1983	CUIDADO	Tulare County	California Department of Forestry and Fire Protection	Equipment Use	Suppression (Wildfire)	1,433
1983	DRY CREEK	Tulare County	California Department of Forestry and Fire	Arson	Suppression (Wildfire)	401

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
			Protection			
1983	MUD SPRINGS	Tulare County	California Department of Forestry and Fire Protection	Arson	Suppression (Wildfire)	285
1983		Sequoia National Forest	USDA Forest Service	Equipment Use	Suppression (Wildfire)	263
1983		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	105
1984	BODFISH	Sequoia National Forest	USDA Forest Service	Debris	Suppression (Wildfire)	26,709
1984	BAR-O ESCAPE	Tulare County	California Department of Forestry and Fire Protection	Miscellaneous	Suppression (Wildfire)	2,929
1984	BEAR CREEK	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	2,788
1984	BLUE RIDGE	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	1,545
1984		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	945
1984		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	937
1984		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	901
1984	SHEPARD	Sequoia - Kings Canyon NP	National Park Service	Powerline	Suppression (Wildfire)	724
1984	WELLS	Tulare County	California Department of Forestry	Unknown / Unidentified	Suppression (Wildfire)	513

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
			and Fire Protection			
1984		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	482
1984		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	317
1984		Sequoia National Forest	USDA Forest Service	Debris	Suppression (Wildfire)	269
1984	PARLOR	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	200
1984		Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	152
1984	POTWISHA	Sequoia - Kings Canyon NP	National Park Service	Arson	Suppression (Wildfire)	126
1984	SALT CRK	Sequoia - Kings Canyon NP	National Park Service	Smoking	Suppression (Wildfire)	105
1984		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	103
1985	RICH BAR	Sequoia National Forest	USDA Forest Service	Equipment Use	Suppression (Wildfire)	8,264
1985	SUGARLOAF	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	2,848
1985	DOUGHERTY	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	2,595
1985	ADELAIDE	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	1,142
1985	OAT	Sequoia National Forest	USDA Forest Service	Playing with fire	Suppression (Wildfire)	1,089
1985	WISHON	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	158
1985	PECHACHO	Sequoia	USDA Forest	Miscellaneous	Suppression	141

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
		National Forest	Service		(Wildfire)	
1985	ACQUISTIT	Sequoia - Kings Canyon NP	National Park Service	Lightning	Suppression (Wildfire)	140
1985	MILL	Sequoia National Forest	USDA Forest Service	Playing with fire	Suppression (Wildfire)	126
1985	SIERRA	Sequoia National Forest	USDA Forest Service	Equipment Use	Suppression (Wildfire)	101
1986	BRADLEY	Tulare County	California Department of Forestry and Fire Protection	Equipment Use	Suppression (Wildfire)	736
1986		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	729
1986	BALDY	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	403
1986	CAMP CREE	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	390
1986		Sequoia National Forest	USDA Forest Service	Equipment Use	Suppression (Wildfire)	108
1987	FAY	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	12,153
1987	CASE	Tulare County	California Department of Forestry and Fire Protection	Lightning	Suppression (Wildfire)	4,510
1987	HALSTEAD3	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	981
1987	PIERCE	Tulare County	California Department of Forestry and Fire Protection	Lightning	Suppression (Wildfire)	685
1987		Sequoia	USDA Forest	Lightning	Suppression	592

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
		National Forest	Service		(Wildfire)	
1987		Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	562
1987	DOG CREEK	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	412
1987		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	197
1987	COFFEE	Sequoia - Kings Canyon NP	National Park Service	Lightning	Suppression (Wildfire)	196
1987	SODA CREE	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	176
1987	KAWEAH	Sequoia - Kings Canyon NP	National Park Service	Arson	Suppression (Wildfire)	150
1987		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	109
1988	BUCKEYE	Sequoia - Kings Canyon NP	National Park Service	Smoking	Suppression (Wildfire)	3,090
1988	COOPER	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	1,850
1988	HAVILAH	Sequoia National Forest	USDA Forest Service	Smoking	Suppression (Wildfire)	1,489
1988	LINDSAY	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	1,335
1988	SIMPSON	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	981
1988		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	977

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
1988		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	728
1988		Sequoia National Forest	USDA Forest Service	Smoking	Suppression (Wildfire)	666
1988		Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	381
1988		Sequoia National Forest	USDA Forest Service	Equipment Use	Suppression (Wildfire)	294
1988		Sequoia National Forest	USDA Forest Service	Equipment Use	Suppression (Wildfire)	278
1988	TOMBSTONE	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	207
1988	FUNSTON	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	102
1989	CALKINS	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	555
1989	CHAMISE	Sequoia - Kings Canyon NP	National Park Service	Unknown / Unidentified	Suppression (Wildfire)	276
1989		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	231
1990	STORMY	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	22,883
1990	AVALANCHE	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	2,787
1990	GRAPEVINE	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	2,379
1990	ANTELOPE	Tulare County	California Department of Forestry and Fire	Unknown / Unidentified	Suppression (Wildfire)	867

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
			Protection			
1990	UPPER	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	353
1990	MILL	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	135
1990	SANDBAG	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	110
1991	BLUE MOUNTAIN	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	2,299
1991	DEER CREE	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	765
1991	SPHINX	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	143
1991	LONG	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	106
1992	CALLBOX	Sequoia National Forest	USDA Forest Service	Campfire	Suppression (Wildfire)	1,232
1992	CHAGOOPA	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	592
1992	RATTLESNA	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	266
1992	SUWANEE W	Sequoia - Kings Canyon NP	National Park Service	Escaped Prescribed Burn	Suppression (Wildfire)	197
1993	BUCK PEAK	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	2,017
1993	CHIMNEY	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	837
1993	GIBBON	Sequoia National Forest	USDA Forest Service	Equipment Use	Suppression (Wildfire)	670

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
1993	POWER	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	482
1993	RICBAR	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	445
1993	WILLOW	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	253
1993	ELEPHANT	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	219
1993	WHITE DEER	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	218
1993	RUSSIA	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	216
1993	OAT	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	183
1993	LE CONTE	Sequoia - Kings Canyon NP	National Park Service	Unknown / Unidentified	Suppression (Wildfire)	182
1993	MILL	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	141
1993	PILOT	Sequoia National Forest	USDA Forest Service	Playing with fire	Suppression (Wildfire)	109
1994	LUCAS #4	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	6,221
1994	PEAK	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	2,873
1994	WHITE BLANKET	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	2,564
1994	BEAR CREEK	Tulare County	California Department of Forestry and Fire	Unknown / Unidentified	Suppression (Wildfire)	426

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
			Protection			
1994	JAMES	Sequoia National Forest	USDA Forest Service	Campfire	Suppression (Wildfire)	403
1994	LUCAS	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	396
1994	KERN	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	213
1994	RODEO	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	137
1994	LUCAS #2	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	112
1994	EMPIRE	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	104
1995	ROCKY	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,704
1995	CASTLE WF	Sequoia - Kings Canyon NP	National Park Service	Escaped Prescribed Burn	Suppression (Wildfire)	1,647
1995		Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	881
1995	YOKOHL	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	828
1995	COW	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	307
1995	LIVE OAK	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	175
1995	NOBE	Sequoia National Forest	USDA Forest Service	Debris	Suppression (Wildfire)	109
1996	KAWEAH	Sequoia - Kings Canyon NP	National Park Service	Vehicle	Suppression (Wildfire)	4,655

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
1996	BIG ARROY	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	3,497
1996	CANYON	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	3,336
1996	CASTLE CO	Sequoia - Kings Canyon NP	National Park Service	Lightning	Suppression (Wildfire)	2,693
1996	CHALOLO #1	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	2,679
1996	BOREL	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	2,524
1996	DORST	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	1,460
1996	SIERRA	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,137
1996	WILLOW	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	617
1996	DELONEGHA	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	591
1996	PARK	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	548
1996	COW #1	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	383
1996	LINDSAY	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	326
1996	HOSPITAL	Sequoia - Kings Canyon NP	National Park Service	Campfire	Suppression (Wildfire)	295
1997	JACKS	Sequoia National	USDA Forest Service	Lightning	Suppression (Wildfire)	5,747

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
		Forest				
1997	CHOKE	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	3,933
1997	COFFEE	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	2,425
1997	TOWER	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	1,185
1997	DEMOCRAT	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	812
1997	LEWIS	Tulare County	California Department of Forestry and Fire Protection	Equipment Use	Suppression (Wildfire)	401
1997	SCHOOL	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	387
1997	STINE	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	344
1997	LEWIS	Tulare County	California Department of Forestry and Fire Protection	Equipment Use	Suppression (Wildfire)	335
1997	SUGARLOAF	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	280
1997	AMPHITHEA	Sequoia - Kings Canyon NP	National Park Service	Escaped Prescribed Burn	Suppression (Wildfire)	243
1997	THORTON	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	215
1997	HIGHWAY	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	214
1997	NELSON	Sequoia National	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	169

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
		Forest				
1997	CARANTON	Tulare County	California Department of Forestry and Fire Protection	Equipment Use	Suppression (Wildfire)	165
1998	YANKEE	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,241
1998	ROBINSON	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	413
1998	STINE	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	323
1998	OLIVER	Sequoia National Forest	USDA Forest Service	Playing with fire	Suppression (Wildfire)	271
1998	OAK	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	114
1999	RICHBAR COMPLEX	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	2,643
1999	WILLIAMS	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	574
1999	CONIFER	Sequoia - Kings Canyon NP	National Park Service	Escaped Prescribed Burn	Suppression (Wildfire)	264
1999	SUCCESS	Tulare County	California Department of Forestry and Fire Protection	Arson	Suppression (Wildfire)	200
1999	CYRUS	Sequoia National Forest	USDA Forest Service	Equipment Use	Suppression (Wildfire)	103
2000	MANTER	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	79,223
2000	ELEPHANT	Tulare County	California Department of Forestry and Fire	Escaped Prescribed Burn	Suppression (Wildfire)	886

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
			Protection			
2000	SUCCESS	Tulare County	California Department of Forestry and Fire Protection	Arson	Suppression (Wildfire)	331
2000	MILLWOOD	Sequoia National Forest	USDA Forest Service	Equipment Use	Suppression (Wildfire)	238
2000	LINDSAY	Tulare County	California Department of Forestry and Fire Protection	Arson	Suppression (Wildfire)	176
2001	HIGHWAY	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	4,151
2001	BURNT	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	2,213
2001	VANDER-BOWEN	Tulare County	California Department of Forestry and Fire Protection	Vehicle	Suppression (Wildfire)	604
2001	CANYON	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	566
2001	DEMOCRAT	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	559
2001	TAR	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	509
2002	MCNALLY	Sequoia National Forest	USDA Forest Service	Campfire	Suppression (Wildfire)	149,475
2002	BOREL	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	3,418
2002	PALISADE	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	1,498
2002	STAGE	Tulare County	California Department	Arson	Suppression (Wildfire)	1,160

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
			of Forestry and Fire Protection			
2002	ROCKY	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	446
2002	LOUIS	Tulare County	California Department of Forestry and Fire Protection	Miscellaneous	Suppression (Wildfire)	334
2002	ELDERWOOD	Tulare County	California Department of Forestry and Fire Protection	Railroad	Suppression (Wildfire)	153
2003	WEST KERN	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	7,971
2003	WILLIAMS	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	3,472
2003	HOOKER	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	2,376
2003	ALBANITA	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	2,223
2003	COONEY	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	1,928
2003	PARADISE 2	Sequoia - Kings Canyon NP	National Park Service	Lightning	Suppression (Wildfire)	1,297
2003	BASIN	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	941
2003	FRAZIER	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	698
2003	CHINA	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	509

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
2003	GIANT	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	275
2003	ELEPHANT	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	243
2003	DINELEY	Tulare County	California Department of Forestry and Fire Protection	Powerline	Suppression (Wildfire)	206
2003	HMRS NOS2	Sequoia - Kings Canyon NP	National Park Service	Lightning	Suppression (Wildfire)	205
2003	CASTLE	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	156
2003	VALLEY	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	130
2003	BOYD	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	120
2004	DEEP	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	3,144
2004	FRAZIER	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	1,564
2004	CRAG	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	870
2004	CASTLE	Tulare County	California Department of Forestry	Unknown / Unidentified	Suppression (Wildfire)	570

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
			and Fire Protection			
2004	HOTSPRINGS	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	332
2004	STAGEL	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	313
2004	CHINA	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	290
2005	COMB	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	9,756
2005	MILLWOOD	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	2,902
2005	CRAG	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	1,185
2005	NINE	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,150
2005	RED	Tulare County	California Department of Forestry and Fire Protection	Unknown / Unidentified	Suppression (Wildfire)	765
2005	KERN	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	361
2006	TAMARACK WFU	Sequoia National Forest	USDA Forest Service	Lightning	Resource Benefit (WFU)	4,656
2006	BRODER/BECK WFU	Sequoia National Forest	USDA Forest Service	Lightning	Resource Benefit (WFU)	3,492
2006	MAGGIE	Sequoia National Forest	USDA Forest Service	Lightning	Resource Benefit (WFU)	2,098
2006	ROARING	Sequoia -	National	Lightning	Resource	1,643

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
		Kings Canyon NP	Park Service		Benefit (WFU)	
2006	COYOTE	Tulare County	California Department of Forestry and Fire Protection	Lightning	Suppression (Wildfire)	1,360
2006	BURNT	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	628
2006	W	Tulare County	California Department of Forestry and Fire Protection	Arson	Suppression (Wildfire)	362
2006	STOKES	Tulare County	California Department of Forestry and Fire Protection	Arson	Suppression (Wildfire)	348
2006	SMITH	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	225
2006	RIDGE	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	139
2007	GOLDLEDGE	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	4,196
2007	SHANNON	Tulare County	California Department of Forestry and Fire Protection	Equipment Use	Suppression (Wildfire)	2,141
2007	JAMES	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,349
2007	GROUSE	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	1,004
2007	HORSE	Tulare County	California Department of Forestry and Fire Protection	Arson	Suppression (Wildfire)	435

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
2007	VISTA	Sequoia National Forest	USDA Forest Service	Campfire	Suppression (Wildfire)	420
2007	WILLOW	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	185
2007	RIVER	Sequoia National Forest	USDA Forest Service	Equipment Use	Suppression (Wildfire)	150
2008	PIUTE	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	37,346
2008	CLOVER	Sequoia National Forest	USDA Forest Service	Lightning	Resource Benefit (WFU)	15,789
2008	TEHIPITE	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	11,648
2008	HIDDEN	Sequoia - Kings Canyon NP	National Park Service	Lightning	Suppression (Wildfire)	3,686
2008	ELK	Tulare County	California Department of Forestry and Fire Protection	Arson	Suppression (Wildfire)	589
2008	RODEO	Tulare County	California Department of Forestry and Fire Protection	Arson	Suppression (Wildfire)	463
2008	RICHBAR	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	391
2008	WIGGELL	Tulare County	California Department of Forestry and Fire Protection	Arson	Suppression (Wildfire)	300
2008	FOUNTAIN	Tulare County	California Department of Forestry and Fire Protection	Miscellaneous	Suppression (Wildfire)	292
2008	MOSES	Sequoia	USDA Forest	Lightning	Resource	232

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
		National Forest	Service		Benefit (WFU)	
2009	LION	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	2,577
2009	GRANITE	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	1,397
2009	SHOTGUN	Sequoia National Forest	USDA Forest Service	Lightning	Resource Benefit (WFU)	1,333
2009	HORSE	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	664
2009	LIGHTNING 1	Tulare County	California Department of Forestry and Fire Protection	Lightning	Suppression (Wildfire)	295
2009	POWER	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	289
2009	CORRAL	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	136
2009	FAIRVEW	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	115
2010	BULL	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	16,448
2010	CANYON	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	9,336
2010	SHEEP COMPLEX	Sequoia - Kings Canyon NP	National Park Service	Lightning	Resource Benefit (WFU)	9,022
2010	BALES	Tulare County	California Department of Forestry and Fire Protection	Equipment Use	Suppression (Wildfire)	913
2010	STOKES 2	Tulare County	California Department of Forestry	Equipment Use	Suppression (Wildfire)	895

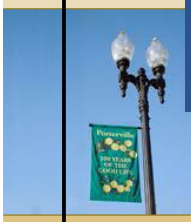
Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
			and Fire Protection			
2011	LION	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	20,682
2011	MOTOR	Sequoia National Forest	USDA Forest Service	Equipment Use	Suppression (Wildfire)	5,230
2011	STAGE	Tulare County	California Department of Forestry and Fire Protection	Equipment Use	Suppression (Wildfire)	1,130
2011	COVE	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,121
2011	WILLOWS	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	1,121
2011	GRANITE	Tulare County	California Department of Forestry and Fire Protection	Lightning	Suppression (Wildfire)	873
2011	TENNESSEE	Tulare County	California Department of Forestry and Fire Protection	Lightning	Suppression (Wildfire)	485
2011	MUD SPRINGS	Tulare County	California Department of Forestry and Fire Protection	Lightning	Suppression (Wildfire)	343
2011	ROADRUNNER	Tulare County	California Department of Forestry and Fire Protection	Arson	Suppression (Wildfire)	335
2011	COW	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	136
2011	BLOOM	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	114

Year	Fire Name	Unit	Agency	Cause	Objective	Total Acres
2012	GEORGE	Sequoia National Forest	USDA Forest Service	Arson	Suppression (Wildfire)	1,708
2012	GULCH	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	385
2012	HEALD	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	331
2012	WOODS CREEK	Sequoia - Kings Canyon NP	National Park Service	Unknown / Unidentified	Suppression (Wildfire)	324
2012	SLIDES	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	254
2013	FISH	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	2,049
2013	WINDY PEAK	Sequoia - Kings Canyon NP	National Park Service	Lightning	Suppression (Wildfire)	681
2013	RIVER	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	440
2013	TENANT	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	412
2013	SHIRLEY	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	379
2013	ANGORA	Sequoia National Forest	USDA Forest Service	Lightning	Suppression (Wildfire)	179
2014	SHIRLEY	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	2,546
2014	NICOLLS	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,679
2014	SODA	Sequoia National Forest	USDA Forest Service	Miscellaneous	Suppression (Wildfire)	1,423

Appendix F-2

Porterville Area Community Plan

PORTERVILLE AREA COMMUNITY PLAN



A Component of the Planning Framework, Land Use and Transportation and Circulation Elements of the Tulare County General Plan

Tulare County Resource Management Agency February 2015 - Final

Porterville Area Community Plan

A component of the Planning Framework, Land Use, and Transportation and Circulation Elements of the Tulare County General Plan

GPA 14-008

Prepared by:

Tulare County Resource Management Agency

Approved: Tulare County Planning Commission
Resolution No. 9028

Approved: Tulare County Planning Commission
Resolution No. 9029

Adopted: Tulare County, Board of Supervisors
Resolution No. 2015-0136

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CONTENTS

ES EXECUTIVE SUMMARY/PLAN AMENDMENT AND FRAMEWORK ES-1

INTRODUCTION 1
1.1 Purpose of the Porterville Area Community Plan 2
1.2 Plan Requirements 3
1.3 Planning Context 5
1.4 Plan Preparation Process 6
` 1.5 General Plan Themes & Key Initiatives 11
1.6 Development Under the Plan 12
1.7 Plan Organization 14
1.8 Administration of the Plan 15
2. LAND USE 17
2.1 Background & Context 17
2.2 Growth Strategy 18
2.3 Community Area Plan Land Use Diagram 25
2.4 Residential Neighborhoods 33
2.5 Retail, Commercial, Office & Mixed-Use 35
2.6 Industry 37
2.7 Public & Institutional 38
2.8 Parks & Open Space 39
2.9 Downtown Porterville 39
2.10 Lake Success Resort Residential Community 42
3. ECONOMIC DEVELOPMENT 46
3.1 Strategy for Economic Development 46
3.2 The Economics of Porterville 48
3.3 Challenges to Economic Growth 50
3.4 Economic Development Policies 51
4. CIRCULATION 60
4.1 Guiding Principles 61
4.2 Overall Circulation System Planning 62
4.3 Roadway Network 64
4.4 Planned Improvement 67
4.5 Public Transit 78
4.6 Bicycles, Trails & Pedestrian Circulation 79
4.7 Parking 85
4.8 Truck Routes 86
4.9 Aviation 88
4.10 Rail 88
5. PARKS, SCHOOLS & COMMUNITY FACILITIES 91
5.1 Parks 91
5.2 Schools 101
5.3 Community Facilities 106
6. OPEN SPACE & CONSERVATION 115
6.1 Open Space 116
6.2 Agriculture & Farmland Resources 124
6.3 Land Resource Conservation 127
6.4 Biological Resources 133
6.5 Water Resources 139
6.6 Air Resources 143

6.7 Energy Resources 153
6.8 Cultural Resources 154
7. PUBLIC HEALTH & SAFETY 159
7.1 Seismic & Geologic Hazards 159
7.2 Flood Hazards 167
7.3 Fire Hazards 171
7.4 Hazardous Materials 175
7.5 Safety Services 181
7.6 Emergency Response 187
8. PUBLIC UTILITIES 192
8.1 Water Supply & Conservation 192
8.2 Wastewater Collection & treatment 200
8.3 Storm Water Management 202
8.4 Solid Waste Management & Recycling 203
8.5 Public Utilities 206
9. NOISE 215
9.1 Noise Characteristics & Measurements 215
9.2 Noise Generation in Porterville 221
10. IMPLEMENTATION 221
10.1 County of Tulare Plan Policies 228
10.2 The Plan & Regulatory System 234
10.3 Future Funding & Programming 236
10.4 County-City Cooperative Process 238

GLOSSARY 242
LIST OF ACRONYMS 252
APPENDIX A: PC RESOLUTION PLAN ADOPTION A-1
APPENDIX B: PC RESOLUTION DEVELOPMENT STANDARDS ADOPTION B-1
APPENDIX C: BOS RESOLUTION PLAN DEVELOPMENT STANDARDS AND CITY MASTER PLANS C-1
APPENDIX D: CITY OF PORTERVILLE DEVELOPMENT STANDARDS AND CITY MASTER PLANS
CITY OF PORTERVILLE DEVELOPMENT STANDARDS D-1
CITY OF PORTERVILLE URBAN WATER MANAGEMENT PLAN D-2
CITY OF PORTERVILLE SEWER SYSTEM MASTER PLAN D-3
CITY OF PORTERVILLE STORM WATER MANAGEMENT PROGRAM D-4

LIST OF TABLES

Table 1.1: Required Elements & Plan Elements Correspondence 4
Table 1-2: Residential Development 12
Table 1-3: Population 12
Table 1-4: Non-Residential Floor Area 13
Table 1-5: Employment by Sector 13
Table 1-6: Jobs per Employed Residents 14
Table 2-1: Existing Land Use: Porterville Planning Area 18
Table 2-2: Standards for Density & Development Intensity 28
Table 2-3: Buildout Plan Land Use Acreage 30
Table 2-4: Resort Residential Development Concept 43
Table 2-5: Resort Residential Conceptual Land Use Allocation 44
Table 3-1: Estimated 2005 Employment by Sector 48
Table 3-2: Projected Employment Growth in Porterville 49
Table 4-1: Level of Service Definitions 65
Table 4-2: Level of Service Criteria for Roadway Segments 66

Table 4-3: Daily Roadway Segment Operations 67
Table 4-4: Major Planned Street Improvements 69
Table 4-5: Typical Street Elements and Widths 74
Table 4-6: Daily Roadway Segment Operations – Buildout 75
Table 4-7: Current and Future Local Transit Ridership 78
Table 4-8: Existing Bikeways 79
Table 4-9: Proposed TCAG Projects in Porterville Area 83
Table 5-1: Park Facility Standards 92
Table 5-2: Existing Park and Recreation Facilities 94
Table 5-3: Recreational Areas in Tulare County 94
Table 5-4: Parks by Type at Buildout 97
Table 5-5: Existing Public Schools in Planning Area 102
Table 5-6: Buildout Student Population and School Demand 105
Table 5-7: Tulare County Libraries 110
Table 6-1: Existing Farmland Soils in Planning Area 125
Table 6-2: Buildout Farmland Soils in Planning Area 125
Table 6-3: Soil Erosion Susceptibility 128
Table 6-4: Mineral Resources 130
Table 6-5: State and National Criteria Air Pollutant Standards 148
Table 6-6: San Joaquin Valley Attainment Status for ambient Air Quality Standards 149
Table 7-1: Expansive Soils 163
Table 7-2: Floodplains in Planning Area 167
Table 7-3: Existing Wildland Fire Hazards 171
Table 7-4: Porterville Area Fire Station Locations and Facilities 185
Table 7-5: Distance to Fire Station 189
Table 8-1: Current and Planned Water Supplies 197
Table 8-2: Historic Influent Flows 200
Table 8-3: CWMA Solid Waste Generation and Disposal Rates 204
Table 8-4: Historic Influent Flows 212
Table 9-1: Land Use Compatibility for Community Noise Environments 223

LIST OF FIGURES

Figure ES-1: Existing Adopted CACUDB and CACUAB ES-7
Figure ES-2: 2030 CACUDB and CACUAB ES-8
Figure ES-3: Existing Adopted CACUDB and CACUAB and 2030 CACUDB and CACUAB Comparison Map ES-9
Figure ES-4: Existing Adopted Land Use Plan ES-10
Figure ES-5: 2030 Land Use Plan ES-11
Figure ES-6: Existing Adopted Land Use Plan & 2030 Land Use Plan comparison Map ES-12
Figure ES-7: Existing Adopted Circulation Plan ES-13
Figure ES-8: 2030 Circulation Plan ES-14
Figure 1-1: Regional Location 8
Figure 1-2: Planning Area Boundaries 9
Figure 2-1: Existing Land Use 21
Figure 2-2: 2030 Land Use Plan 31
Figure 4-1: 2030 Circulation Plan 70
Figure 4-2: Street Sections 72
Figure 4-3: Bikeway Network 81
Figure 4-4: Truck Routes, 2007 87
Figure 5-1: Parks 95

Figure 5-2: Schools and School Districts 103
Figure 6-1: 2030 Open Space Resources 118
Figure 6-2: Farmlands, 2030 125
Figure 6-3: Soil and Mineral Conservation 131
Figure 6-4: Special Status Species & Sensitive Vegetation 135
Figure 6-5: Historic Sites 137
Figure 7-1: Geologic & Soil Hazards 161
Figure 7-2: Location of Ultramafic Rocks 164
Figure 7-3: Flood Hazards 169
Figure 7-4: Wildland Fire Hazards 173
Figure 7-5: Hazardous Materials Sites 177
Figure 7-6: Emergency Services 183
Figure 7-7: City of Porterville Emergency Services 190
Figure 8-1: Well Locations 194
Figure 8-2: City of Porterville Development Boundaries 208
Figure 9-1: Typical Sound Levels 216
Figure 9-2: Existing Noise Contours 217
Figure 9-3: Future Noise Contours 219

LIST OF EXHIBITS

Exhibit 1-1: Proposed Plan Areas ES15

Executive Summary Plan Amendment and Framework

INTRODUCTION AND EXECUTIVE SUMMARY

On August 26, 2014 the Tulare County Board of Supervisors (BOS) approved a request from the City of Porterville to initiate an update to the County Adopted City Plan (Porterville Area Community Plan) for the Porterville Area in order to implement the Settlement Agreement reached by the City and County in April 2014 to settle litigation over the Tulare County Plan ("Settlement Agreement").

The City of Porterville requested that the County use the City's adopted General Plan as the foundational document to develop Tulare County's Adopted City Plan (Porterville Area Community Plan). The proposed area that will be considered for the update is included in Exhibit "1-1" ("Proposed Plan Area").

The proposed Plan Amendment (GPA14-008) is intended to update the existing "Porterville Area Community Plan" (GPA 87-06) adopted by BOS Resolution 90-1202 on October 9, 1990, as amended by several GPAs thereafter (e.g., GPA's 93-06, 97-04, 07-08, and 99-003).

Specifically, the proposed update includes an amendment to the Land Use, Planning Framework (Urban Boundaries), Transportation and Circulation, and Environmental Resources Management Elements of the GPU - Part I, The Foothill Growth Management Plan GPU- Part II, and the Porterville Plan of Part III (Porterville Area Community Plan). The Porterville Area Community Plan is a component of the County's Plan and was initiated to implement the Settlement Agreement. As a community-based planning document, the Porterville Area Community Plan will implement the vision and goals described in the City of Porterville's General Plan.

The Tulare County Plan provides the following policy direction regarding the updating of County Adopted City Plans:

PF-4.3 Modification of CACUABs and CACUDBs

The County may consider modification of CACUABs and CACUDBs at such time as the land use plan for a city is revised to reflect changing needs and circumstances over an extended time frame. Preservation of productive agricultural lands and operations shall be one consideration when

considering such modifications. Cities may examine existing CACUAB and CACUDB lines and recommend changes to the Board of Supervisors, as appropriate.

PF-4.8 Updating Land Use Diagram in CACUDBs

Following city adoption of a Plan update or amendment that reflects the area within a CACUDB, the County shall update Part III (Community Plans, Kings River Plan, Mountain Sub-Area Plans, and CAC Plans), if applicable, to reflect the city's modified plan. Any unresolved conflicts between the County and city plans shall be identified for the Board of Supervisors. The County shall establish and maintain land use controls on unincorporated lands within the UDB consistent with the policies of the County Plan.

PLANNING FRAMEWORK (COMMUNITY PLAN CONTENT)

State law, Government Code Section 65300, requires every city and county to adopt a comprehensive, long-range plan to guide its future physical, economic and social development. As the name implies, a plan is not a detailed parcel by parcel statement of land use policy. It is a statement of generalized land use patterns, policies and recommendations which carry out the goals and objectives of the community, and embodies public policy relative to the distribution of future land use, both public and private. It is the foundation upon which all land use decisions are to be based.

According to the State Plan Guidelines published by the Governor's Office of Planning and Research, "Preparing, adopting, implementing and maintaining a plan serves to:

* Identify the community's land use, circulation, environmental, economic, and social goals and policies as they relate to land use and development.

* Provide a basis for local government decision making.

* Provide citizens with opportunities to participate in the planning and decision making processes of local government.

* Inform citizens, developers, decision makers, and other cities and counties of the ground rules that will guide development within the community."

Tulare County fulfills State planning law requirements by preparing a comprehensive plan for the County, augmented by the preparation of a series of "community plans" for the cities and larger unincorporated communities.

Community plans allow the County to examine planning issues within a defined area and to tailor a planning program to fit the community's unique characteristics.

While State planning law establishes the issues a plan must address, the responsibility of determining the contents of the community plans rests with the adopting agency, the County of Tulare. The Porterville Area Community Plan "Plan" examines the most critical issues facing the community. The framework within which those issues are discussed includes:

Planning Framework (Urban Boundaries). This Plan revises the Urban Development Boundary (20-year growth Urban Development Boundary) and revises the Urban Area Boundary (area of interest) around the City of Porterville. This Plan also maintains, without revision, an Urban Development Boundary for the East Porterville area.

Land Use and Circulation. The Plan designates the proposed general distribution, location, density and intensity of the use of land for housing, commercial, industrial, agricultural, public/quasi-public, and other categories of public and private land uses. The Plan designates the general location and extent of existing and proposed major roadways and improvements to the circulation system, consistent with the land use designations of the Plan. The Plan sets forth policies which address the location and distribution of land uses; residential densities; conservation of natural resources, including plant and animal species; archaeological resources; other environmental concerns and constraints; public services and facilities; roads and traffic; flooding; and airport related issues.

Zoning. Zoning is a legal tool to implement the policies and land use designations contained in the Plan. State law requires zoning to be consistent with the Plan. Zoning regulations are more specific and precise than land use designations. This Plan contains a Zoning Consistency Matrix which sets forth the zone or zones which are consistent with each land use category. Concurrent with the adoption of this Plan, precise zoning is proposed for consideration.

Annexation. The Plan assumes that most areas within the City of Porterville UDB will be annexed to the City of Porterville during the planning period.

THE PLANNING PERIOD

To provide a meaningful tool for guiding future growth, a community plan must be designed to be implemented within a realistic time frame termed the "planning period." In this case, the planning period encompasses a timeframe of approximately 15 years. Thus, population and land demand projections were developed based on a planning period extending to the year 2030. This assumption does not mean that the Plan will remain unchanged during this period. As conditions and needs of the community change during the planning period, the community plan must be reviewed periodically so that modifications can be considered as appropriate. In this manner, the Plan will continue to serve the community effectively.

RELATIONSHIP TO OTHER ELEMENTS OF THE PLAN

The County of Tulare has adopted all of the plan elements required by State law and has also adopted optional elements; these elements are structured for application on a county-wide basis and are, therefore, broad in scope, typically addressing the Porterville area in a general manner only. The Porterville Area Community Plan works within the County's plan policies, and is tailored to reflect the needs and unique characteristics of the Porterville community and its residents.

In accordance with State law, care has been taken to ensure that consistency is maintained between the Plan and other plan elements. To achieve this consistency, other mandatory and optional Plan elements must be modified. The necessary amendments to other Plan elements which are encompassed by this Plan are described as follows:

Planning Framework Element (Urban Boundaries). The Planning Framework Element of the Tulare County Plan revises the Urban Development Boundary and Urban Area Boundary for Porterville. This Element is amended to revise the Urban Development Boundary and Urban Area Boundary for the City of Porterville. This Plan also maintains, without revision, an Urban Development Boundary for the East Porterville area.

Open Space Element. The Environmental Resources Management Element is amended to revise the "Urban Expansion Area" designation on the Open Space Map to reflect the area within the revised Urban Area Boundary.

Land Use and Circulation Elements. This Plan supersedes the following land use and circulation plans for the Porterville area:

GPA 87-06 Porterville Area Community Plan

GPA 93-06 Porterville Urban Boundary and Land Use GPA 97-04 Porterville Land Use

GPA 99-03 Porterville Urban Boundary and Land Use GPA 07-08 Porterville Urban Boundary and Land Use

This Plan supersedes GPA 82-04, the East Porterville Land Use and Circulation Plan, Land Use and Circulation Elements. This Plan supersedes the following land use and circulation plans for the East Porterville area:

GPA 88-02 East Porterville Land Use

GPA 90-04 Land Use Element East Porterville Area GPA 99-04 East Porterville Land Use Plan

GPA 01-002 East Porterville Land Use Plan

This Plan also maintains, without revision, an Urban Development Boundary for the East Porterville area.

Foothill Growth Management Plan. This Plan amends the Foothill Growth Management Plan to remove that portion of the area within the proposed Urban Area Boundary which currently falls within the planning area of the Foothill Growth Management Plan, and places it within the jurisdiction of the Porterville Area Community Plan.

DEVELOPMENT STANDARDS AND CITY MASTER PLANS

The City of Porterville's Development Standards and City Master Plans for the unincorporated area around the City of Porterville, Porterville Area County Adopted City Urban Development Boundary (CACUDB) attached as Appendix D are not part of the Porterville Area Community Plan but have been adopted separately by the County and are included for reference in Appendix D.

The Tulare County Board of Supervisors will independently review and exercise its discretion when considering the adoption of any subsequent Porterville Development Standards and City Master Plans.

THE NEED FOR A COMMUNITY PLAN

The City of Porterville General Plan Update was initiated to take a comprehensive look at where the City is, where it would like to be in the future, and to create a vision of what Porterville should be like in 2030. Some areas of the City may change very little in this timeframe, and others may change dramatically. The General Plan focuses on current community needs and neighborhood character, economic development opportunities and challenges, how to encourage mixed-use and infill development and appropriate development outside the current City limits. Lastly, It Responds to residents' preferences about where different land uses such as housing, shopping, industry, parks and recreation, and public facilities should be located and how City resources should be used to achieve the Plan's goals.

Looking ahead, Porterville faces several planning challenges over the next 23 years. The foremost challenge is to support sustainable development. Sustainable development has been defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The goal of sustainability is to balance economic prosperity, environmental quality, and social equity.

In order to preserve and enhance the environmental quality of Porterville, sustainable development entails both encouraging the infill development of existing vacant land within the City limits, and protecting important agricultural lands and open space areas around the urban periphery. These are necessary steps to create a sustainable footprint for future growth while preserving the City's agriculture community and small town character.

The equity element of sustainability typically refers to the distribution of costs and benefits across all members of society. Therefore, another significant challenge is to ensure the dedication of land and resources for new housing, schools, parks and community facilities. In addition, sustainable growth will require careful planning in order to provide adequate public infrastructure to the entire community without impairing environmental resources.

Improving economic stability and vitality is another challenge for Porterville over the next two decades. Enhancing the City's role in the region will require building a diversified job base, expanding the base economy, supporting a multi-modal transportation system, and developing regional attractions, such as unique shopping areas and high-quality parks and recreation.

Thus, this Porterville Area Community Plan has been prepared to:

- Establish a long-range vision that reflects the aspirations of the community and outlines steps to achieve this vision;

- Provide a basis for judging whether specific development proposals and public projects are in harmony with plan policies;

- Reflect Porterville's current planning and economic development efforts;

- Plan in a manner that improves the quality of life for the whole community and meets future land needs based on the projected population and job growth;

- Allow City departments, other public agencies, and private developers to design projects that will preserve and enhance community character and environmental resources, promote sustainability, and minimize hazards; and

- Provide the basis for establishing detailed plans and implementation programs, such as the zoning and subdivision regulations, specific and master plans, and the Capital Improvement Program.

FIGURE ES-1

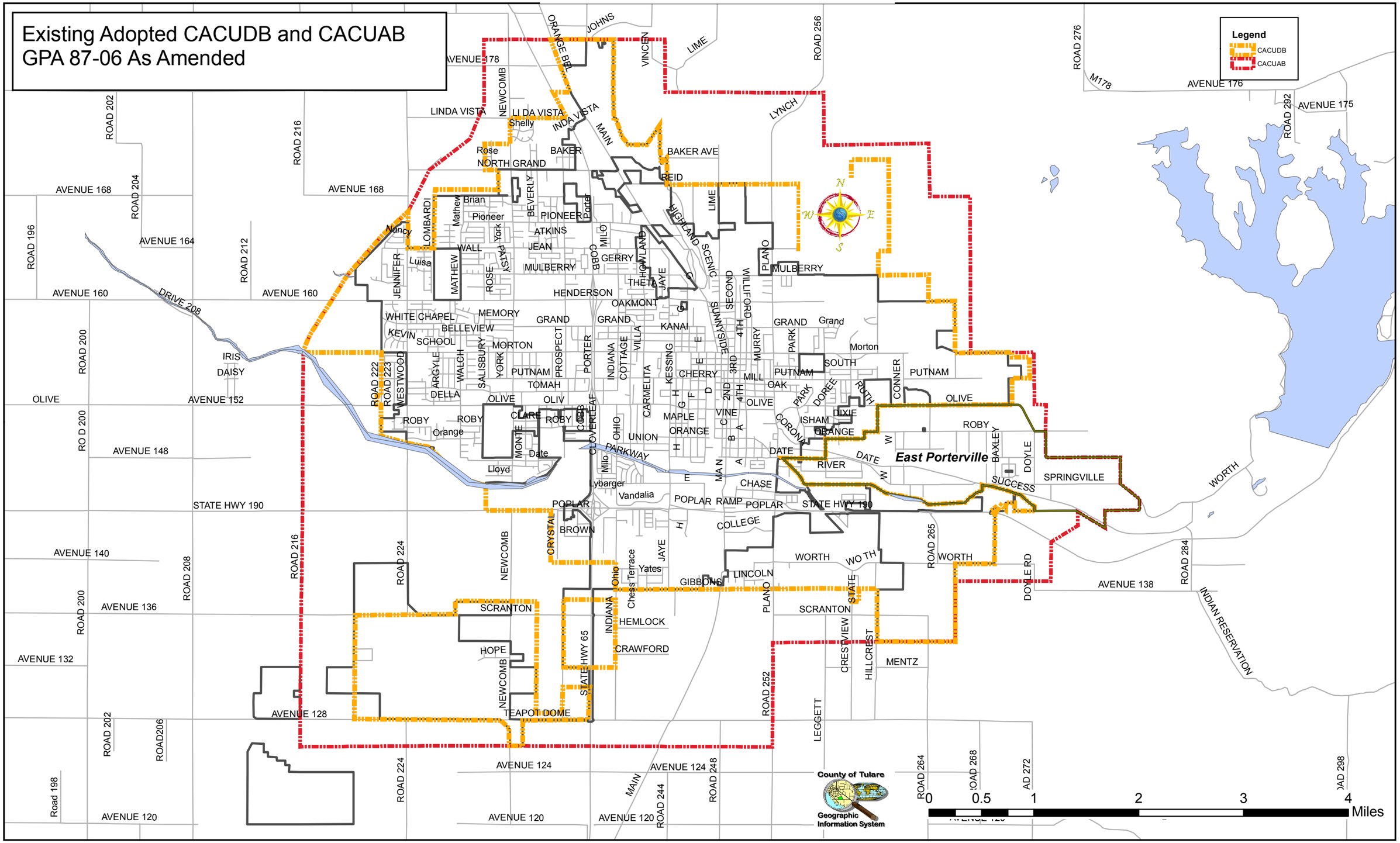
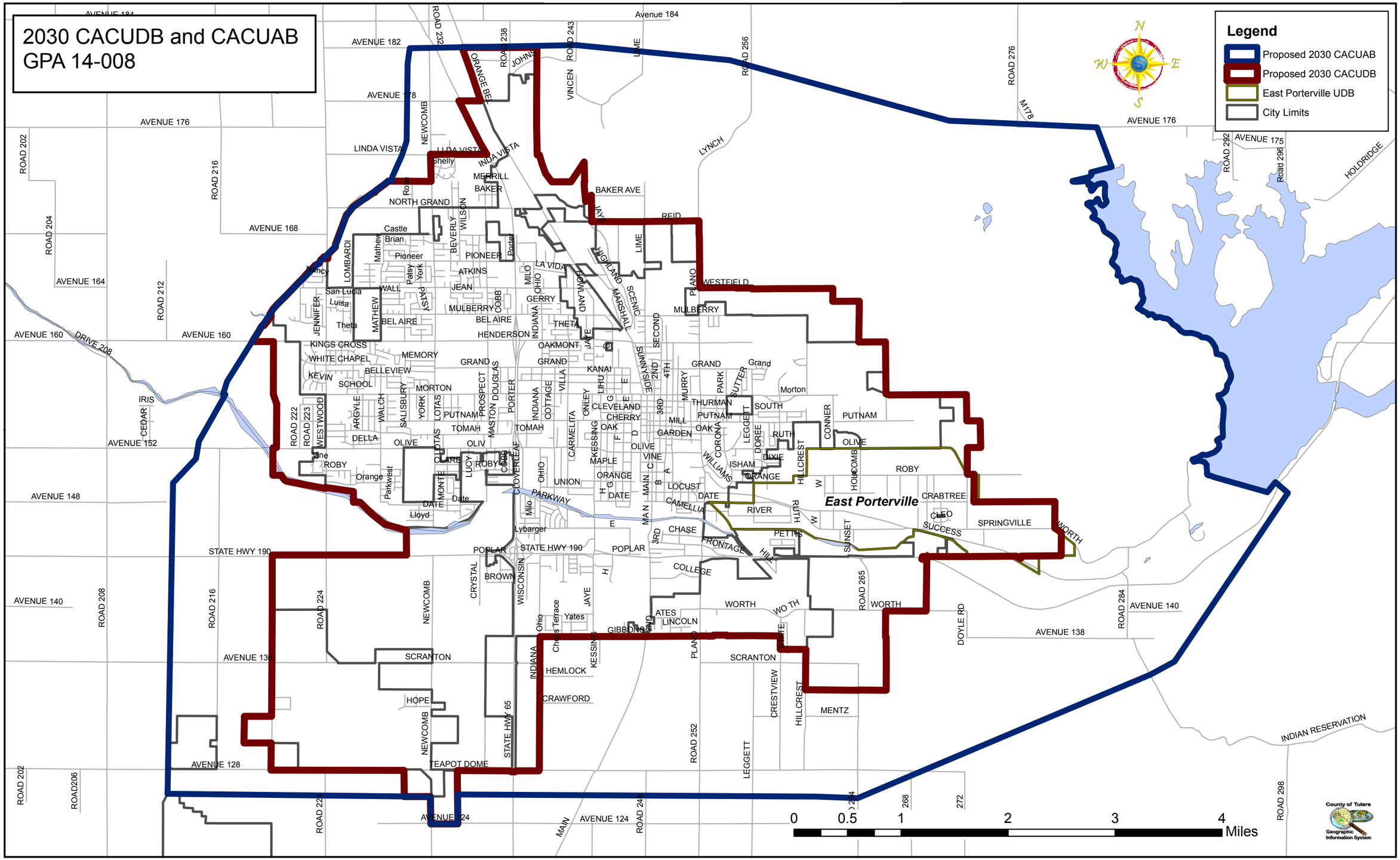

Existing Adopted CACUDB and CACUAB
GPA 87-06 As Amended
Legend
CACUDB
CACUAB
East Porterville
County of Tulare
Geographic Information System
0 0.5 1 2 3 4 Miles
AVENUE 178
AVENUE 176
AVENUE 175
AVENUE 168
AVENUE 164
AVENUE 160
AVENUE 152
AVENUE 148
AVENUE 140
AVENUE 136
AVENUE 132
AVENUE 128
AVENUE 124
AVENUE 120
AVENUE 138
ROAD 196
ROAD 200
ROAD 202
ROAD 204
ROAD 206
ROAD 208
ROAD 212
ROAD 216
ROAD 222
ROAD 223
ROAD 224
ROAD 244
ROAD 248
ROAD 252
ROAD 256
ROAD 264
ROAD 265
ROAD 268
ROAD 272
ROAD 276
ROAD 284
ROAD 292
ROAD 298
Road 198
DRIVE 208
M178
STATE HWY 190
STATE HWY 65
LINDA VISTA
NORTH GRAND
BAKER
BAKER AVE
REID
PIONEER
ATKINS
JEAN
MULBERRY
HENDERSON
OAKMONT
WHITE CHAPEL
MEMORY
BELLEVIEW
SCHOOL
MORTON
PUTNAM
TOMAH
OLIVE
ROBY
CLARE
DATE
UNION
ORANGE
MAPLE
VINE
CHERRY
KANAI
GRAND
PARK
SOUTH
MILL
OAK
ISHAM
RIVER
CHASE
POPLAR
RAMP
COLLEGE
WORTH
LINCOLN
GIBBONS
SCRANTON
HEMLOCK
CRAWFORD
HOPE
TEAPOT DOME
MENTZ
SPRINGVILLE
SUCCESS
WORTH
INDIAN RESERVATION
PARKWAY
MAIN
LYNCH
LIME
SCENIC
HIGHLAND
PLANO
SUNNYSIDE
MURRY
CONNER
DOYLE
BAXLEY
DOYLE RD
CRESTVIEW
HILLCREST
LEGGETT
STATE
CROSSING
CORONA
DIXIE
DOREE
ROTH
ORANGE BEL
JOHNS
VINCEN
NEWCOMB
INDA VISTA
Shelly
Rose
Brian
Mathew
Pioneer
Nancy
Luisa
York
Porter
Milo
Cobb
Jaye
Theta
Kevin
Morton
Grand
Orange
Date
Lloyd
Lybarger
Vandalia
Yates
Chess Terrace
Ohio
Indiana
Crystal
Brown
Mentz

FIGURE ES-2


2030 CACUDB and CACUAB
GPA 14-008
Legend
Proposed 2030 CACUAB
Proposed 2030 CACUDB
East Porterville UDB
City Limits
N
S
E
W
East Porterville
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0.5
1
2
3
4
Miles
County of Tulare
Geographic Information System

FIGURE ES-3

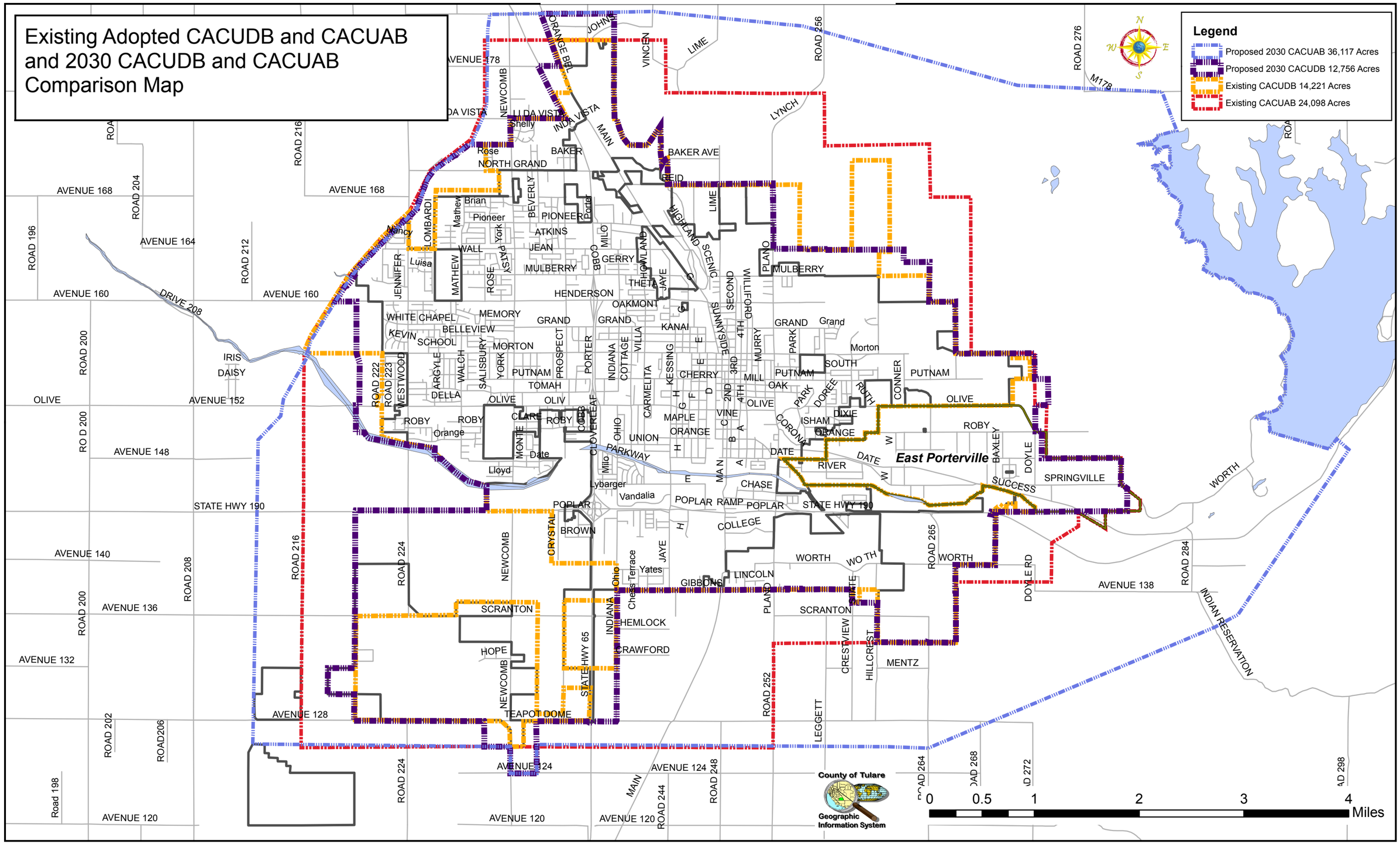
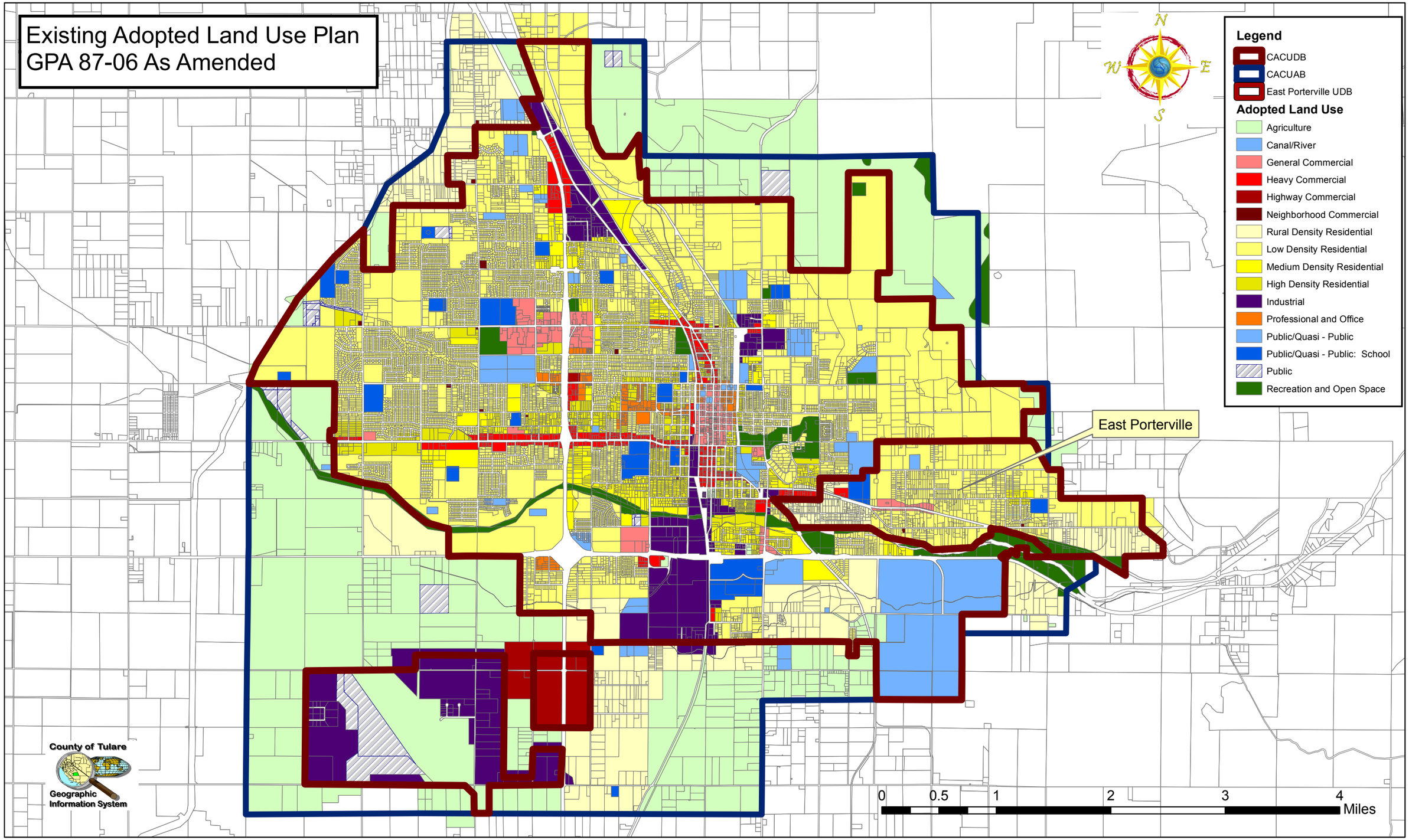

Existing Adopted CACUDB and CACUAB and 2030 CACUDB and CACUAB Comparison Map
Legend
Proposed 2030 CACUAB 36,117 Acres
Proposed 2030 CACUDB 12,756 Acres
Existing CACUDB 14,221 Acres
Existing CACUAB 24,098 Acres
East Porterville
County of Tulare
Geographic Information System
0 0.5 1 2 3 4 Miles

FIGURE ES-4


Existing Adopted Land Use Plan
GPA 87-06 As Amended
Legend
CACUDB
CACUAB
East Porterville UDB
Adopted Land Use
Agriculture
Canal/River
General Commercial
Heavy Commercial
Highway Commercial
Neighborhood Commercial
Rural Density Residential
Low Density Residential
Medium Density Residential
High Density Residential
Industrial
Professional and Office
Public/Quasi - Public
Public/Quasi - Public: School
Public
Recreation and Open Space
N
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East Porterville
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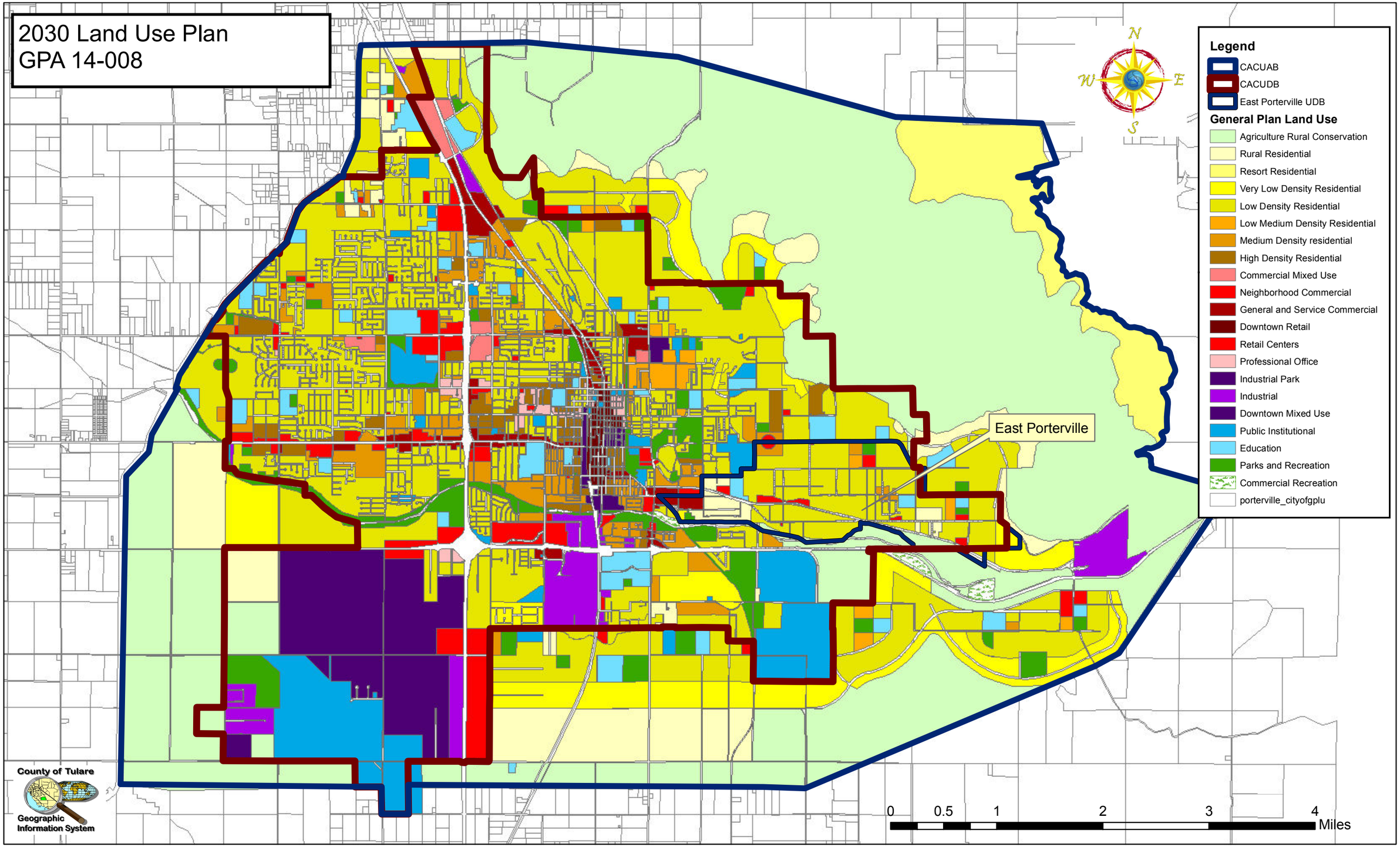
Miles
County of Tulare
Geographic
Information System

FIGURE ES-5


2030 Land Use Plan
GPA 14-008
Legend
CACUAB
CACUDB
East Porterville UDB
General Plan Land Use
Agriculture Rural Conservation
Rural Residential
Resort Residential
Very Low Density Residential
Low Density Residential
Low Medium Density Residential
Medium Density residential
High Density Residential
Commercial Mixed Use
Neighborhood Commercial
General and Service Commercial
Downtown Retail
Retail Centers
Professional Office
Industrial Park
Industrial
Downtown Mixed Use
Public Institutional
Education
Parks and Recreation
Commercial Recreation
porterville_cityofgplu
East Porterville
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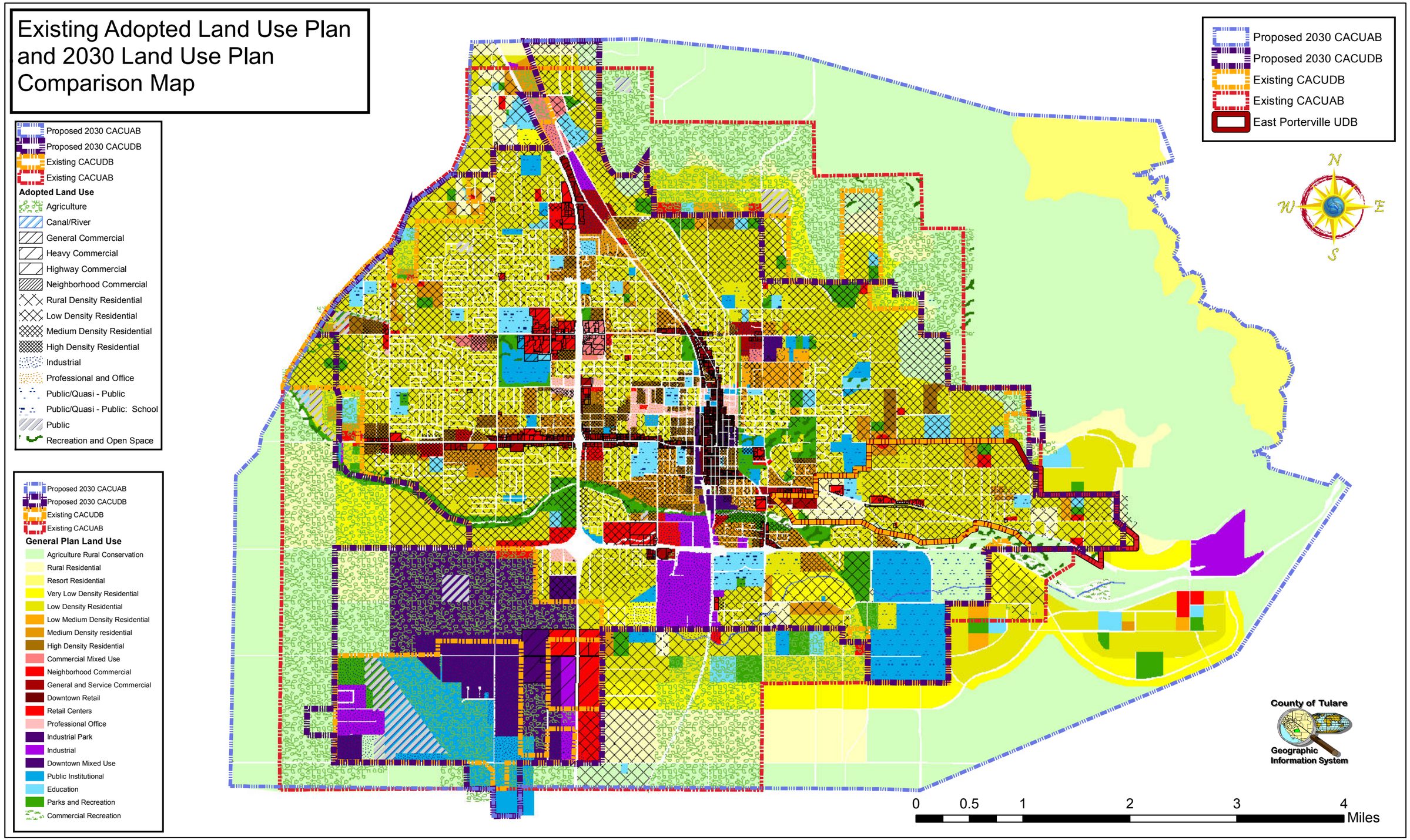
Miles
County of Tulare
Geographic Information System

FIGURE ES-6


Existing Adopted Land Use Plan and 2030 Land Use Plan Comparison Map
Proposed 2030 CACUAB
Proposed 2030 CACUDB
Existing CACUDB
Existing CACUAB
Adopted Land Use
Agriculture
Canal/River
General Commercial
Heavy Commercial
Highway Commercial
Neighborhood Commercial
Rural Density Residential
Low Density Residential
Medium Density Residential
High Density Residential
Industrial
Professional and Office
Public/Quasi - Public
Public/Quasi - Public: School
Public
Recreation and Open Space
Proposed 2030 CACUAB
Proposed 2030 CACUDB
Existing CACUDB
Existing CACUAB
General Plan Land Use
Agriculture Rural Conservation
Rural Residential
Resort Residential
Very Low Density Residential
Low Density Residential
Low Medium Density Residential
Medium Density residential
High Density Residential
Commercial Mixed Use
Neighborhood Commercial
General and Service Commercial
Downtown Retail
Retail Centers
Professional Office
Industrial Park
Industrial
Downtown Mixed Use
Public Institutional
Education
Parks and Recreation
Commercial Recreation
Proposed 2030 CACUAB
Proposed 2030 CACUDB
Existing CACUDB
Existing CACUAB
East Porterville UDB
N
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County of Tulare
Geographic Information System
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Miles

FIGURE ES-7

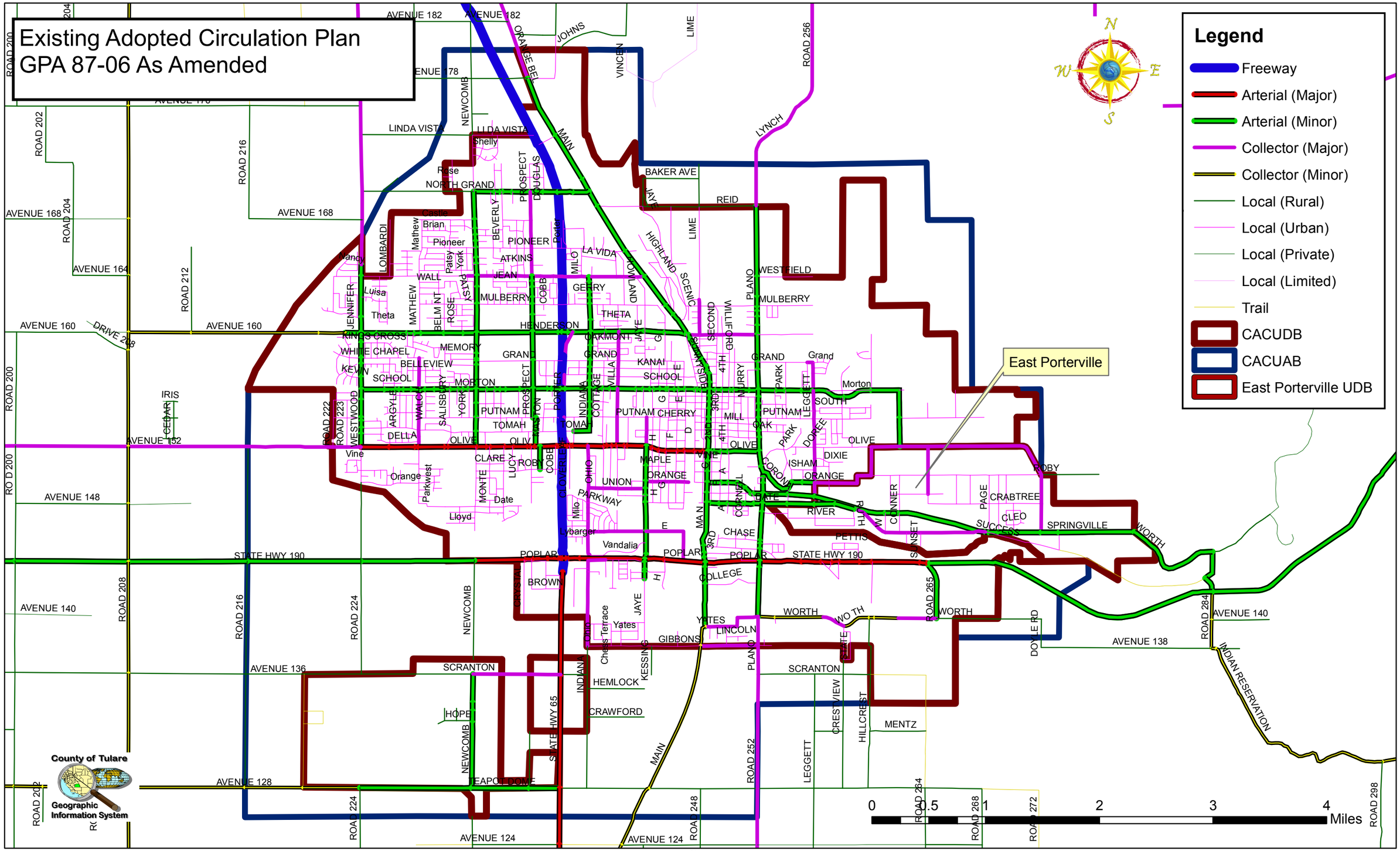

Existing Adopted Circulation Plan
GPA 87-06 As Amended
Legend
Freeway
Arterial (Major)
Arterial (Minor)
Collector (Major)
Collector (Minor)
Local (Rural)
Local (Urban)
Local (Private)
Local (Limited)
Trail
CACUDB
CACUAB
East Porterville UDB
East Porterville
0 0.5 1 2 3 4 Miles
County of Tulare
Geographic Information System

FIGURE ES-8

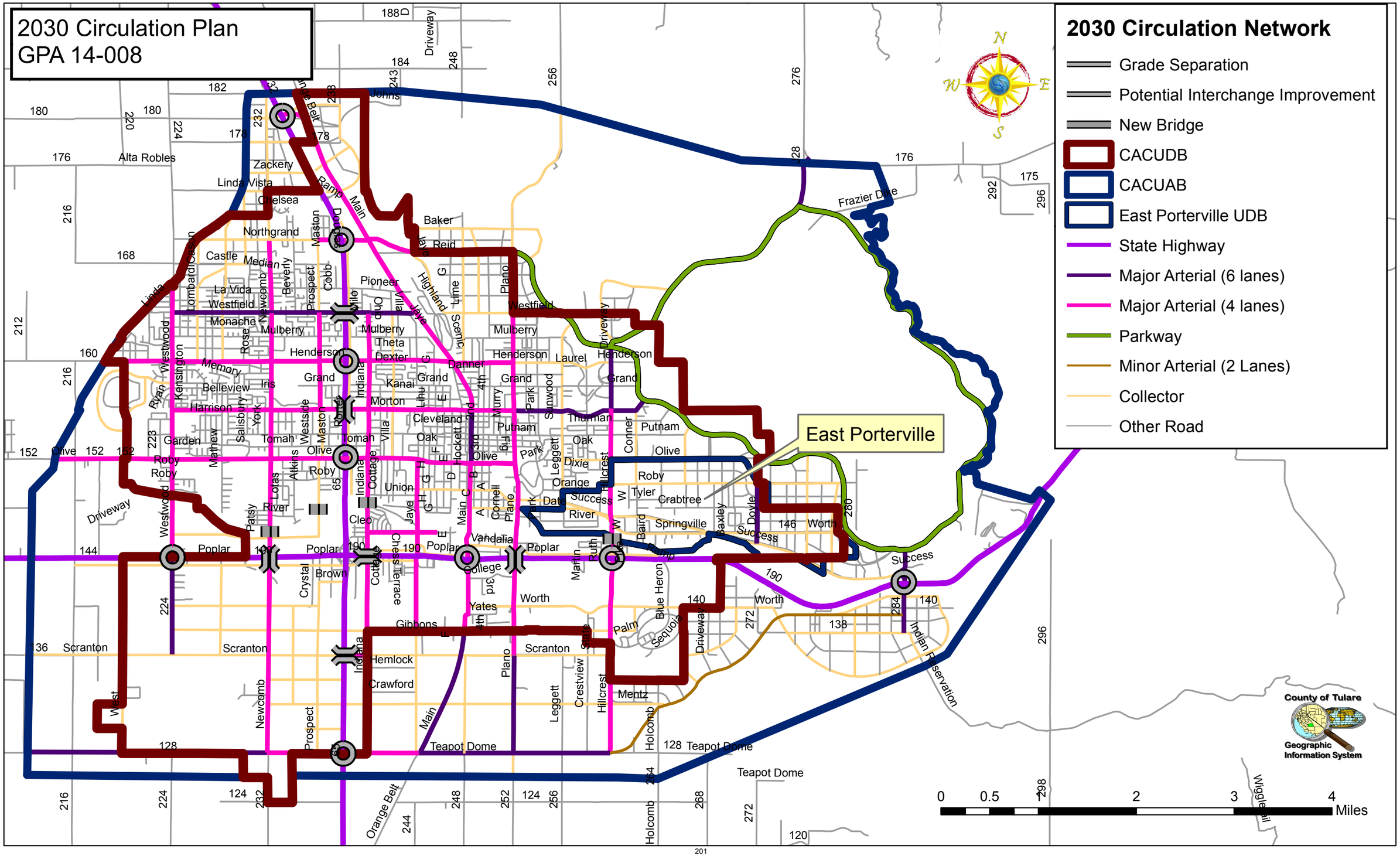
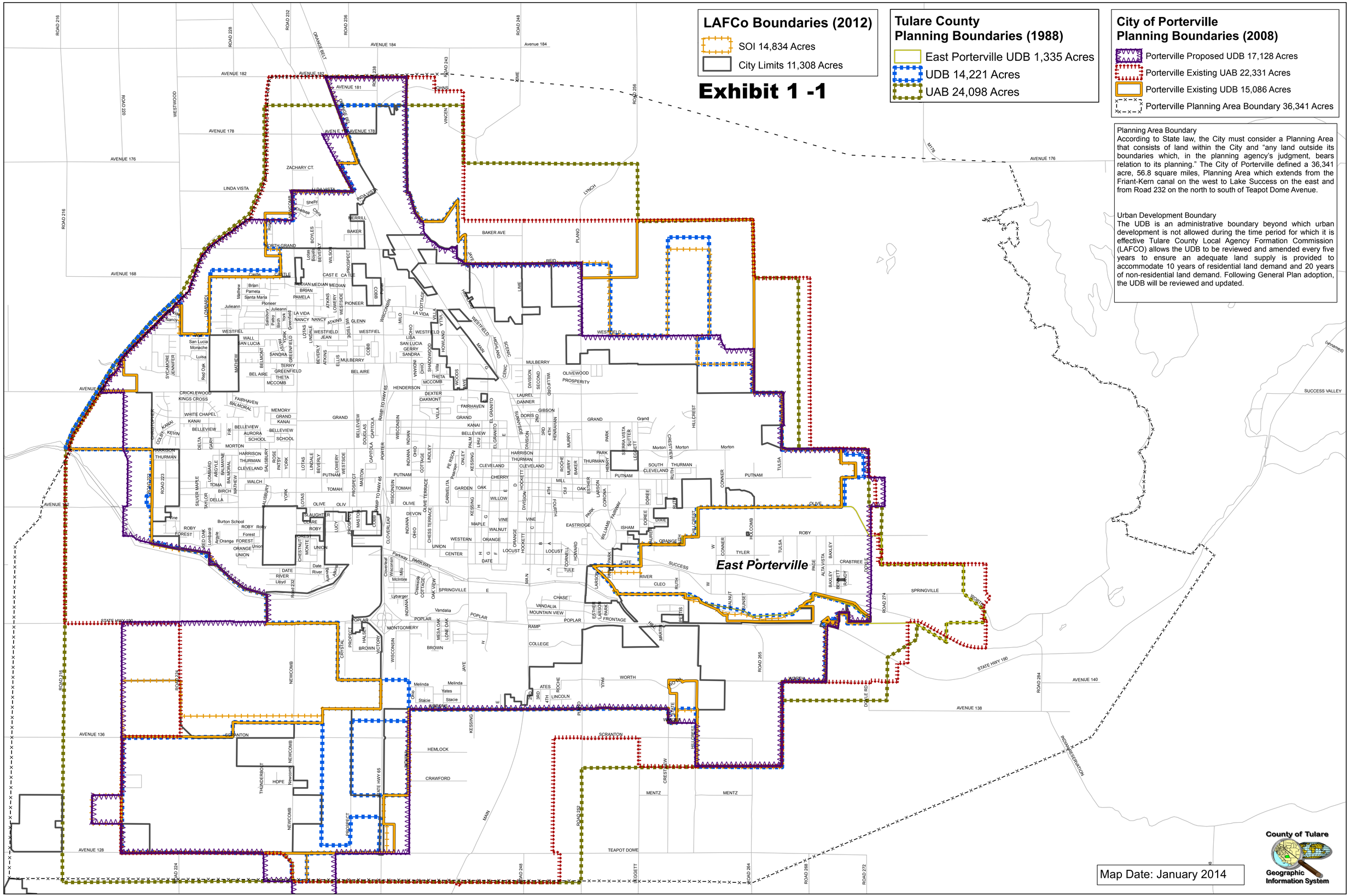

2030 Circulation Plan
GPA 14-008
2030 Circulation Network
Grade Separation
Potential Interchange Improvement
New Bridge
CACUDB
CACUAB
East Porterville UDB
State Highway
Major Arterial (6 lanes)
Major Arterial (4 lanes)
Parkway
Minor Arterial (2 Lanes)
Collector
Other Road
East Porterville
County of Tulare
Geographic Information System
0 0.5 1 2 3 4 Miles

Exhibit 1 -1



Planning Area Boundary
According to State law, the City must consider a Planning Area that consists of land within the City and "any land outside its boundaries which, in the planning agency's judgment, bears relation to its planning." The City of Porterville defined a 36,341 acre, 56.8 square miles, Planning Area which extends from the Friant-Kern canal on the west to Lake Success on the east and from Road 232 on the north to south of Teapot Dome Avenue.

Urban Development Boundary
The UDB is an administrative boundary beyond which urban development is not allowed during the time period for which it is effective Tulare County Local Agency Formation Commission (LAFCO) allows the UDB to be reviewed and amended every five years to ensure an adequate land supply is provided to accommodate 10 years of residential land demand and 20 years of non-residential land demand. Following General Plan adoption, the UDB will be reviewed and updated.

1
Introduction

After the 2002 centennial celebration, it is an appropriate time for Porterville to take stock of its rich history and look to possibilities held by the future. The Porterville 2030 Plan articulates a vision for the City that draws from the ideas of the many citizens, business owners, elected officials, and City staff who participated in the planning process. The Plan envisions Porterville as a vibrant, growing city, infused with a sense of heritage and community. The Plan supports the community's vision to preserve the desirable qualities that make Porterville an ideal place to live, work, and play.

100 years of the Good Life

The Porterville Plan is not merely a compendium of ideas and wish lists. It is general but comprehensive, long-range in scope but with many near-term actions. It lays out policies and implementation strategies for the next two decades. The defined policies, maps, standards, guidelines and actions to be undertaken by the City and County focus on what is concrete and achievable in order to accommodate the future population. Broad objectives such as "economic development," "quality of life," and "neighborhood character" are meaningful only if translated into actions that are tangible and can be implemented. State law requires that many governmental agency regulations, requirements and actions be consistent with the Plan. Therefore, regular ongoing use of the Plan is essential.

1.1 PURPOSE OF THE PORTERVILLE AREA COMMUNITY PLAN

The General Plan Update and subsequent Porterville Area Community Plan was initiated to take a comprehensive look at where the City is, where it would like to be in the future, and to create a vision of what the Porterville area should be like in 2030. Some areas of Porterville may change every little in this timeframe, and others may change dramatically. The Plan focuses on current community needs and neighborhood character, economic development opportunities and challenges, how to encourage mixed-use and infill development and appropriate development outside the current City limits. Lastly, it responds to residents' preferences about where different land uses such as housing, shopping, industry, parks and recreation, and public facilities should be located and how resources should be used to achieve the Plan's goals.

Looking ahead, the Porterville area faces several planning challenges over the next 23 years. The foremost challenge is to support sustainable development. Sustainable development has been defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[1] The goal of sustainability is to balance economic prosperity, environmental quality, and social equity.

In order to preserve and enhance the environmental quality of Porterville, sustainable development entails both encouraging the infill development of existing vacant land within the City limits, and protecting important agricultural lands and open space areas around the urban periphery. These are necessary steps to create a sustainable footprint for future growth while preserving the Porterville Area's agriculture community and small town character.

The equity element of sustainability typically refers to the distribution of costs and benefits across all members of society. Therefore, another significant challenge is to ensure the dedication of land and resources for new housing, schools, parks and community facilities. In addition, sustainable growth will require careful planning in order to provide adequate public infrastructure to the entire community without impairing environmental resources.

Improving economic stability and vitality is another challenge for Porterville over the next two decades. Enhancing the Porterville Area's role in the region will require building a diversified job base, expanding the base economy, supporting a multi-modal transportation system, and developing regional attractions, such as unique shopping areas and high-quality parks and recreation.

Thus, this Porterville Area Community Plan has been prepared to:

- Establish a long-range vision that reflects the aspirations of the community and outlines steps to achieve this vision;
- Establish long-range development policies that will guide decision-making;
- Provide a basis for judging whether specific development proposals and public projects are in harmony with plan policies;

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[1] World Commission on Environment and Development, *Our Common Future*, Oxford, Great Britain: Oxford University Press, 1987.
This document is frequently referred to as the Brundtland report after Gro Harlem Brundtland, Chairman of the Commission.

- Reflect Porterville's current planning and economic development efforts;
- Plan in a manner that improves the quality of life for the whole community and meets future land needs based on the projected population and job growth;
- Allow the County working in cooperation with City departments, other public agencies, and private developers to design projects that will preserve and enhance community character and environmental resources, promote sustainability, and minimize hazards; and
- Provide the basis for establishing detailed plans and implementation programs, such as the zoning and subdivision regulations, specific and master plans, and the Capital Improvement Program.

1.2 GENERAL PLAN REQUIREMENTS

State law requires each California municipality to prepare a general plan. A general plan is defined as "a comprehensive, long-term plan for the physical development of the county or city, and any land outside its boundaries which in the planning agency's judgment bears relation to its planning." State requirements call for plans that "comprise an integrated, internally consistent and compatible statement of policies for the adopting agency."

A plan has been described as its constitution for development – the framework within which decisions on how to grow, provide public services and facilities, and protect and enhance the environment must be made. California's tradition of allowing local authority over land use decisions means that the State's cities have considerable flexibility in preparing their plans.

While allowing considerable flexibility, State planning laws do establish some requirements for the issues that plans must address. The California Government Code (Section 65300) establishes both the content of plans and rules for their adoption and subsequent amendment. Together, State law and judicial decisions establish three overall guidelines for general plans:

The General Plan Must Be Comprehensive. This requirement has two aspects. First, the plan must be geographically comprehensive. That is, it must apply throughout the entire incorporated area and it should include other areas that the County in cooperation with the city determines are relevant to its planning. Second, the plan must address the full range of issues that affect the Porterville Area's physical development.

The Plan Must Be Internally Consistent. This requirement means that the plan must fully integrate its separate parts and relate them to each other without conflict. "Horizontal" consistency applies both to figures and diagrams as well as general plan text. It also applies to data and analysis as well as policies. All adopted portions of the plan, whether required by State law or not, have equal legal weight. None may supersede another, so the plan must resolve conflicts among the provisions of each element.

The Plan Must Be Long-Range. Because anticipated development will affect the Porterville Area and the people who live or work there for years to come, State Law requires every plan to take a long-term perspective.

CONSISTENCY REQUIREMENTS WITHIN THE PLAN

The Porterville Area Community Plan includes the six of the seven elements required by State law: Land Use, Circulation, Open Space, Conservation, Safety, and Noise. It also includes three other optional elements that address local concerns: Economic Development; Parks, Schools & Community Facilities; and Public Utilities. The current Housing Element was adopted in 2012 as a separate volume. Table 1-1 outlines how the required elements and optional elements correspond with the Porterville Area Community Plan.

Table 1-1: Required Elements & Plan Elements Correspondence

Required Elements	General Plan Element
Land Use	Chapter 2: Land Use
Circulation	Chapter 4: Circulation
Open Space	Chapter 6: Open Space & Conservation
Conservation	Chapter 6: Open Space & Conservation
Safety	Chapter 7: Public Health & Safety
Noise	Chapter 9: Noise
Housing	Contained in a separate volume, adopted 2012

Source: Dyett & Bhatia, 2007 and County of Tulare 2014

ENVIRONMENTAL JUSTICE

State law now requires general plans to include consideration of environmental justice in preparing policies and implementation programs, and in creating the physical framework for development. The problems of environmental justice that the Porterville Area Community Plan can address include procedural inequities and geographic inequities.

- Procedural inequities might include "stacking" commissions or committees with individuals who ignore the interests of minority and low-income residents, holding meetings at times and places that minimize the ability of low-income residents to participate, using English-only communications when non-English speaking populations may be affected by land use decisions, and requiring lower levels of mitigation for projects affecting low-income and minority populations.
- Geographic inequities might include providing fewer public services, transit services, and parks for minority and low-income residents than for middle-and upper-income residents.
- Several new policy initiatives, distributed throughout the Porterville Area Community Plan, are included to address environmental justice.

1.3 PLANNING CONTEXT

REGIONAL LOCATION

The City of Porterville is located in the southeastern portion of the San Joaquin Valley, at the base of the foothills of the Sierra Nevada Mountains. It is approximately 70 miles south of Fresno and 50 miles north of Bakersfield, in the south central portion of Tulare County. Visalia, the County seat, is approximately 30 miles to the northwest Neighboring communities include Strathmore, Springville, Terra Bella, Tipton, Pixley, Woodville, Richgrove, and Lindsay. Sequoia National Park is 50 miles to the northeast. The Tule River Indian Reservation is located approximately 15 miles to the east. Porterville is served by state routes 65 and 190 and is approximately 17 miles east of State Route (SR) 99, a major San Joaquin Valley transportation arterial. Success Reservoir (Lake) and Dam are located on the Tule River five miles east of Porterville. The regional location is depicted in Figure 1-1.

PLANNING BOUNDARIES

In 2006, the City of Porterville encompassed approximately 9,161 acres, about 14.3 square miles. The City boundary created a patchwork that extended north along Main Street to Avenue 178, west to the Friant-Kern Canal at Westfield Avenue, east the Sierra Nevada foothills, and south to Teapot Dome Avenue including the Porterville Municipal Airport. The City adopted an Urban Development Boundary which encompasses 12,757 acres.

According to State law, the General Plan must consider a Planning Area that consists of land within the City and "any land outside its boundaries which, in the planning agency's judgment, bears relation to its planning." The City of Porterville defined a 36,341 acre, 56.8 square miles, Planning Area which extends from the Friant-Kern Canal on the west to Lake Success on the east and from Road 232 on the north to south of Teapot Dome Avenue. The planning boundaries are depicted in Figure 1-2 and are coterminous with the plan.

HISTORY OF PORTERVILLE

During California's Spanish period, the San Joaquin Valley was considered a remote region of little value. Swamps stretched out into the Valley floor lush with tall rushes or "tulares" as the Indians called them. Emigrants skirted the eastern foothills in the vicinity of Porterville as early as 1826. This all changed when gold was discovered in 1848, bringing tremendous migration to both California and Porterville. From 1849 to 1852, prairie schooners rolled through Porterville. While some wagon trains of gold seekers passed through the village, other travelers found the land rich and remained to establish farms. In 1854, the Butterfield Overland Mail Station and store was established on the banks of the old Tule River channel (now part of Main Street) to serve minders and Native Americans alike.

A growing town

The growing population's need for food was the impetus for permanent development of the east side of the southern San Joaquin Valley. Royal Porter Putnam purchased 40 acres which were surveyed, divided into town lots, and recorded the first tract in 1870. The new town was named after the founder's middle name.

Incorporated in 1902 with a population of 2,906, Porterville grew to approximately 5,000 by 1920. During this boom, agriculture, supplemented by the Central Valley Project, was the major source of economic growth in the area. More recently, industry has become a significant factor in the development of Porterville. Industries such as Wal-Mart Distribution Center, Beckman Instruments, Foster Farms, Pro Document Solutions, Royalty Carpet Mills, and other small companies have begun developing facilities within the Porterville Area.

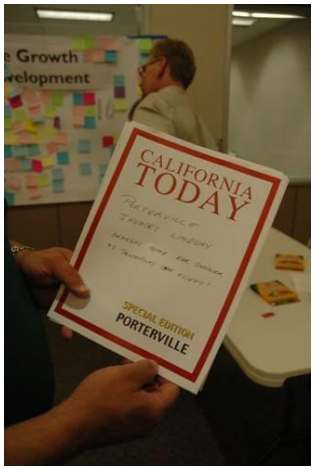
Today, Porterville is still significantly influenced by agriculture and supportive industries, although the economy has increasingly become more diverse. With the Porterville Area's advantageous location between Northern and Southern California, the Porterville Area has also become a desirable location for shopping and warehousing business. Porterville remains a fast -growing community, with its strategic central location combined with affordable home prices fueling the boom. As of 2006, the State Department of Finance estimates Porterville to have a population of 45,220.

1.4 PLAN PREPARATION PROCESS

The Porterville City Plan update was initiated in the summer of 2005. In order for the Plan to accurately address community needs and values, a comprehensive public process of obtaining the input of residents, businesses, and property owners as well as City officials was central to the update process. This involved the sharing of information and ideas between elected and appointed officials, City staff, the planning consultants, and residents. The following methods were used over the course of the General Plan update to ensure the community's full participation:

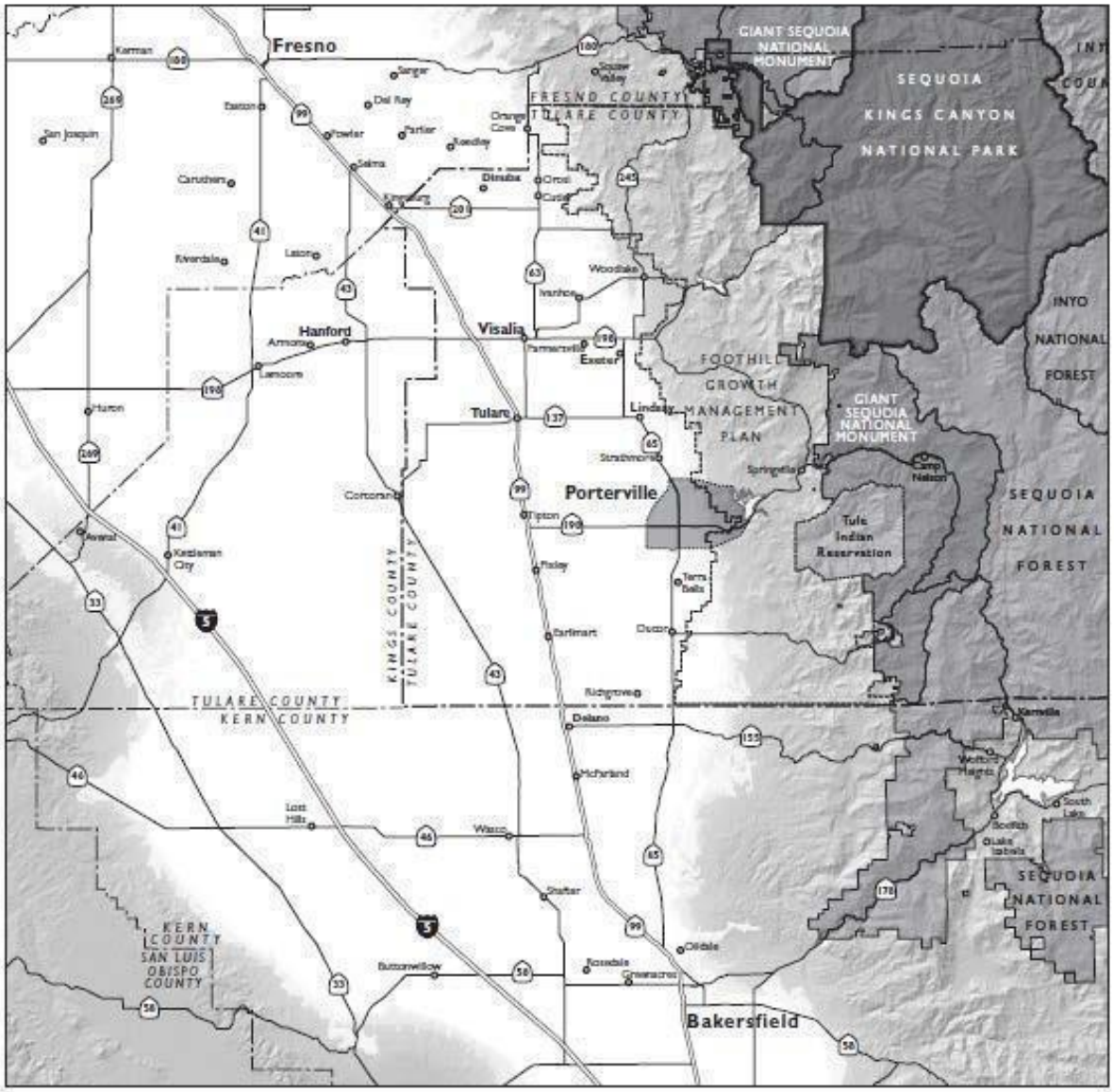
- *Stakeholder Interviews*. Interviews were conducted with 37 representatives of various community stakeholders and organizations.
- *Community Workshops*. The first Community Workshop on Visioning and Planning Issues was held on October 11, 2005. Approximately 70 community members attended. A subsequent workshop on sketch plan concepts was held on March 14, 2006. Small group discussions allowed for the 40 or so workshop participants to be heard. A third workshop, held on August 29, 2006, formed the Draft Preferred Plan concept. Approximately 55 people participated. Spanish translators and translation of workshop materials were made available at each workshop.
- *Plan Update Advisory Committee*. The Plan Update Advisory Committee served as a "sounding board" for ideas and alternatives during the update process and made recommendations to the City Council. Committee members also attended public workshops to facilitate dialogue and understand community concerns. The Committee held six meetings throughout the process.

- *City Council Study Sessions*. The City Council periodically met to discuss issues and provide direction on the Plan. These Study Sessions were open to the public.
- *Parks & Leisure Services Commission.* The Commission met periodically to discuss issues and concerns pertaining to Parks and Open Space.
- *Newsletters*. The City published newsletters in English and Spanish to provide updates on the planning process and details on upcoming workshops. Newsletters were mailed to City residents, property owners, business owners, developers, service organizations, and other interested agencies. Updates were also published in the Porterville Recorder and Noticiero newspapers which are distributed to more than 19,700 organizations and individuals.
- *City Website*. All meeting agendas, staff reports, workshop summaries, planning documents and maps created during the update process were posted on the City's website: http://www.ci.porterville.ca.us/.
- *Plan Update Mailing List*. Those interested in receiving information and notices were placed on the Plan update mailing list.
- *Printed Documents*. Copies of the results from City Council meetings, workshops, and presentations were summarized and made available at City Hall.



Porterville residents participated in community meetings and stakeholder interviews.

Figure 1-1: Regional Location



Source: Planning Area Boundary, Dyett & Bhatia, 2005; Foothill Growth Management Plan Boundary, Tulare County, 2005; Roads, Hydrologic Features, Cities and County Boundaries, California Spatial Information Library, 1992-1999.

Figure 1-1
Regional Location

Figure 1-2: Planning Area Boundaries

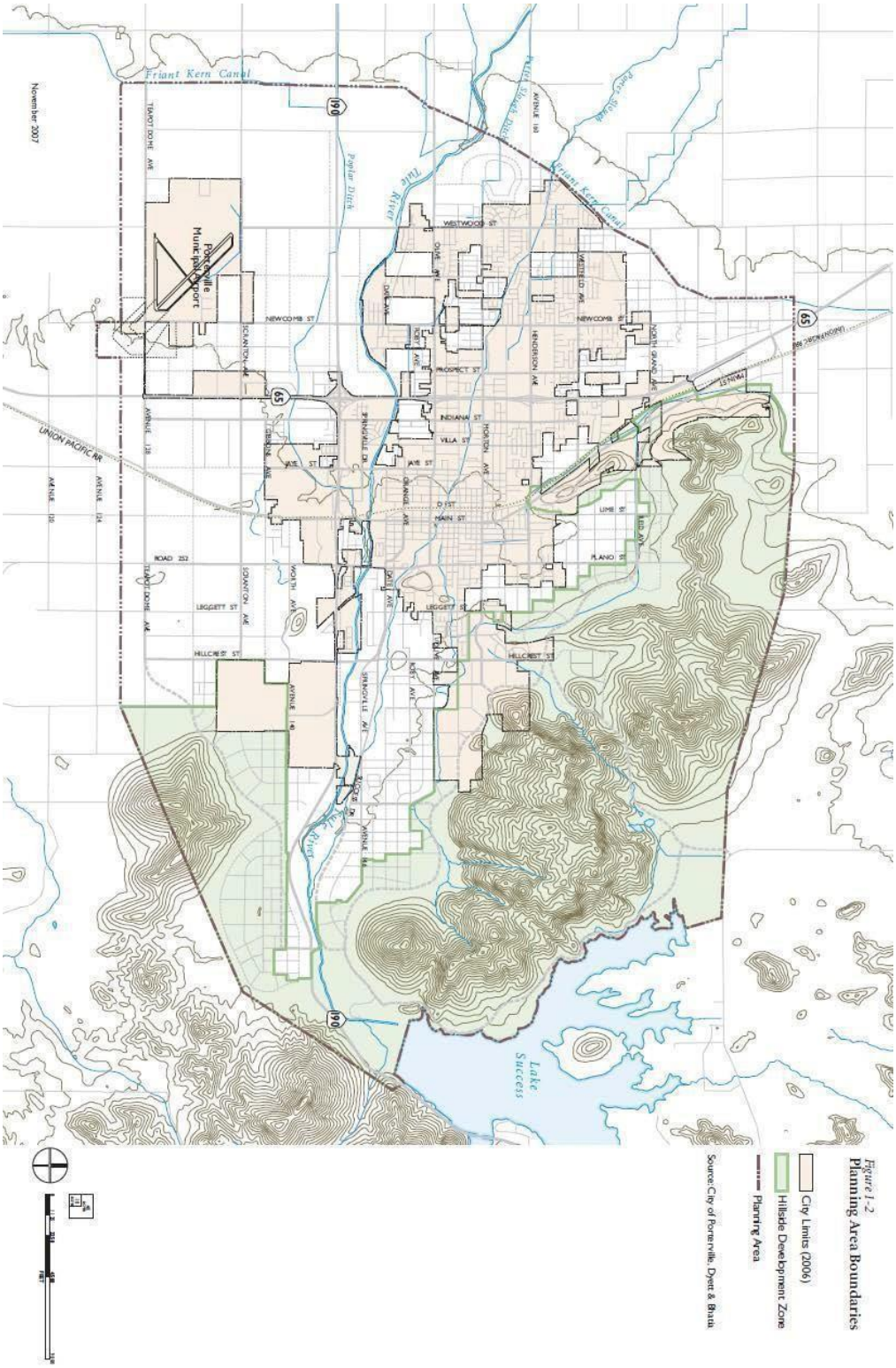


Figure 1-2 back

1.5 GENERAL PLAN THEMES & KEY INITIATIVES

The importance of agriculture is seen throughout the community.

Several themes for the City's General Plan were identified and subsequent Porterville Area Community Plan based on input by the public and from key stakeholders and City and County staff.

- *Compact, Balanced, & Equitable Growth.* Clearly defined urban edges reflect a commitment to focus future growth within the Area in order to prevent urban sprawl and protect environmentally sensitive areas. Policies to encourage infill development are found throughout the Plan.

- *Protect Community Assets*. The Plan renews the Communities commitment to protect and enhance its local assets including small town community character, Downtown Porterville, a strong sense of community, a diverse population, historic buildings, affordable housing, and a family atmosphere. Community guidelines are described in full detail in the Land Use Element. The arrangements of land uses on the General Plan Land Use Diagram (Figure 2-2) create a framework within which quality community design is possible.

- *Economic Development & Jobs*. A significant amount of land is planned for uses that provide jobs. Areas designated "Professional Office" and "Industrial Park" will accommodate uses that provide employment opportunities for existing and future residents consistent with the Economic Development Strategy described in the Economic Development Element.

- *Variety Commercial & Retail Opportunities*. The Plan provides for the full range of commercial and retail uses needed for the future population and business community, consistent with the Economic Development Strategy described in the Land Use Element. Regionally-oriented establishments are placed on major roadway corridors; community- and neighborhood-oriented uses are placed within planned communities and neighborhoods.

- *Park & Community Facility Network*. New parks and community facilities are placed in close proximity to proposed residential development and when possible by schools, trails and bikeways. A further discussion of parks is presented in the Parks, Schools & Community Facilities Element of the Plan.

- *Complete Roadway System.* The land uses presented on the General Plan Land Use Diagram are structured around the proposed roadway network, and the two components are interactive and interrelated. The types, location, capacity, and use of these roadways are presented in the Circulation Element.

- *Integrated Neighborhoods & Neighborhood Centers.* Neighborhoods are defined as areas with a mix of land uses, including housing, shopping, and other local services, which interrelate and serve one another. Neighborhoods depicted on the Plan Land Use Diagram work as part of a network, are internally accessible by non-motorized means, include community facilities such as parks and schools, and have a central focal point.

- *Mix of Housing Types.* The Plan Land Use Diagram depicts seven residential and two mixed-use land use designations. These land uses will accommodate a diverse range of housing types and prices to provide housing choice.
- *Adequate, Flexible School Sites.* School sites depicted on the General Plan Land Use Diagram are intended to meet the school districts' needs, and relate well to adjacent neighborhood centers and parks. A further discussion of schools is presented in the Parks, Schools & Community Facilities Element.
- *Open Space Action Plan.* The Open Space and Conservation Element outlines the five types of open space preserved as part of the Action Plan. Additional Plan policies are intended to protect ridgelines, visible hillsides and other significant natural and archeological resource areas from development that would have adverse impacts.

1.6 DEVELOPMENT UNDER THE PLAN

Full development under the Plan is referred to as "buildout." It should be noted that when buildout will actually occur is not specified in or anticipated by the Plan, and designation of a site for a certain use does not necessarily mean that the site will be built/redeveloped with the designated use by 2030, the horizon of the Plan.

RESIDENTIAL DEVELOPMENT

Table 1-2 tracks the existing and additional housing units expected under the Plan buildout. As shown, approximately 14,080 units currently exist in the Planning Area. The Plan is intended to accommodate an additional 20,170 units, through both new and infill development. In total, Plan buildout will result in approximately 34,250 housing units in the Planning Area.

Table 1-2: Residential Development

Existing Units (2006)	*Additional Units Under Plan Buildout*	*Total Housing Units at Buildout (2030)*
14,080	20,170	34,250

Source: City of Porterville, Dyett & Bhatia, 2007.

BUILDOUT POPULATION

Over the past 30 years, the City of Porterville's population has grown at an average annual rate of 3.7 percent. However, the City's population growth has slowed to an average annual rate of 2.8 percent over the past 15 years. According to the Department of Finance's 2006 estimates, the City currently has a population of 45,220 residents. Buildout of the Plan will accommodate a population of approximately 107,300 in the Planning Area, which represents an annual population growth rate of 3.7 percent. Table 1-3 shows the current and estimated buildout populations for the Planning Area.

Table 1-3: Population

Existing Population (2006)	*From Additional Units Under Plan Buildout*	*Buildout Population (2030)*
45,220	62,080	107,300

Source: Existing population: Department of Finance, 2006; Projections: Dyett & Bhatia, 2007.

NON-RESIDENTIAL DEVELOPMENT

Table 1-4 tracks examples of the existing, and additional non-residential floor area expected under the Plan buildout. Approximately 7.2 million square feet of non-residential floor area currently exist in the City of Porterville. The Plan is intended to accommodate an additional 23.3 million square feet of non-residential space of the types listed. At buildout, the proposed Plan will result in approximately 30.5 million square feet of nonresidential floor area in the Planning Area. Approximately half of this new space is designated for industrial development.

Table 1-4: Non-Residential Floor Area (1,000 Square Feet)

Type	*Existing Floor Area (2005)*	*Additional Floor Area Under Plan Buildout*	*Buildout Floor Area (2030)*
Retail	2,030	3,050	5,080
Office	1,530	5,300	4,310
Service	1,680	2,630	6,830
Industry	1,410	12,280	13,690
Other	590	-	590
Total	**7,240**	**23,260**	**30,500**

Assumes the following estimated actual FARs: 0.25 for Office, 0.25 for Retail, and 0.25 for Industrial. Actual buildout is assumed to be less than the maximum allowable FARs indicated in the Land Use Element.

Source: Dyett & Bhatia, 2007.

BUILDOUT EMPLOYMENT

At buildout, the Planning Area will accommodate approximately 54,460 jobs, an increase of about 180 percent over the current estimated City of Porterville employment of 19,470. This represents a job growth rate of about 4.4 percent. Table 1-5 shows the current and estimated buildout employment for the Planning Area.

Table 1-5: Employment by Sector

Type	*Existing Employment (2005)*	*From Additional Floor Area Under Plan Buildout*	*Buildout Employment (2030)*
Retail	4,510	5,810	10,022
Office	631	7,540	8,171
Service	4,706	2,510	7,216
Education	1,875	2,010	3,885
Government	4,509	760	5,269
Agriculture	1,184	-	1,184
Industrial	1,242	16,360	17,602
Other	1,112	-	1,112
Total	**19,471**	**34,990**	**54,461**

Assumes the following job generation ratios per square feet: 400 for Office; 425 for Retail and Service; 1,300 for Education and Government; and 750 for Industrial.

Source: Dyett & Bhatia, 2006.

JOBS/EMPLOYED RESIDENT BALANCE

An area's jobs/employment ratio (jobs to employed residents) would be 1:1 if the number of jobs in the area equaled the number of employed residents. In theory, such a balance would eliminate the need for commuting. More realistically, a balance means that in-commuting and out-commuting are matched, leading to efficient use of the transportation system, particularly during peak hours. The current jobs/employment ratio in Porterville is 0.96:1, which means that the number of jobs in the Porterville Area is slightly less than the number of employed residents. At buildout, the Plan will add more jobs than employed resident, increasing jobs/employment balance to 1.13:1. Table 1-6 displays existing and projected jobs per employed resident's ratios.

Table 1-6: Jobs per Employed Residents

	Existing (2005)	*Buildout (2030)*
Jobs	19,470	54,460
Employed Residents	20,350	48,290
Jobs/Employed Residents	0.96	1.13

Employed Residents assumed to be 45 percent of total population, based on 2000 Census data for labor force.
Source: Dyett & Bhatia, 2007.

1.7 PLAN ORGANIZATION

PLAN STRUCTURE

The Porterville Area Community Plan is organized into the following chapters and elements:

- *Introduction*. This introductory chapter includes Plan objectives and key initiatives, State requirements, and requirements for administration of the Plan. In addition the projected development under Plan buildout is summarized and overreaching themes of the Plan are presented.
- *Land Use*. This element provides the physical framework for development in the Porterville Area. It establishes policies related to the location and intensity of new development, area wide land use and growth management policies.
- *Economic Development.* This element presents the economic framework for development in the Porterville Area and outlines associated policies and implementation programs.
- *Circulation.* This element includes policies, programs, and standards to maintain efficient circulation for vehicles and alternative modes of transportation. It identifies future street and bikeway improvements, and addresses parking, goods movement, and long-term plans for the municipal airport.
- *Parks, Schools & Community Facilities.* This element provides an inventory of existing and planned parks, recreation facilities, public schools, and other community facilities. This element also defines policies and standards relating to parks, schools, and other community facilities.
- *Open Space & Conservation.* This element outlines policies relating to the preservation of open space and the conservation of natural resources, including geologic, biological, water, a ir, energy, and cultural resources.

- *Public Health & Safety*. This element addresses the risks posed by geologic hazards, wildland fire, hazardous materials, and flooding. It also discusses emergency response, safety service response standards, and evacuation routes.
- *Public Utilities.* This element outlines existing and future demand for water, wastewater, solid waste services, and other public facilities.
- *Noise*. This element includes policies and standards to limit the impacts of noise sources throughout the Porterville Area. Future noise contours are illustrated in order to facilitate administration of noise policies and standards.
- *Implementation.* The Implementation chapter provides an overview of the implementation and monitoring program for this Porterville Area Community Plan.

POLICY STRUCTURE

Each element of the Plan includes brief background information to establish the context for policies in the element. This background material is neither a comprehensive statement of existing conditions nor does it contain adopted information. This background information is followed by two sets of policies:

Guiding Policies are the plan's statements of its goals and philosophy existing programs or call for establishment of new ones.

Implementing Policies represent commitments to specific actions. They may refer to existing programs or call for the establishment of new ones.

Together, these guiding and implementing policies articulate a vision for Porterville that the Plan seeks to achieve. They also provide protection for the Porterville Area's resources by establishing planning requirements, programs, standards, and criteria for project review. Explanatory material or commentary accompanies some policies. Commentary provides background information or is intended to guide Plan implementation. The use of "should" or "would" indicates that a statement is advisory, not binding; details will need to be resolved in Plan implementation. Where the same topic is addressed in more than one element, sections and policies are cross-referenced.

1.8 ADMINISTRATION OF THE PLAN

The Plan is intended to be a dynamic document. As such, it may be subject to more site- specific and comprehensive amendments over time, amendments that may be needed to conform to State or federal law passed after adoption, or to eliminate or modify policies that may become obsolete or unrealistic over time due to changed conditions, such as the completion of a task or project, development on a site, or adoption of an ordinance or plan.

AMENDMENTS TO THE PORTERVILLE AREA COMMUNITY PLAN

State law limits the number of times a jurisdiction can amend its plan to generally no more than four times in one year for a mandatory element, although each amendment may include more than one change. This restriction does not apply to optional general plan elements (Economic Development, Parks and Recreation, and Public Facilities and Utilities), or if the amendment is necessary to allow for the development of workforce housing or to comply with a court decision.

ANNUAL REPORT

It is good planning practice to provide an annual report to the local legislative body on the status of the Plan and progress in its implementation. This report is an opportunity to investigate and make recommendations to the legislative body regarding reasonable and practical means for implementing the Plan, so that it will serve as an effective guide for orderly growth and development, preservation and conservation of open-space land and natural resources, and the efficient expenditure of public funds relating to the subjects addressed in the Plan. The report should include a summary of all Plan amendments adopted during the preceding year, as well as a work program for the upcoming year. The work program should outline upcoming projects and any Plan issues that need to be addressed. Also as part of the annual report, any mitigation monitoring and reporting requirements prescribed by the California Environmental Quality Act (CEQA) as identified in the Plan environmental impact report (EIR) should be addressed because they are closely tied to Plan implementation.

All local governments must also submit a progress report to the State on the Housing Element implementation, which must include an analysis of the progress in meeting the Area's share of regional housing needs and local efforts to remove governmental constraints to maintenance, improvement, and development of workforce housing (Government Code Sections 65583, 65584). Porterville staff will continue to submit the Housing Element report to the State annually.

DEVELOPMENT STANDARDS AND CITY MASTER PLANS

The City of Porterville's Development Standards and City Master Plans for the unincorporated area around the City of Porterville, Porterville Area County Adopted City Urban Development Boundary (CACUDB) attached as Appendix D are not part of the Porterville Area Community Plan but have been adopted separately by the County and are included for reference in Appendix D.

The Tulare County Board of Supervisors will independently review and exercise its discretion when considering the adoption of any subsequent Porterville Development Standards and City Master Plans.

2
Land Use

This element of the Porterville Area Community Plan constitutes the framework for land use planning in Porterville. To provide context, the evolution of the Porterville Area is described and existing land use in the Porterville Area is summarized. The guiding principles of the land use framework, the Plan Land Use Diagram (Diagram), the land use classification system, and the buildout of this Plan to the year 2030 are then presented.

2.1 BACKGROUND & CONTEXT

HISTORICAL LAND USE DEVELOPMENT

Much of the existing land use pattern found in the Planning Area can be traced back to Porterville's evolution as a valley agriculture center. Downtown Porterville is similar to many older Central Valley downtown districts, with a mixture of retail, public facilities, and older residential neighborhoods. Larger commercial, agriculture, and newer residential neighborhoods are located further out from the city center. Some industrial land is located adjacent to State Route 190 (SR 190) and Union Pacific Railroad. Parks and schools are distributed throughout residential neighborhoods within the area.

EXISTING LAND USE CHARACTERISTICS

The existing land use pattern in the Planning Area, based on 2005 data, is illustrated in Figure 2-1, and current land uses are listed in Table 2-1. Single Family Residential and Public/Quasi- Public were the most significant existing land uses located within the 2005 City Limits, each representing more than 20 percent of the total land use. More than 1,500 acres (17 percent) of the incorporated land was designated as vacant, with no identified land use designation.

Within the Planning Area, approximately 21,270 acres or 59 percent of the total land area was being used for agriculture and other rural uses (generally categorized as Agriculture/Rural/Conservation). Thirteen percent of the whole Planning Area was categorized as single family residential and 10 percent was considered vacant.

Other land uses in the Planning Area include commercial, retail, and industrial. Downtown lies near the center of the Planning Area, bordered by Morton Avenue to the north, Olive Avenue to the south, D Street to the west, and Fourth Street to the east. Main Street is the central commercial street. Other large commercial areas are located along State Route 65 (SR 65) and Olive Avenue. The majority of the industrial sites are in proximity to the intersection of SR 190 and Main Street, and in proximity to the Union Pacific Railroad. A few industrial developments are also located near the Porterville Municipal Airport.

Table 2-1: Existing Land Use: Porterville Planning Area (2005)

	Incurpirated		Unicoi prorated		Total Planning Area	
Land Use	*Acres*	*Percentage*	*Acres*	*Percentage*	*Total Acres*	*Percent of Total*
Agriculture/Rural/Conservation	820	9%	20,390	75%	21,270	59%
Single Family Residential	2,230	24%	2,525	9%	4,760	13%
Multi-Family Residential	170	2%	65	0%	240	1%
Retail Shopping	80	1%	0	0%	80	0%
Commercial	480	5%	277	1%	760	2%
Industrial	320	3%	31	0%	350	1%
Public/Quasi-Public	2,020	22%	614	2%	2,630	7%
Vacant	1,580	17%	2,009	7%	3,590	10%
Unclassified (Roads, water, etc.)	1,461	16%	1,220	4%	2,661	7%
Total	**9,161**	**100%**	**27,130**	**100%**	**36,341**	**100%**

Table includes development projects approved in 2005.

Source: Tulare County Assessor, Dyett & Bhatia, 2007.

2.2 GROWTH STRATEGY

This Plan shows how the community would like Porterville to grow over the planning period, through 2030. Through integration of all the Plan Elements, this Porterville Area Community Plan will guide sustainable physical and economic growth, while conserving natural and cultural resources.

COMPACT

Urban Development Boundary

Clearly defined urban edges reflect a commitment to focus future growth within the Porterville Area in order to prevent urban sprawl and protect environmentally sensitive areas. The Urban Development Boundary (UDB) is one of the best strategies to achieve this. The UDB protects the health, safety, welfare, and quality of life of the residents of Porterville by concentrating future residential, commercial, and industrial growth in areas already served by urban services or areas where such services are to be provided consistent with this Porterville Area Community Plan.

The UDB is an administrative boundary beyond which urban development is typically not allowed during the time period for which it is effective. The current UDB was most recently amended in 1993. Tulare County Local Agency Formation Commission (LAFCO) allows the UDB to be reviewed and amended every five years to ensure an adequate land supply is provided to accommodate 10 years of residential land demand and 20 years of non- residential land demand. Following adoption, the UDB will be reviewed and updated.

Open Space Action Plan

Porterville's Open Space Action Plan consists of the goals, principles and policies presented in the Open Space & Conservation Element. The open space network reinforces the limits of urban development by designating land around the growth area as Agriculture/ Rural/Conservation, Park, and Rural Residential. Additional detail on how the action plan will be implemented is in the Implementation Chapter. Taken together, these initiatives specifically respond to and are consistent with the Government Code's requirements for an Open Space Action Plan.

Infill Development

The Urban Development Boundary complements Porterville Area Community Plan policies emphasizing infill development, a thriving downtown, new industrial parks and additional housing opportunities. In addition to the 1,580 acres of vacant land within the 2006 City limits, more than 700 acres can be classified as underutilized, based on an improvement to land value ratio, and may have development potential. Infill development is encouraged with the Urban Development Boundary. In addition, the Economic Development and Land Use Elements provide strategies for fostering a strong Downtown that is the center of the community and a source of positive identity for the Porterville Area.

BALANCED

The Plan Land Use Diagram (Figure 2-2) illustrates a mix of land uses that meet the housing and economic development needs of the community while balancing growth so that Downtown is once again the "heart of the City" and environmental and cultural resources are protected. In recent years, the majority of the growth and development has occurred in the northwest of the City. This Plan re-centers the City on Downtown by promoting growth in the eastern portions of the Planning Area.

In addition to balancing the anticipated growth geographically, the Plan Land Use Diagram balances residential growth with employment-generating land uses. More than 2,000 additional acres of commercial and industrial land f or potential employment development have been planned. This will help not only to create jobs for local residents, but also balance the job to housing ratio.

EQUITABLE

This Plan is predicated on the idea that new development should pay its own way, so existing residents do not have to assume the costs of providing infrastructure and services to growth areas. The key principle underpinning the Plan's policies for development mitigation is that the development community has an obligation to pay its fair share of costs so growth will not diminish the quality of public services, facilities, and lifestyle that are enjoyed by those who live in the community. Development mitigation and growth management policies will be used as tools to manage all development within Porterville and protect and enhance open space and environmental resources.

BETTER NEIGHBORHOODS

The Plan will promote development of new neighborhoods around publicly-oriented uses.

The Plan directs residential expansion in the new growth areas into a network of approximately seventeen neighborhoods. These neighborhoods are planned to contain a mix of uses and housing types. Each neighborhood will have a well-defined, mixed-use center with neighborhood commercial and publicly- oriented uses, such as a park and recreation facility or a school. By creating these centrally located hubs, a larger number of residents have the option to bike or walk for non-work related trips. The Plan Land Use Diagram depicts seven residential and two mixed-use land use designations. These land uses will accommodate a diverse range of housing types and prices to provide more housing choices. Policies in the Plan strive to promote the integration of new neighborhoods with existing urban development, and to preserve and enhance neighborhood connectivity with a continuous street network.

One of the new neighborhoods proposed in the Plan Land Use Diagram is a Resort Residential community along the northwestern shore of Lake Success. This area is envisioned to incorporate a mix of land uses which provide a variety of housing types for all ages and income levels, and a complete open space system. The residential neighborhoods would be environmentally planned to be compact and walkable with some commercial and community services. The recreational facilities may include a golf course, a hotel, new boat ramps, parks, and trails.

ECONOMIC OPPORTUNITIES

Another priority over the next two decades is to ensure opportunities for economic development for the residents and the Porterville Area as a whole. New jobs and industries, a skilled labor force, thriving local businesses and a high-quality of life for all residents will help preserve "the good life." In order to facilitate economic development, a range of commercial and retail sites and ample land for industrial and educational development has been designated in the Plan Land Use Diagram. The Economic Development Element provides additional policies and strategies for this initiative. The Land Use Element also provides guidance for new and revitalized commercial areas, including neighborhood and regional shopping centers, office parks and mixed-use districts.

Figure 2-1: Existing Land Use

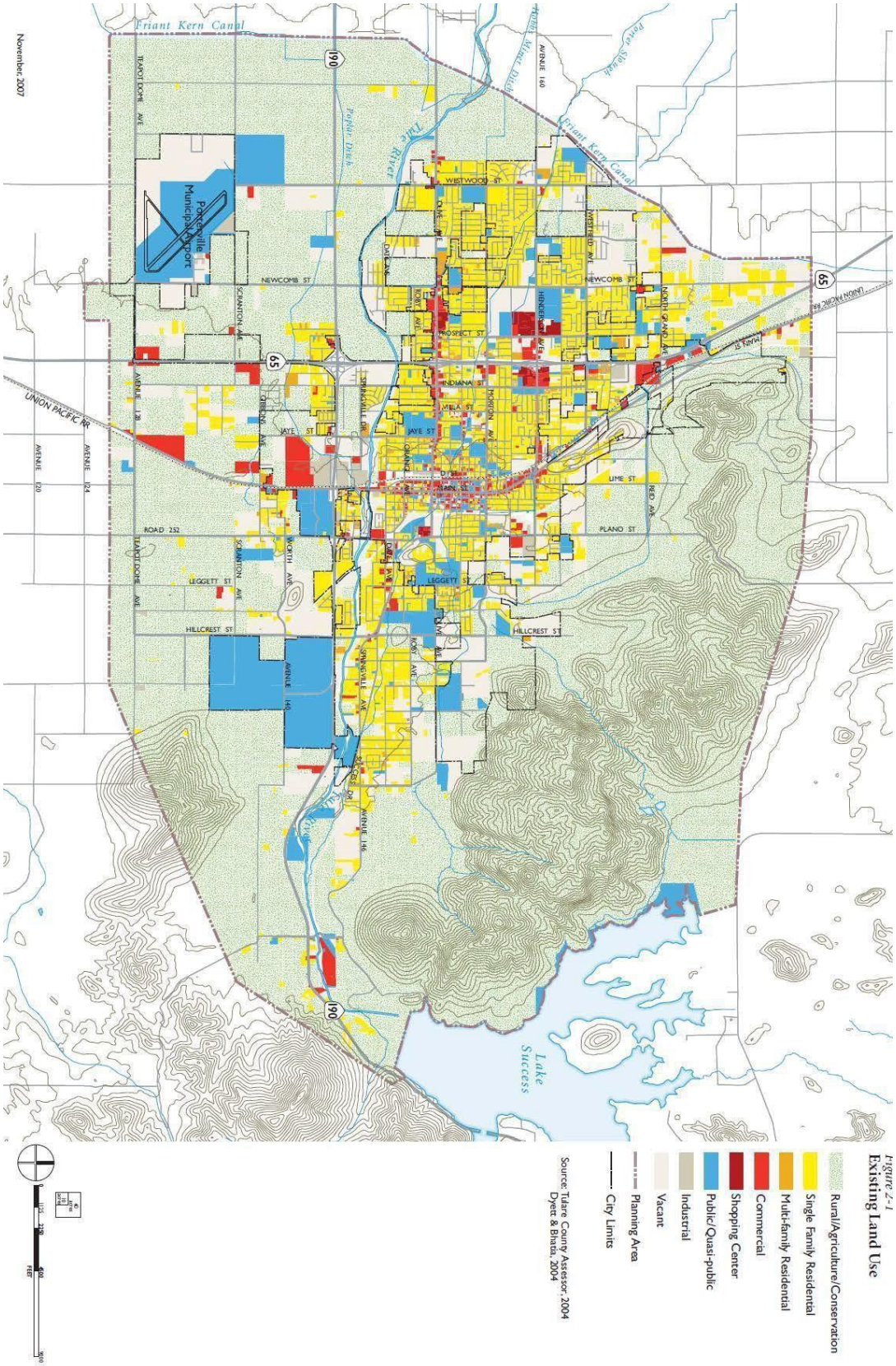


Figure 2-1 BACK

GUIDING POLICIES

LU-G-1 Promote a sustainable, balanced land use pattern that responds to existing needs and future needs of the Porterville Area.

LU-G-2 Maintain a well-defined, compact urban form with Downtown as the "heart of the City."

LU-G-3 Promote sustainability in the design and development of public and private development projects.

LU-G-4 Provide transitions between types and intensities of land use using high-quality urban design and greenway buffers.

LU-G-5 Ensure that new development pays for the public facilities and infrastructure improvements required to meet the demands resulting from that growth.

IMPLEMENTATION POLICIES

LU-I-1 Amend the Zoning Ordinance to include use regulations, development standards, and minimum performance requirements for zoning districts as needed to implement the Porterville Area Community Plan.

LU-I-2 Require a mix of civic, retail and service-oriented uses in the commercial component of neighborhood centers.

The Zoning Ordinance will establish a minimum site area and use mix so centers include more than just a convenience store or gas station. They also will need to provide for transit stops and related amenities. The County may offer FAR or density bonuses or other incentives for projects undertaking elective improvements that further the County's community design and/or open space objectives. This type of density bonus cannot be combined with the affordable housing bonus. Off-site improvements directly resulting from a project's impacts, as specified in the Zoning Ordinance, will be required under the Area's development mitigation program; the bonus is intended for improvements that go beyond the required minimum.

LU-I-3 Amend the Urban Development Boundary (UDB) in order to guide growth through annexation and development, and the efficient extension of public services to new areas.

The UDB will be periodically reviewed and updated to ensure that it provides for a 10-year supply of developable residential land and a 20-year supply of developable commercial and industrial land, consistent with the Plan and LAFCO requirements. The UDB will be adopted separately by the County as a Porterville Area Community Plan implementation policy.

LU-I-4 Seek LAFCO approval of a Sphere of Influence (SOI) line that accommodates planned urban development under a Plan.

This policy is not intended to limit extension of services to existing rural uses, nor deny existing rural property owners the option of requesting annexation.

LU-I-5 Require contiguous development within the UDB unless it can be demonstrated that development of property which is contiguous to urban development is unavailable.

The County desires to prevent leapfrog development where development skips over available land to outlying and isolated areas. Contiguous development will reduce sprawl, safeguard agriculture land, and reduce the cost of extending services.

LU-I-6 Adopt, and maintain in place, a development mitigation program to ensure that all new growth is paying its share of the costs associated with that growth. This program will include two components:

- Local Mitigation Program: The local development fee program will establish fees, exactions, assessments or other mitigation measures to fund streets and other city-owned facilities. Revenue provided from this program shall not be used to replace private developer funding of any required improvements that have or would have been committed to any project.
- Regional Mitigation Program: The regional development fee program will establish fees, exactions, assessments or other mitigation measures to fund State highway and other regional transportation improvements needed to mitigate the impacts of planned development under the Plan. Regional development impact fees may be established under this program that would apply to all new development in the Porterville Area, unless exempt.

LU-I-7 Use other funding mechanisms to augment developer and /or mitigation fees, when and where appropriate.

In certain situations, it may benefit the County and/or City to advance funds, prior to developer funding and/or project completion. Additional financing options available to the City include but are not limited to: reimbursement agreements; debt financing; and assessment districts. None of these mechanisms precludes the developer's responsibility to pay the cost or mitigate the impact of their proposed development.

LU-I-8 Approve development projects only after making findings that one or more of the following conditions are met:

- No General Fund revenue will be used to replace developer funding that has or would have been committed to any other public project;
- The development project will fully fund all public facilities and infrastructure, including streets, water, sewer and storm drainage systems, parks and public safety facilities and equipment, as necessary to directly mitigate the impact of the new development; and
- The development project will pay impact fees for public facilities and infrastructure improvements in proportion to the development's impacts, as per the approved master plans.

LU-I-9 Establish a comprehensive design review process for multi-family housing, commercial and industrial development with an appropriate level of review based on project type and size.

2.3 COMMUNITY AREA PLAN LAND USE DIAGRAM

The Plan Land Use Diagram, Figure 2-2, is a graphic representation of the Plan's themes and policies. It designates t h e proposed general location, distribution, and extent of land uses through 2030. The Diagram is to be used and interpreted only in conjunction with the text and other figures contained in the Porterville Area Community Plan. The Diagram legend includes the land use classifications described below, which represent an adopted component of the Plan.

The Diagram is not parcel-specific and uses on sites less than one acre in size are generally not depicted. The Zoning Map which will be prepared subsequent to the adoption of the Porterville Area Community Plan will be parcel-specific.

DENSITY/INTENSITY STANDARDS

As required by State law, the land use classifications of the Plan specify a range for housing density and building intensity for each land use type. Residential density is expressed as housing units per gross acre (including public streets and other rights-of-way). Maximum permitted ratio of gross floor area to site area, called Floor Area Ratio (FAR), is specified for non-residential uses. FAR is a broad measure of building bulk that controls both visual prominence and traffic generation. It can be clearly translated to a limit on building bulk in the Zoning Ordinance and is independent of the type of use occupying the building. These density/intensity standards allow circulation and public facility needs to be determined.

Density (housing units per acre) and intensity (FAR) standards are for gross developable land (that is, including proposed streets and other rights-of-way), but excluding areas subject to physical or environmental constraints, which include ridgelines and steep hillside slopes, creek corridors and floodways, and areas to be dedicated for greenways or habitat protection. The density/intensity standards do not imply that development projects will be approved at the maximum density or intensity specified for each use. Zoning regulations consistent with Plan policies and/or site conditions may reduce development potential within the stated ranges.

The Zoning Ordinance, as amended to implement the Plan, may provide specific exceptions to the FAR limitations for uses with low employment densities, such as research facilities, or low peak- hour traffic generation, such as a hotel or hospital. Intensity standards for non-residential and mixed-use development are for each entire development site; that is, intensities on individual parcels may exceed the maximum, provided each overall development project does not exceed the stipulated intensity. This type of flexibility in density and intensity standards may also be provided for planned developments in the Zoning Ordinance.

LAND USE CLASSIFICATIONS

The following descriptions apply to land uses indicated on the General Plan Land Use Diagram. Land use classifications are organized into the following categories: Residential, Mixed-Use, Commercial, Office/Industrial, and Public/Open Space.

Residential

Rural Residential. This designation is intended to allow opportunities for rural living on lots ranging in size from 2.5 to 10 acres or more. This land use is around the periphery of the community because it helps serve as a transition between agriculture/open space and more intensive urban uses. This type of development helps define the limits of urban development. Clustered development is encouraged, and smaller lots may be allowed, provided that the overall density does not exceed 0.2 units per acre, with lower limits applying in the Hillside Development Zone.

Resort Residential. This designation is intended to allow residential development along the Lake Success shore and surrounding hillsides. There is an emphasis on creating a resort community with supporting commercial and recreation uses. Pedestrian-oriented design standards, including clustered development patterns, will promote sustainable development. The maximum overall density is 5.0 units per acre, with lower limits applying in the Hillside Development Zone.

Very Low Density Residential. This designation is typical of large lot or executive home single-family subdivisions. The maximum residential density is 2.5 units per gross acre.

Low Density Residential. This density represents typical single -family subdivisions. The maximum residential density is 6.0 units per gross acre.

Low-Medium Density Residential. This density is also for typical single –family subdivisions, but allows for smaller lots. The maximum residential density is 9.0 units per gross acre.

Medium Density Residential. This density range would accommodate a variety of housing types, such as small-lot single-family homes, detached zero lot line developments, duplexes, townhouses, and garden apartments. Pedestrian-oriented design and clustered development can support higher levels of density. The maximum residential density is 12.0 units per gross acre.

High Density Residential. This classification is intended to accommodate attached homes, two-to four-plexes, and apartment buildings. The maximum residential density is 24.0 unit s per gross acre.

Mixed-Use

Downtown Mixed-Use. Downtown Mixed-Use development allows for a mostly vertical mix of commercial, service, office, and residential uses. The vertical nature of this type of use may allow for a reduction in the minimum parking requirements. This designation allows a maximum FAR of 3.0. The maximum residential density is 30.0 units per gross acre.

Commercial Mixed-Use. This designation allows for either horizontal or vertical mixed-use development. Commercial, service, office, and residential uses are allowed. Buildings more than one story are strongly encouraged. The designation allows a maximum FAR of 2.0. The maximum residential density is 24.0 units per gross acre.

Commercial/Office/Industrial

Downtown Retail. Pedestrian-oriented and “Main Street” design standards, a vertical mix of uses, and the retention of a unique retail environment is the focus in the Downtown area. This designation allows for a maximum FAR of 3.0.

Retail Centers. Design and use standards will be established for regional shopping centers located at major circulation intersections. Large format or “big box” retail and auto sales as well as travel related services, such as hotels and gas stations are allowed. This designation allows for a maximum FAR of 0.35.

General and Service Commercial. This designation is intended for retail and services uses that meet local and regional demand. Examples of allowable uses include: equipment rental and repair, commercial print shops, auto sales, storage facilities, and wholesale businesses, and specialized retail not normally found in shopping centers. Accessory office uses related to the primary commercial use are also allowed. This designation allows for a maximum FAR of 0.40.

Neighborhood Commercial. This designation is intended for small-scale commercial development that primarily provides office space and convenience retail for local neighborhoods. This designation allows for a maximum FAR of 0.30.

Professional Office. This designation is intended for office complex development, including professional and medical offices, as well as research and development activities. Small restaurants, support services, convenience retail and limited medium and high density residential are also allowed. This designation allows for a maximum FAR of 0.50.

Industrial Park. This designation comprises a mix of light industrial, secondary office, bulk retail, and service uses. Typical uses include warehouse, mini-storage, research and development, wholesale, bulk retail, and office space with limited customer access. Other uses may be allowed, such as commercial recreation, distribution centers, or other uses that require large, warehouse-style buildings. Small-scale retail and service uses serving local employees and visitors are permitted as secondary uses. This designation allows for a maximum FAR of 0.40.

Industrial. This designation allows primary manufacturing, refining, and similar activities including those with outdoor facilities. It also accommodates warehousing, distribution, with support commercial services and ancillary office space. No retail uses are allowed. This designation allows for a maximum FAR of 0.60.

Agriculture/Rural/Conservation

Agriculture/Rural/Conservation. This designation preserves agricultural and resource conservation areas. Incidental residential uses with septic systems are allowed, subject to health and environmental standards. Clustered housing is strongly encouraged because it makes the provision of other infrastructure, such as roads and electricity, more cost-effective and limits the impact on natural resources. Industrial gravel and aggregate mining is allowed in areas Designated as Mineral Resource Zones.

The Plan will protect surrounding productive Agricultural lands.

Public Uses and Open Space

Public/Institutional. This designation is intended for lands owned by public entities, including the Municipal Airport, City Hall, County buildings, and the hospital. At the Municipal Airport, industrial park uses will be allowed. It will provide for needed public facilities, including, but not limited to, recycling centers, sewage treatment ponds, and police and fire stations. This designation allows for a maximum FAR of 0.25.

Education. This designation is intended for lands owned by public or private entities for educational purposes, including schools, colleges, vocational training facilities, and administrative offices.

Commercial Recreation. This designation is intended for campgrounds, off-road vehicle complexes, and other recreation areas where patrons usually pay to participate. The maximum FAR is 0.10.

Park. This designation applies to both public and private recreation sites and facilities. It allows for a maximum FAR of 0.10.

Table 2-2 summarizes the density and intensity (FAR) standards used in the General Plan, which reflect both allowed and typical buildout densities for residential areas.

Table 2-2: Standards for Density & Development Intensity

Land Use	*Maximum Residential Density (du/gross acre)*	*Maximum Floor Area Ratio (FAR)*
Rural Residential	0.2	
Resort Residential	5.0	
Very-Low Density Residential	2.5	
Low Density Residential	6.0	
Low-Medium Density Residential	9.0	
Medium Density Residential	12.0	
High Density Residential	24.0	
Downtown Mixed-Use	30.0	3.00
Commercial Mixed-Use	18.0	2.00
Retail Commercial		0.35
General Commercial		0.40
Neighborhood Commercial		0.30
Professional Office		0.50
Industrial Park		0.40
Industrial		0.60
Agriculture/ Rural/ Conservation		NA
Public/Institutional		0.25
Education Commercial		NA
Recreation		0.10
Park		0.10

Source: Dyett & Bhatia, 2007.

Overlays

Hillside Development Zone. All development within the Hillside Development Zone is subject to hillside development and design standards. Review criteria and limitations on maximum density are based on slope.

Downtown Planning Area. This overlay is intended to emphasize the Downtown area where the City wants to promote mixed-use development. Pedestrian-oriented design standards will apply.

Transition Landscape Buffers. This designation is intended to provide a variable-width landscaped buffer between industrial and industrial park uses, or heavily traveled highways and residential land uses. The recommended buffer widths are between 150 to 200 feet. Frontage roads, orchards, and recreational uses are allowed in these areas.

Hillside development will be regulated by the City's Hillside Development Ordinance.

Porterville Area Community Plan Land Use Diagram Summary

Table 2-3 summarizes the total land use acreages at buildout for the Planning Area.

Table 2-3: Buildout Porterville Area Community Plan Land Use Acreage

Land Use	*Developed Land*[1]	*Plan*	*2030 Total*	*Percent of Total*
Rural Residential	324	1,731	2,055	5.7%
Resort Residential	-	1,084	1,084	3.0%
Very Low Density Residential	79	1,699	1,778	4.9%
Low Density Residential	3,802	4,339	8,141	22.4%
Low-Medium Density Residential	28	223	251	<1%
Medium Density Residential	613	438	1,051	2.9%
High Density Residential	264	11	275	<1%
Residential Subtotal	5,110	9,525	14,635	40.3%
Downtown Mixed-Use	34	25	59	<1%
Commercial Mixed-Use	57	58	115	<1%
Retail Centers	495	251	746	2.1%
General & Service Commercial	242	76	318	<1%
Neighborhood Commercial	18	129	147	<1%
Mixed-Use and Commercial Subtotal	846	539	1,385	3.8%
Industrial Park	131	1,314	1,445	4.0%
Industrial	312	171	483	1.3%
Professional Office	100	1	101	<1%
Office and Industrial Subtotal	543	1,486	2,029	5.6%
Public/Institutional	1,255	348	1,603	4.4%
Education	419	343	762	2.1%
Parks & Open Space	313	993	1,306	3.6%
Commercial Recreation	-	55	55	<1%
Public and Open Space Subtotal	1,987	1,739	3,726	10.3%
Agriculture/Rural/Conservation	266	11,658	11,924	32.8%
Unclassified (Roads, water, etc.)	3	2,639	2,642	7.3%
TOTAL	**8,755**	**27,586**	**36,341**	**100%**

[1] Developed Land includes development projects approved in 2005.

Source: City of Porterville; Dyett & Bhatia, 2007.

FIGURE 2-2

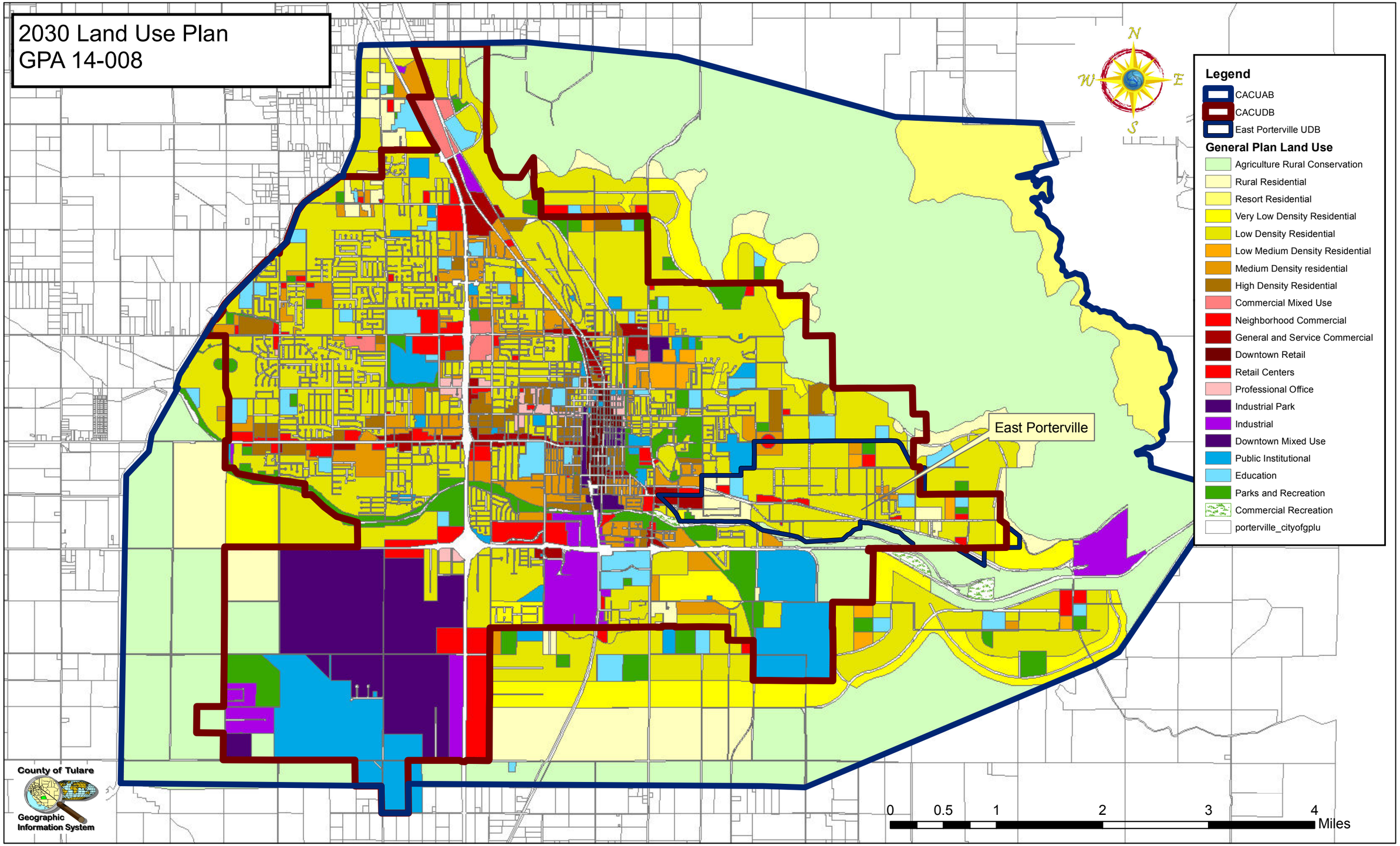

2030 Land Use Plan
GPA 14-008
N
W
E
S
Legend
CACUAB
CACUDB
East Porterville UDB
General Plan Land Use
Agriculture Rural Conservation
Rural Residential
Resort Residential
Very Low Density Residential
Low Density Residential
Low Medium Density Residential
Medium Density residential
High Density Residential
Commercial Mixed Use
Neighborhood Commercial
General and Service Commercial
Downtown Retail
Retail Centers
Professional Office
Industrial Park
Industrial
Downtown Mixed Use
Public Institutional
Education
Parks and Recreation
Commercial Recreation
porterville_cityofgplu
East Porterville
0
0.5
1
2
3
4
Miles
County of Tulare
Geographic
Information System

Figure 2-2 BACK

2.4 RESIDENTIAL NEIGHBORHOODS

The Porterville Area Community Plan promotes a mix of residential densities and compact neighborhood design that provide for efficient use of available land resources and maintain a compact form that is less intrusive on the surrounding countryside. The Plan also provides for a mix of housing types to serve the needs of all Porterville residents.

New multifamily development will occur around neighborhood centers and at other appropriate locations.

Community facilities that are appropriate for a residential environment, including residential care, day care, elderly care, and alcoholism or drug abuse recovery or treatment facilities will be allowed within neighborhoods, consistent with State and federal law, because they are considered "protected" facilities and local zoning cannot exclude them as long as specified standards and licensing requirements are met.

GUIDING POLICIES

LU-G-6 Provide for residential development with strong community identities, appropriate and compatible scales of development, identifiable centers and edges and well- defined public spaces for recreation and civic activities.

LU-G-7 Guide new development into compact neighborhoods with a defined, mixed- use center including public open space, a school or other community facilities, and neighborhood commercial.

LU-G-8 Allow and encourage efficient infill development in existing neighborhoods.

LU-G-9 Provide sufficient land with appropriate parcel sizes to support a full range of Housing types and prices.

IMPLEMENTATION POLICIES

LU-I-10 Amend the Zoning and Subdivision Ordinances to include:

- Minimum lot sizes and densities consistent with the Plan's land use classifications;
- Development standards that permit townhouses and zero-lot line attached or detached single-family dwellings on sites designated for low-medium, medium, or medium-high densities;
- Development standards that permit second units, small family daycares, and residential care homes in neighborhoods in accord with State law; and
- Sustainable design standards that will achieve compact, walkable neighborhoods and provide an interconnected network of local streets.

LU-I-11 Only allow gated communities in very low density, planned development areas, and Resort Residential areas.

LU-I-12 Require residential development on slopes over six percent to comply with the Hillside Development Ordinance.

This ordinance establishes a Hillside Development zoning district with standards and review procedures tailored to the Porterville Area's needs and expectation for hillside development.

LU-I-13 Discourage residential development within Airport Safety Zone. If residential development is approved in the County within the Airport Safety Zone, it must comply with Tulare County Airport Land Use Commission's land-use compatibility standards and density restrictions.

The County recently prepared an Airport Land Use Compatibility Plan which will include updated information for a safety zone.

LU-I-14 Allow residential developments to employ creative site design, landscaping, and architectural quality that blend with the characteristics of each location and its surroundings and offer superior design solutions.

LU-I-15 Adopt community design standards for new residential development.

These could include but are not limited to:

- *Maximum block length;*
- *Maximum ratio of block length to width;*
- *Limited use of dead-end streets;*
- *Orientation of residential building; and*
- *Required connectivity.*

Exceptions may be provided for infill sites and projects in the Hillside Development Zone.

LU-I-16 Establish guidelines and incentives to promote green building techniques and materials in residential development.

LU-I-17 Require that all new subdivisions preserve natural, cultural, and biological resources, including stands of large trees and rock outcroppings, to the maximum extent feasible.

LU-I-18 Protect existing residential neighborhoods from the encroachment of incompatible activities and land uses, and environmental hazards.

LU-I-19 Enforce zoning and development regulations through project review, construction inspections, and code enforcement, with fees to enable full-cost recovery for providing these services.

2.5 RETAIL, COMMERCIAL, OFFICE & MIXED USE

RETAIL & COMMERCIAL

Clusters of commercial uses are designed to provide goods, services, and employment opportunities to both local residents and people from surrounding communities. These clusters are called neighborhood and regional centers. A neighborhood center is composed of a mix of retail, civic, and service-oriented uses which is often surrounded by higher density housing. These centers help support local transit and provide places for social interaction for the neighborhood residents. The Plan provides for new neighborhood centers, located closer to where people live and designed with the pedestrian in mind.

Attractive, well-designed regional centers are critical in shaping the identity and image of Porterville. The Plan builds on the regional accessibility of state routes 65 and 190 in order to plan for regional, auto-oriented commercial development which will capture out-of-town sales tax revenue.

OFFICE

The Plan recognizes the need for new office development, both in free-standing office buildings within existing commercial areas, along arterial streets and in new office parks. Sites that can accommodate flexible office space facilities will be in demand as the local economy matures and the County in cooperation with the City implements the Economic Development strategy described in Economic Development Element.

The Plan Land Use Diagram provides sites for both larger site office parks and smaller, integrated office uses, designated as Professional Office. Smaller sites are typically expected to be local-serving professional and administrative office environment s, such as, medical, real estate, or financial services. Larger sites are envisioned as office parks that draw employees from a wider area and provide more jobs. Offices are also permitted in Neighborhood Commercial area, the Downtown Planning Area, and Retail Centers and as accessory uses in General and Service Commercial areas and Industrial Parks. A vertical mix of uses where new office uses are located above the first floor or as a secondary use in multi- tenant buildings can be an efficient use of land and promote retail continuity at the street level.

MIXED-USE

Mixed-Use designations which provide commercial and residential uses in the same area can help reduce auto dependence, preserve green space and natural resources, and promote revitalization, economic development, and modestly priced housing. The Downtown Mixed-Use designation encourages a higher-density, vertical mix of uses with residential or office uses above ground floor retail or other commercial uses. It also provides for the development of more multi-family residential within walking distance of Downtown. The Commercial Mixed-Use designation allows for lower density but multi-story development where the uses may be either horizontally or vertically mixed.

GUIDING POLICIES

LU-G-10 Foster viable, pedestrian-oriented neighborhood centers with vertically-and horizontally-mixed-use development.

LU-G-11 Foster strong, visually attractive regional commercial centers with a mix of tenants to serve both local and regional needs.

LU-G-12 Promote the location of professional and administrative offices Downtown, near post-secondary education facilities, and in other mixed-use districts.

IMPLEMENTATION POLICIES

LU-I-20 Establish standards for pedestrian-oriented design in neighborhood centers.

Pedestrian-oriented design standards may include, but would not be limited to:

- *Limitations on maximum block length;*
- *Minimum sidewalk width;*
- *Required streetscape improvements, including street trees;*
- *Building height and articulation;*
- *Building setbacks;*
- *Location of entries; and*
- *Parking location and required landscaping.*

The County and/or City also may provide additional incentives for projects that contribute to the pedestrian, bicycle and transit networks, and/or the open space network.

LU-I-21 Prohibit new strip commercial developments.

For purposes of this policy, strip development is defined as a row of at least three stores, where each has direct access to a street with a surface parking lot between the building and the street. There may or may not be an anchor tenant.

LU-I-22 Promote and support the revitalization and infill development in existing retail shopping centers.

LU-I-23 Establish an incentive program that will provide for density and FAR bonuses for mixed-use development that includes amenities for public benefit, such as workforce housing, pedestrian-oriented facilities (outdoor seating, plazas, weather protection, transit waiting areas), historic preservation, cultural facilities, public art and water features, and open space preservation.

LU-I-24 Allow supporting retail, business services and other complementary uses in Professional Office districts

2.6 INDUSTRY

The Plan proposes to shift the focus of industrial development to areas south of SR 190, particularly around the Airport. Existing, well established industrial areas in other parts of the Porterville Area will be retained. Plan policies seek to increase the supply of pre-zoned, "ready-to- go" job producing land. This will improve Porterville's competitiveness in the regional economy by decreasing start up time for new development. In addition, the Plan reduces the potential for conflicts associated with industrial uses adjacent to other sensitive uses.

GUIDING POLICIES

LU-G-13 Improve Porterville's prominence as a major center of economic activity in Tulare County.

LU-G-14 Ensure the availability of land and buildings to accommodate new industries and the expansion of existing businesses while accounting for market factors.

LU-G-15 Promote clustering of industrial uses into areas that have common needs and are compatible in order to maximize their efficiency.

LU-G-16 Discourage industrial development in locations where access and operations conflict with neighboring land uses.

IMPLEMENTATION POLICIES

LU-I-25 Establish buffering requirements and performance standards intended to minimize harmful effects of excessive noise, light, glare, and other adverse environmental impacts.

LU-I-26 Actively promote the annexation of industrial designated lands to accommodate planned job growth.

LU-I-27 Require Master Plans for new Industrial Parks over a specified size to ensure coordination of land use and infrastructure planning.

The County in cooperation with the City could waive this requirement where existing infrastructure can accommodate the planned industrial use.

LU-I-28 Foster high-quality design and allow secondary uses, such as child care and other employee-serving amenities in Industrial Parks, if they complement primary use without compromising public health and safety.

LU-I-29 Offer incentives for industrial development projects that contribute to the pedestrian, bicycle and transit networks, and/or parks and public open space.

2.7 PUBLIC & INSTITUTIONAL

Public and quasi-public facilities, such as government facilities, hospitals and cemeteries, are important elements of community-building. Sites needed for large facilities are indicated on the Plan Land Use Diagram near mixed-use neighborhood centers and Downtown. Public uses on sites less than two acres in size do not need a separate zoning classification and are not shown on the Diagram.

The State Development Center is a major institution in Porterville.

Houses of worship and other places for religious assembly as well as private schools and colleges will be permitted in residential and commercial areas, subject to appropriate location and development standards, and use-permit requirements which will ensure neighborhood compatibility.

For policies related to community facilities, see the Parks, Schools & Community Facilities Element. For policies related to law enforcement and fire service standards, see the Public Health & Safety Element.

GUIDING POLICIES

LU-G-17 Provide sufficient land for civic and institutional uses such as police and fire services, water and sanitary facilities, infrastructure and other services to meet future demand.

LU-G-18 Support the expansion of Porterville's Sierra View District Hospital and related medical and dental offices in the surrounding area, subject to standards ensuring that surrounding residential areas are not adversely affected.

IMPLEMENTATION POLICY

LU-I-30 Establish appropriate zoning for civic and institutional uses, including development standards that address scale, operation, location, and other characteristics of community facilities, including public and quasi-public facilities that enhance the character and quality of neighborhoods

2.8 PARKS & OPEN SPACE

Parks and open space are a fundamental building block of the Plan Land Use Diagram. Policies pertaining to parks are found in the Parks, Schools & Community Facilities Element. Policies related to public open space are in the Open Space & Conservation Element. Public uses on sites less than two acres in size do not need a separate zoning classification and are not shown on the Diagram.

GUIDING POLICY

LU-G-19 Provide sufficient land for parks and open space to meet future demand.

2.9 DOWNTOWN PORTERVILLE

Since incorporation in 1902, Downtown Porterville has been the "heart of the City." Main Street forms a spine which supports significant cultural and governmental buildings as well as specialty retail stores and restaurants. Recent street improvements have increased the pedestrian-friendly aspect of Main Street with new paving, contrasting crosswalks, improved lighting and additional landscaping. Public spaces are regularly programmed with local music and cultural events. Plus, most of Porterville's historic buildings are in or near Downtown.

Downtown retail and restaurants

Even with recent improvements, Downtown is still underutilized. Buildings are aging and require rehabilitation. Streets adjacent to Main Street have not been upgraded. Incompatible uses and parking deficiencies further inhibit residents and businesses from fully taking advantage of this resource.

It is a priority for the community to revitalize Downtown. The Plan Land Use Diagram includes an overlay for the Downtown Planning Area, where additional planning efforts will help define the long-term strategy. The Plan supports creating new housing opportunities in and near Downtown. New residents will help support local retail and provide a greater level of around-the-clock activity. Additional street improvements will be prioritized to expand the pedestrian-friendly areas beyond Main Street. Specific building and design standards will be written to enhance the character of the area. Efforts will be made to recruit a wider variety of retail stores, restaurants, and cultural facilities.

Additional policies regarding the economic development of Downtown are found in the Economic Development Element. Historic preservation is discussed in the Open Space and Conservation Element.

GUIDING POLICIES

LU-G-20 Enhance Porterville's Downtown as a pedestrian-oriented district that reflects local history and culture.

LU-G-21 Attract and retain specialty retail and restaurant businesses that will enhance Porterville's unique character.

LU-G-22 Promote vertical mix of uses with residential and office uses above the ground floor retail to add vitality to Downtown Porterville.

LU-G-23 Provide sites for multi-family housing within walking distance of Downtown.

LU-G-24 Promote public and private development within Downtown that is sensitive to historic sites.

IMPLEMENTATION POLICIES

LU-I-31 Prepare a Downtown Plan with implementing regulations to support pedestrian-oriented, infill development and a mix of office, residential, retail and civic uses.

LU-I-32 Include standards in the Zoning Ordinance for housing and mixed-use development within the Downtown area that address:

- Building setbacks and relationship to the street;
- Outdoor dining areas;
- Street landscaping to create an attractive and livable environment;
- Adequate light, air, ventilation, and noise insulation for residential units;
- Building design, including articulation and quality of materials;
- Ground floor uses;
- Location and quality of parking; and
- Height and setback transitions to adjacent lower density residential uses

LU-I-33 Continue to improve the appearance of Main Street and other Downtown streets with traffic calming measures, tree planting, attractive landscaping, street furniture, and water features, etc., that will contribute to the creation of a distinctive image for Porterville's Downtown.

LU-I-34 Utilize tools where available, to revitalize and preserve historic buildings.

Continue to allow the adaptive reuse of historic buildings. The County in cooperation with the City could also enable owners to use the State's Historic Buildings Code as an incentive to upgrade historic buildings.

LU-I-35 Establish a density bonus/incentive program to spur creation of privately-owned public spaces throughout Downtown, including seating areas, landscaping, water- features, and public art.

LU-I-36 Expand parking facilities while improving access by other transportation modes.

Promote a "park once" concept where motorists are able to drive downtown, quickly find a parking space and then walk or ride public transit to jobs, shops, restaurants and entertainment, without having to get back into their cars until they're ready to leave.

LU-I-37 Update the Successor agency Project Area plans to support a contemporary mix of retail, office and entertainment uses.

This could include support for a greater variety of apparel stores, bookstores and restaurants as well as additional cultural, arts, and entertainment venues that offer quality arts and entertainment functions such as live music, theater, or comedy.

LU-I-38 Create and maintain an attractive, pedestrian-friendly circulation system to provide connections between the downtown pedestrian core, adjacent residential, the Transit Center, civic buildings, and parking areas.

LU-I-39 Identify funding mechanisms for improvements within Downtown, including streetscape enhancements, public space, façade renovation, parking, etc.

Explore a wide variety of options, including: development fees, community facilities districts, public improvements bonds, and regulatory programs applicable to new development.

LU-I-40 Seek grants and other funding sources to support the façade, awning, and signage improvement program.

This program could include matching funds, subsidized architecture and design assistance, and/or reduced permit fees

2.10 LAKE SUCCESS RESORT RESIDENTIAL COMMUNITY

The Resort Residential Community proposed adjacent to Lake Success represents a unique opportunity to plan a new mixed-use Resort Residential community that is vital, livable, and walkable while respecting wildlife habitat and sensitive resources. This Porterville Area Community Plan outlines the policies and elements that will integrate this site's importance as an economic, natural, and community asset.

Lake Success

The plan recognizes that development policies and standards for the Resort Residential Community must provide flexibility within a general framework for land use, open space, and environmental resource management. Therefore, the site planning policies set forth the basic parameters for more detailed master planning and development agreements, while establishing the basic character of a Resort Residential community.

LAND USE MIX

To ensure that the Resort Residential Community attracts high-quality Resort Residential development, more detailed planning for the area will be required following the adoption of the Plan. The additional plans will ensure that desired land use intensities and overall level of development are attained. In addition, the specific location of development, number of housing units, variety of land uses, and requirements for community amenities will be determined

The proposed land use allocation and development concept (see Tables 2-4 and 2-5) for the Resort Residential Community could accommodate up to 2,000 new housing units or more if overall goals are met (while preserving land for open space, parks and recreation facilities, neighborhood commercial and visitor facilities). The ultimate level of development will depend on decisions to be made following detailed site planning, analysis of specific land use mixes within community and neighborhoods, environmental constraints and resource assessment, the specific character of the visitor-oriented mixed-use area, economic jobs analysis, and determination of infrastructure costs. It also will depend on the scope of open space, parks, and recreation facilities planned for the area.

Table 2-4: Resort Residential Development Concept

Criteria	*Development Concept*
Population	4,000[1]
Housing Units	2,000[1]
Jobs	500

[1] The maximum number of housing units and resident population may be greater, provided the land use allocations in Table 2-5 are not exceeded, the standards set by the City's hillside development ordinance are met, and level of service Standards for arterial and collector streets are maintained.

Source: Dyett & Bhatia, 2007.

The ranges in Table 2-5 reflect the development concept and provide minimum and maximum levels of development for each type of land use, which will allow for flexibility in master planning in response to market conditions, infrastructure costs, and site planning policies. The specific percentages may be adjusted based on a detailed site and market analysis conducted after Porterville Area Community Plan adoption to assess potential level of development.

Table 2-5: Resort Residential Conceptual Land Use Allocations

Criteria	Gross Acreage (Percent of Total) Minimum	Maximum
Residential Neighborhoods	30%	50%
Civic/Institutional/Small-scale Visitor Oriented Mixed-Use (including overnight accommodations, restaurants and commercial services)	3%	6%
Parks & Recreation (includes local and regional facilities and potentially a new Golf Course)	5%	35%
Other Public Open Space, Protected Hillsides (shoreline corridor for public access, slopes over 20%, ridgelines and visible hillsides)[1]	30%	50%
Total	**68%**	**nan.[2]**

[1] In the Resort Residential Community, only about 3% of the land is over 20% slope.
[2] The total in this column exceeds 100% reflecting the potential to "mix-and-match" with the 32% that is "unallocated" (the difference between the total in the minimum allocation column and 100%).

Source: Dyett & Bhatia, 2007.

DENSITY & INTENSITY

Neighborhoods are envisioned to be 80 to 120 acres in size, so that residents would be within one quarter-mile of a neighborhood center or neighborhood park, thereby reducing the need for automobile use for some local trips. Each neighborhood should have a mix of housing, which could be based on residential density allocations or on allocation by basic building type established in a master plan. The master plan could provide specifically for the goal of housing mix to be met by a combination of housing types rather than a combination of different residential densities.

GUIDING POLICY

LU-G-25 Create a Resort Residential community at Lake Success that is sensitive to the environmental characteristics of the lakefront and surrounding hillsides.

IMPLEMENTATION POLICIES

LU-I-41 Establish zoning and development standards for a resort residential community that will allow up to 2,000 housing units and up to 100,000 square feet of non-residential space for visitor accommodations, commercial recreation and related supporting uses.

Additional density and non-residential floor area may be permitted to enable new development to be self-sufficient and pay for all required infrastructure, community facilities, small-scale visitor-oriented mixed-use center, and open space, provided all environmental impacts are mitigated.

LU-I-42 Establish minimum requirements for specific housing types in the Resort Residential area to ensure that the needs of all economic segments of the community are met.

These should include provisions for some workforce housing at appropriate locations and possibly a requirement that some housing be restricted to seniors to minimize impacts on the school system.

LU-I-43 Require master planning using a specific plan—as authorized by the Government Code—or a similar planning program (e.g. a PD Planned Development Plan).

Master planning will enable the County in cooperation with the City to review and approve details about the location of various land uses, open spaces and linkages, and establish the standards and detailed design guidelines for individual development units with their community. Topics to be addressed will include, but not be limited to:

- *Integrating storm drainage requirements in site-specific planning;*
- *Planning for appropriate habitat conservation to preserve and protect special status species in the area;*
- *Preparing site-specific standards and financing programs for public and private improvements including new streets, parks and open space systems, street landscaping, drainage, bikeways and pedestrian walkways;*
- *Creating a streamlined development review process establishing permit review thresholds with clear standards and findings requirements consistent with Plan policies;*
- *Undertaking a fiscal impact analysis and financial feasibility study, including an analysis of revenues, capital and operating costs, development impact fees, bonding costs, and state and federal funding sources for needed improvements, and parks and recreation facilities. A long-range capital improvement program (CIP) for the Resort Residential Community also should be prepared; and*
- *Establishing minimum and maximum densities and intensities and allowable uses for individual neighborhoods (e.g., scale and mix within a visitor-oriented, mixed-use center with potential overnight lodging), consistent with the overall land use allocations and limitations based on performance standards and traffic levels of service established in the Porterville Area Community Plan and the Hillside Development Ordinance*.

LU-I-44 Establish minimum requirements for parks and open space. These will include:

- Providing one or more community-serving recreational facilities, such as tennis courts, golfing opportunities, lakeshore recreation facilities, and community facilities; and
- Providing a minimum 200-foot wide shoreline corridor for public access to and along the lakefront.

3
Economic Development

Porterville is committed to enhancing economic development opportunities and defining a long- term framework for sustainable growth. In fact, the success of accomplishing the Porterville Area Community Plan objectives is closely inter- related to a strong economic development strategy. The Economic Development Element contains policies and actions that will enable the County in cooperation with the City to direct local resources to retain and assist local businesses and attract new industry that will increase its tax base and economic diversity. This Element provides policy direction and concrete actions for improving the education and training programs; providing jobs for its growing population; creating opportunities for supply of retail goods and services that will be needed by the community; fostering the development of a plan that sustains its downtown; and supporting regional-serving and neighborhood commercial centers that can meet the everyday needs of residents.

In conjunction with the other Plan Elements, the Economic Development Element enables the County in cooperation with the City to act as a "development partner," by providing supportive zoning and infrastructure and facilitating the approval process. The Land Use Element and Plan Land Use Diagram allows for new commercial and industrial development and provides sites for schools and campuses for higher education. The Circulation Element centers provides new multi- modal linkages from neighborhoods to commercial and employment. The Public Utilities Element ensures that the underlying infrastructure necessary for new development is available in a timely manner. The other elements, including Parks, Schools & Community Facilities, Open Space & Conservation, Public Health & Safety, and Noise, all contribute to increasing Porterville's quality of life.

3.1 STRATEGY FOR ECONOMIC DEVELOPMENT

The population of Porterville is expected to more than double over the time frame of this Plan. To support that growth, the City will have to add jobs. At the same time, the Plan recognizes that the expected growth must be disciplined by a vision of the future that maintains Porterville's community character. This vision includes: a strong downtown that is the keystone of community identity; a network of regional-serving and neighborhood commercial centers that serve the everyday needs of nearby residents; and, ample industrial land around the Airport to meet the needs of existing and new businesses.

Porterville's strategy for economic development takes into account the following basic concepts:

- Porterville operates in a competitive context. Other Central Valley cities are as interested in new basic development as Porterville, and some have established pro-active economic development programs that are continuously funded and have a positive track record.
- Employer decisions to choose a site in Porterville (or elsewhere in the Valley) are likely "opportunistic," which means neither local natural resources nor a specialized labor force create an obvious attraction for particular industries.

Therefore, the economic development approach presented in this Element calls for the plan to:

- Ensure the availability of physical, institutional, and social capacity to respond to the needs of business.
  - Physical capacity includes the availability of sites (land and/or buildings) that are of adequate size and in appropriate locations, served with urban infrastructure (roads and utilities).
  - Institutional capacity includes the ability of local government to respond in a timely manner to applications for development, expansion, and relocation of economic activities that are consistent with the community's goals, and to proactively seek such development.
  - Social capacity includes the availability of housing at prices that can be afforded by employees, educational opportunities that provide needed skills, and other social systems and amenities (health care, recreation, etc.) that maintain the current overall high-quality of life.
- Support existing businesses and recruit new businesses that can provide jobs for local residents or resources for other local businesses.
- Identify industry clusters that are growing in the Porterville area, or for which Porterville offers advantages compared to other communities. Identify the conditions required by these clusters to locate and grow in Porterville.
- Provide incentives through the Business Incentive Zone, Enterprise Zone and/or other programs, including zoning for "ready-to-go" site and bonuses for targeted industries or institutions, reductions in utility connection fees and/or expedited permit processing for job-generating development.
- Foster positive relationships between the County, City and its businesses and a positive image that will help attract new businesses.
- Improve workforce training and attract new educational institutions to Porterville.

3.2 THE ECONOMICS OF PORTERVILLE

THE CURRENT ECONOMY

Porterville has a diverse, yet limited economy. The Tulare County Association of Governments (TCAG) has estimated current (2005) employment by economic sector in the City. These estimates, which identify approximately 19,500 jobs, are summarized in Table 3-1.

Table 3-1: Estimated 2005 Employment by Sector

Employment	*Number*	*Percent*
Agriculture	1,184	6.1%
Education	1,875	9.6%
Government	4,509	23.2%
Industry	1,242	6.4%
Office	631	3.2%
Other	1,112	5.7%
Retail	4,212	21.6%
Service	4,706	24.2%
Total	**19,471**	**100.0%**

Source: Tulare County Association of Governments, 2005.

The largest and most important economic sectors, in terms of employment, are services, government, and retail trade; together, these three sectors account for almost 70 percent of all jobs in the Porterville Area.

Major employers include the Porterville Development Center (about 2,000 services sector jobs), Wal-Mart distribution center (about 1,700 industrial sector jobs), Porterville Public Schools (about 1,600 education sector jobs), and Sierra View District Hospital (about 725 services sector jobs).1 Examples of other firms engaged in basic economic activity (that is, their customer base extends beyond Porterville) include Beckman Coulter (manufacturer and distributor of biomedical instruments), Endure Quest Corporation (manufacturer of specialty plastic products), Foster Farms (value-added poultry processing),Porterville Citrus, Inc.

Expanding basic economic activities is important for Porterville.

(produce packing and shipping), Pro Document Solutions (business forms printing), Royalty Carpet Mill s (manufacturer of carpet yarn), and Tule River Aero Industries (services related to small aircraft). This array of companies indicates that Porterville's economy includes a diverse mix of activities.

[1] Porterville Chamber of Commerce, "Porterville Facts," May, 2006.

Although the economy of Porterville has historically been based on agriculture, Table 3-1 shows that the influence of this sector is now limited. The sector accounted for only six percent of all jobs in 2005. Agriculture nevertheless remains an important sector of the Tulare County economy. While Porterville agriculture jobs are more likely to be reported in the retail, services, or industry sectors, the Porterville Area's reliance on the County's agricultural economy as a foundation for trade and employment should not be under estimated.

THE FUTURE ECONOMY: PROJECTED JOBS

Employment projections prepared by TCAG only anticipate the addition of about 12,250 jobs in the City between 2005 and 2030. These projections do not account for the City's economic development programs. The increase would be concentrated in the retail, office, and service sectors, which together would account for about two-thirds of the new jobs.

Table 3-2: Projected Employment Growth in Porterville, 2005-2030

			Change, 2005 – 2030		
Employment	*Jobs in 2005*	*Jobs in 2030*	*Number*	*Percent*	*Average Annual Percent*
Government	4,509	7,505	2,996	66%	2.1%
Service	4,706	7,661	2,955	63%	2.0%
Retail	4,212	6,462	2,250	53%	1.7%
Office	631	2,082	1,451	230%	4.9%
Industry	1,242	2,617	1,375	111%	3.0%
Other	1,112	1,923	811	73%	2.2%
Education	1,875	2,445	570	30%	1.1%
Agriculture	1,184	1,024	-160	-14%	-0.6%
Total	**19,471**	**31,719**	**12,248**	**63%**	**2.0%**

Source: Tulare County Association of Governments, Mundie & Associates, 2005.

Some of these economic sectors—notably, retail trade, services, and government—are likely to grow in response to the needs of growing population. Others—such as industry and agriculture—respond to market demands of a broader geographic area. Education is a mix: it certainly will grow to meet the needs of Porterville residents, but may also serve a larger population if educational institutions attract students from beyond the local area.

ECONOMICS AND LAND USE

Having a strong economy is important for Porterville. Appearing to have a strong economy is also important: it helps people feel good about their community and neighborhood; it creates a favorable impression on visitors; it attracts businesses that value the quality of life for their employees. To the casual observer, appearances of economic health generally center on the performance of retail space, and particularly on activity in the downtown area.

Downtown Porterville is attractive, but it could be healthier: there are few retail vacancies and the area is active during the day, but there is little activity at night, new investment and reinvestment has

lagged, and currently there are no department stores to help bring shoppers to the area.

Beyond Downtown, retail development along the major arterials presents a mixed appearance: some areas are occupied by new buildings that are well-occupied and busy; others have vacant stores that have not been occupied in some time.

To address the recent shift in consumer and corporate preferences, the Plan Land Use Diagram expands the Downtown Mixed-Use designation and clusters new commercial development near neighborhood centers to meet the daily needs of residents and at major regional shopping destinations near the highways.

3.3 CHALLENGES TO ECONOMIC GROWTH

To achieve the employment increase anticipated by TCAG, Porterville will have to retain existing businesses that are successful and growing, as well as attract businesses that are seeking new locations. However, the Porterville Area also needs new "basic" economic development; that is, jobs in companies that make products and services that are sold outside the community, thereby creating income for local workers by bringing in new money into the community.

Some businesses, such as those that serve consumers directly, will be attracted by a growing population. As the number of residents increases from 45,220 to more than 100,000, the Porterville Area will attract an array of new stores, including department stores, supermarkets, drug stores, as well as restaurants and services.

Other businesses—those that comprise the "economic base" of the community —may not come automatically. Economic-base businesses bring new money into the Porterville Area that can then be spent at the retail stores, restaurants, and service outlets. However, because their consumer base is regional, national, or international, they have more leeway in selecting their locations. To compete with other communities—in an increasingly competitive economic environment— will require a concentrated effort that, to be successful, must address the following conditions:

- Location. Porterville is located in the Central Valley, generally between the larger cities of Bakersfield and Fresno, but 20 miles east of a major north-south transportation route (State Route 99). The Porterville Area cannot change its location, but it can direct its efforts toward attracting the types of basic economic activities that do not rely on physical transportation of inputs or outputs, especially if those inputs or outputs are heavy or bulky.
- Supply of sites. Porterville has almost 1,000 acres of land available for employment- bearing land uses. This amount of land should be adequate to accommodate employment growth that is expected through the year 2030. The sites, however, are not all competitive: some are too small, some are in less-than-optimal locations, some are not served (or not adequately served) by infrastructure, and some are not available for sale or development. In order to address this issue, the Plan Land Use Diagram increases the employment- bearing land uses to more than 4,000 acres.
- Major employment anchors and linked economic activities. Although Porterville has several employers with more than 1,000 jobs, they do not attract linked economic activities – either because they are not large enough, or because their needs are too diverse to create a critical mass of demand for specific goods and services, or because they take care of all of their business needs in-house. As economies grow, they are sometimes able to attract suppliers who do businesses with a number of firms, such that when the collective demand for a particular good or service (such as cardboard boxes, or glass bottles, or legal services, or truck repair, for example) is great enough a local supplier can be supported.

- Workforce readiness. The workforce in Porterville is not as well educated as the workforce of California in general: 62 percent have graduated from high school compared to 77 percent in California, and 11 percent have graduated from college compared to 27 percent statewide. Additionally, 22 percent of Porterville residents aged 25 or older did not complete ninth grade compared to 12 percent statewide.
- Difficulty of horizontally or vertically diversifying the agricultural sector. Agriculture activities that are locally dominant (e.g., dairy, citrus, and other fruit) do not appear to require inputs or produce outputs that can profitably be captured by related local manufacturing or processing operations. Economic opportunities presented by agriculture are usually in the service sector (e.g., equipment maintenance and repair) and transportation, though the potential for agriculture-related manufacturing can also be developed.
- Lack of a basic industry that establishes a clear "direction" for Porterville development. Few industries are of a significant size, and there is no resource outside the agriculture sector that would provide a "hook" or platform for related economic development.

3.4 ECONOMIC DEVELOPMENT POLICIES

The guiding and implementing policies presented in this section include a number of specific programs that the plan will undertake for economic development as well as policies intended to improve the overall business climate and establish a positive working relationship with the private sector. Additional policies related to commercial and industrial development and Downtown are in the Land Use Element.

Growing local businesses is an economic development priority.

GUIDING POLICIES

ED-G-1 Recruit targeted community-serving retail, neighborhood-serving commercial, and basic industrial activities that meets the needs of our residents.

ED-G-2 Retain, improve, and promote existing businesses in Porterville and foster local start-up businesses.

ED-G-3 Maintain an adequate supply of land for economic development and be able to process development applications expeditiously.

ED-G-4 Recruit appropriate basic economic activities.

ED-G-5 Retain existing local businesses and foster local start-ups.

ED-G-6 Support and contribute to a clean, attractive, safe, pedestrian-friendly, well-maintained downtown and provide neighborhood commercial centers to meet every day (convenience) shopping needs.

ED-G-7 Create an image for Porterville that will attract and retain economic activity.

IMPLEMENTING POLICIES

Strategic Readiness for Economic Development

Strategic readiness for economic development requires Porterville to have clear targets for economic development that are achievable for the Porterville Area. These targets should be based on a realistic assessment of the Porterville Area's strengths and weaknesses in its quest for new employers that will strengthen the economic base. The following policies provide details on how such an assessment can be translated into specific action plans:

ED-I-1 Prepare a comprehensive assessment of Porterville's economy, including (but not limited to) existing businesses, characteristics of the labor force, and assets of the Porterville area.

Assets may include, for example, labor force availability (particularly entry- level workers), low cost of housing, ample supply of land, local general aviation airport, strong existing basic economy based on agriculture, access to outdoor recreation, availability of high-quality medical services, and other quality of life factors.

ED-I-2 Conduct a Business Roundtable with key business leaders to develop a five- year business strategy including an economic vision, employment training needs, collaboration opportunities, and identification of targeted industries, strategies, and indicators.

ED-I-3 Determine economic development indicators, benchmarks, and targets.

ED-I-4 Identify and target key industries for a strong and vibrant economy.

ED-I-5 Monitor regional, state, and national economic trends to identify new and emerging targeted industries for Porterville.

ED-I-6 Pursue funding to develop a marketing program to recruit targeted industries and to promote existing businesses.

Focus recruiting effort as follows:

- *Businesses that indicate an interest in the San Joaquin Valley, Tulare County, or Porterville, regardless of their economic sector;*
- *Businesses whose labor requirements match the occupations and skills of the Porterville labor force;*
- *Industries that produce high-value, lower cost goods;*

- *Industries based on information technology (electronic communications), such as call centers and data processing; and*
- *Public or private enterprises with emerging, high-wage industries such as manufacturing, health care, professional, scientific, technical, finance and insurance, and information technologies.*

ED-I-7 Work with large existing employers to identify and recruit businesses related and businesses that provide goods and services that meet their business needs.

ED-I-8 Support business retention by maintaining a revolving micro-enterprise loan program for new or expanding businesses which need temporary financial support.

ED-I-9 Promote the benefits that senior communities bring to Porterville and, if appropriate, pursue development of such communities in appropriate locations.

Seniors relocating from other areas would support not only local-serving retail and service businesses, but also the Porterville Area's medical services. In addition, seniors can be recruited as business mentors for new and emerging industries.

Workforce Preparedness

A comprehensive set of programs and actions for workforce preparedness will build skills and improve the competitiveness of Porterville's labor force. The most important initiatives involve creating a four-year college in Porterville and building partnerships with adult schools, the community college, and other training providers to advance vocational education. The Plan Land Use Diagram shows two potential campus sites.

ED-I-10 Work with the Chamber of Commerce and Workforce Investment Board (WIB) to identify needed workforce skills and training opportunities (classes, workshops, etc.) and support efforts to provide critical educational opportunities for the labor force.

Promote a partnership between nearby state universities, Porterville College and the business community to conduct academic, community education and distance learning programs to meet the needs of the business community (e.g., supervisory certification programs, teacher certification programs, healthcare professional training, and technology-oriented, technical, bio-medical training). Students should be required to intern at local businesses. All academic programs should include technology, innovation and entrepreneurship as a basic requirement.

In order to keep pace with other communities Porterville needs to offer the best education possible. The Community College President should have an agreement from several universities for automatic transfer and admission of graduating two- year students. The Board of Trustees and College President should consider the feasibility of the College becoming a four-year institution. Annual "employer" days should be held inviting key business leaders to speak about job opportunities and training needs.

Continue to offer the youth career "Shadow" program.

Students need to be encouraged as early as middle school and always in high school to take the appropriate classes and training to obtain a good paying job. School counselors should guide students into business, supervisory and management- related courses and other skills courses related to the targeted industries identified in the five-year business strategy.

ED-I-11 Work with the Porterville school districts and the Community College District to assure the provision of classes and workshops needed for all members of the workforce, but especially those needed to:

- Improve basic employment skills (math, science, reading, writing, resume development, and interview skills); and
- Enhance employability by teaching skills that are needed in today's economy (e.g., service and repair occupations, construction trade, and machine operations).

ED-I-12 Reach out to post-secondary educational institutions—including universities, colleges, technical schools, and trade schools —that may be looking for a new or additional location.

Academic institutions (universities and colleges) are likely to appeal to a different student population than would be attracted by technical/trade schools. Both would be advantageous for Porterville. Technical/trade institutions would be equipped to teach skills that are needed to support Tulare County's existing agricultural economy as well as a future economy that will still require such skills as operation of machine tools and other heavy machinery, repair of machinery, equipment, as well as computers, construction, and other trades.

Integrate youth into business activities.

ED-I-13

- Encourage the high schools to require volunteer hours at local businesses.
- Encourage businesses, including the City to hire high school and college students to complete various projects (e.g., architectural undertakings, economic analysis, park maintenance, art installations etc.).
- Offer window space where appropriate to advertise school and youth products and events.

Opportunistic Readiness for Economic Development

Opportunistic readiness for economic development requires Porterville to be able to respond quickly and effectively to indications that firms may be interested in moving to the Porterville Area and to existing firms that need to expand or relocate. Such response, in turn, requires that Porterville maintain an adequate supply of land for economic development and be able to process development applications expeditiously.

ED-I-14 Create a list of existing sites for economic development with information about their location, size, configuration, infrastructure availability, zoning, and other data that indicates suitability and readiness for development.

This list can be distributed regularly to the local Chamber of Commerce, Hispanic Chamber of Commerce, employment recruiters, real estate boards, large commercial bankers, and developers and/or be maintained as a website. Firms outside the area would have more access to a website.

ED-I-15 Formulate strategies to bring infrastructure to economic development sites in advance of development.

A long-term Infrastructure Master Plan can provide the basis for a comprehensive, cost-effective improvement strategy. The Infrastructure Master Plan should include access improvements for future industrial sites in the southern part of the Porterville Area around the Airport and a coordinated transit system to get residents to jobs and services (transit, pedestrian, and bicycle). It also should address fiber optic and/or wireless communications systems, along with water, sewer, electricity, natural gas, and cable, in planning for infrastructure needs.

ED-I-16 Monitor the supply of usable sites to assure that Porterville Area has sufficient land, suitably positioned, for expected growth.

"*Usable sites" must have appropriate size, location, and infrastructure characteristics to meet the needs of the economic activities sought by Porterville.*

ED-I-17 Re-designate sites—through Plan amendments or zoning changes, as necessary—to assure that sufficient land is available for future development. Consider designating sites for truck stops.

Scattered sites can be addressed by merging sites, zoning adjacent sites similarly and designating some sites for small, medium and large sized uses. The City also will work with landowners to annex land at the City limits, if appropriate, to enhance the supply of land for economic development.

ED-I-18 To the extent possible, continue to offer economic development incentives in specific economic zones.

At present, Porterville has:

- *HUB (Historically Underutilized Business) Zone ;*
- *Recycling Market Development Zone;*
- *Successor Agency Project Area;*
- *Business Incentive Zone, a Targeted Tax area; and*
- *Foreign Trade Zone.*

Among them, these zones make available low-interest loans for land, buildings, and equipment; preferences for federal contracts; permit fast-tracking; tax credits and other favorable tax treatments; operating assistance; preference points for Industrial Development Bonds (which may be used to provide financing at favorable rates for infrastructure).

ED-I-19 Re-establish and expand the Enterprise Zone.

ED-I-20 Look for opportunities and financing to reuse existing buildings and underdeveloped sites.

ED-I-21 Amend the Zoning Ordinance to streamline the development review process for "as-of-right" development and provide authority for fee waivers for targeted businesses locating in Porterville.

ED-I-22 Enhance the City's economic development function by creating a centralized point of contact and by forming an ad hoc Economic Development Advisory Committee to advise the County Board of Supervisors, City Council and staff on economic development, successor agency, employment, housing, and transportation-related issues.

An economic development staff person could be the main point of contact for the business community, advise the County on economic policy related issues, and act as the liaison facilitating timely implementation of economic programs.

The ad hoc Economic Development Advisory Committee could be made up of individuals from various sectors, such as education, finance, health, agriculture, marketing, and youth organizations. One of the first tasks could be identifying needed downtown revitalization improvements and the development of benchmarking statistics for future comparison.

ED-I-23 Pre-zone land outside the current City limits for commercial and industrial development, consistent with the Plan to facilitate annexation and development review.

Adequate sites must be available for projected needs and many of the development opportunities shown on the Porterville Area Community Plan Land Use Diagram are not within the City limits. In addition, sites should be zoned to promote businesses which complement one another and should be clustered adjacent to one another.

Recruiting Appropriate Basic Economic Activities

ED-I-24 Expand marketing efforts, focusing on targeted industries and specific segments of the economy.

- Respond to all inquiries from basic industries.
- Work with the County Economic Development Corporation (EDC) and the California and Porterville Chambers of Commerce regarding business retention resources and business targeting efforts.
- Attend trade shows or other industry gatherings and distribute promotional economic development materials.
- Advertise in industry publications.
- Publicize local business success stories in the City Newsletter.
- Contract with a professional marketing service.
- Prepare, update, and publish marketing materials, including an inventory of assets that Porterville offers, such as available development sites (and buildings), incentives/special zones, streamlined processing affordable cost of living, attractive quality of life (proximity to outstanding outdoor recreation), and community character.
- Change business attraction to manufacturing instead of warehouse distribution facilities because of the higher employment densities.
- Coordinate with the Hispanic Chamber of Commerce on developing specific marketing strategies that can be jointly implemented.

ED-I-25 Amend the Zoning Ordinance to provide sites for family-oriented retail geared toward larger households with low to moderate incomes.

Porterville has a high proportion of families with larger-than-average household size with incomes below county-wide levels. The Porterville Area is thus well- suited for companies with a low "price point." Other stores which would likely be well suited are low-priced home furnishing stores, appliance/electronic stores, sporting goods, and family-oriented apparel stores.

Retaining Existing Local Businesses and Fostering Local Start-ups

ED-I-26 Create a program of technical (and, possibly, financial) support for local start- up businesses.

Work with the Workforce Investment Department and Porterville College to establish a branch of the Central California Small Business Development Center (SBDC) in Porterville. SBDCs offer classes in starting and operating a small business. Encourage community foundations and other grant sources to focus their allocation on promoting entrepreneurship and locally-owned, targeted businesses.

ED-I-27 Encourage the creation of a business incubator program to foster the development of local start-ups.

Incubators provide space and onsite technical assistance/training to small businesses that are looking to grow.

Supporting Downtown and Neighborhood Commercial Centers

ED-I-28 Work with the Chamber of Commerce, the downtown merchants, and others to support marketing, promotions, and events that bring people downtown. Amend the zoning ordinance to ensure downtown commercial tenants can have evening and weekend activities and events.

ED-I-29 Support the establishment of a weekly open air market in the center of Porterville.

The Marketplace, similar to Lindsay's Mercado but with its own identity, would be a casual open-air market (no permanent structures) that offers food and crafts from local producers/artisans, along with community services for people who need them. It would have a festive atmosphere, possibly with live music.

ED-I-30 Identify businesses that are appropriate for downtown and neighborhood commercial centers, and amend t h e Zoning Ordinance to ensure that the scale of development is sufficient to support those businesses.

Development standards in the Zoning Ordinance related to the size of the neighborhood center and the scale of residential development in the immediate area should be coordinated so that the residents of the neighborhood have enough buying power to support convenience retail stores, such as groceries, drug stores, video stores, laundromats, cafes, etc.

ED-I-31 Limit opportunities for commercial development outside the downtown and designated neighborhood commercial centers. Limit "leapfrog" development.

The Plan Land Use Diagram expands the Downtown Mixed-Use district and clusters new commercial development near neighborhood centers to meet the daily needs of residents and at major regional shopping destinations near the highways.

Historically, retail outlets have sought locations that are surrounded (or potentially surrounded) by housing, so that they could attract customers from the full circle of market area surrounding them. When stores locate at the edge, they do so either because they anticipate future expansion of the residential area beyond their sites, or because transportation access to their sites is considered to compensate for the lack of nearby housing. When stores that offer the same types of goods that are—or could be—offered downtown are built in edge centers, they have the effect of pulling people away from the central business district; that is, downtown. This pattern of development compromises downtown's ability to attract new investment, new stores, and ongoing patronage from retail customers.

ED-I-32 Allow unused retail buildings outside downtown, in non-pedestrian-oriented locations, to be adapted to other uses.

Adaptive reuse serves multiple purposes it makes productive use of the site and, at the same time, allows for better clustering and definition of retail areas.

ED-I-33 Support the improvement of downtown building façades through the economic development incentives programs.

Creating an Image

ED-I-34 Adopt an architectural style and set of design guidelines for new development, to establish a recognizable physical identity for Porterville.

ED-I-35 Some design flexibility should be allowed to encourage architectural creativity.

ED-I-36 Design new sports complexes to accommodate regional and state tournaments (e.g., for soccer, softball, etc.).

ED-I-37 Link the Porterville Area's image to recreation activities at Lake Success and to Sequoia National Park.

4
Circulation

The Circulation Element of the Porterville Area Community Plan is intended to provide guidance and specific actions to ensure the continued safe and efficient operation of Porterville's circulation system. The Element is based on a fundamental philosophy that traffic conditions in the Porterville Area can be managed through a comprehensive program of transportation planning, land use planning, and growth management strategies. This Element includes provisions for roadways, transit, aviation, pedestrian, and bicycle transportation modes, as well as parking.

The Circulation Element responds directly to the Government Code (Section 65302(b)), which requires "a circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, any military airports and ports, and other local public utilities and facilities, all correlated with the land use element of the plan."

State law recognizes that circulation and land use are closely related and requires that policies in this Element and the Land Use Element be tied together. Careful integration of the Porterville Area's traffic and circulation policies with its land use policies will ensure that there is sufficient roadway capacity to accommodate traffic generated by planned future development. The County in cooperation with the City is committed to designing a system of regional routes, local roads, public transit, and bicycle and pedestrian pathways that will enhance the community and protect the environment.

The Land Use Element contains policies related to the physical framework for development that the circulation system is designed to serve including the Airport environs. This Element also addresses landscaping along major streets and planning for new neighborhoods to ensure street connectivity. It also addresses how to create pedestrian-friendly environments and design for alternate modes. The Noise Element of the Plan includes policies to alleviate noise generated by traffic.

4.1 GUIDING PRINCIPLES

Porterville's Circulation Element relies on three principles:

- Land use and the circulation system are interactive and interrelated;
- The Porterville Area traffic circulation planning efforts are integrated with those of the County and Caltrans in a cooperative, regional planning effort; and
- State-of-the-art traffic engineering is used to bring planned improvements to reality.

Only through the development and implementation of all these principles can the plan provide a commitment to a balanced, efficient circulation system be achieved.

CONNECTIVITY

The major objective of the Circulation Element is to provide an interconnected street system with improved north-south and east-west connections for existing and future development of Porterville. The original street layout provided street connections linking neighborhoods with work places, but as the community has grown, access has not always improved.

Traditional grid street designs allow for a choice of routes and good connections between and within neighborhoods. Short blocks offer more frequent pedestrian and bike direct connections. Variations from the traditional grid can allow for diagonal and curvilinear streets as well as larger or smaller blocks for maximum flexibility and improved connectivity.

Some more recently developed neighborhoods in Porterville have been built using cul-de-sacs. This type of design promotes circuitous travel and results in traffic being distributed along fewer streets where heavy traffic concentrates. Grid-based development is more desirable because it balances a sense of proximity and ease of access with the quieter environments of neighborhoods. In order to ensure that street layout in future development incorporates the need for neighborhood connectivity and the comfort and safety of pedestrians and bicyclists, it is essential that:

- New development be "connected" to the surroundings with an increased number of access points and pedestrian and bicycle connections to the neighborhood network;
- Blocks be short to allow for more direct connections;
- Neighborhood streets be designed at a human-scale, without excessively wide streets; and
- Traffic controls are incorporated including speed limits, bulb outs, signage, and truck routes to restrict commercial traffic in neighborhoods.

The Porterville Area Community Plan provides for new routes in partially developed portions of the Planning Area and expands the capacity and efficiency of the existing system. In addition, the Plan provides for narrower streets in some areas than might otherwise be designed based on traffic requirements alone.

BALANCED MODES

Another objective is to create a balanced transportation system that serves public transit, bicyclists, and pedestrians as well as private motor vehicles. Allowing market-driven development without regard to use mix, dispersion, and connections with the transportation system will not be sufficient to support the pedestrian- oriented development or maintain the "small-town" atmosphere Porterville desires. Careful integration of land use and transportation and attention to the design and location of pedestrian and bicycle networks, the design of linkages, the location of parking, and provisions for local transit will be essential. The Plan includes new bikeways, trails, and pedestrian facilities to link neighborhoods, schools, major recreation sites, and commercial centers including downtown. The Plan also fosters compact development which can support additional public transit. By facilitating use of alternative modes of travel, Porterville will encourage physical activity and reduce auto-dependency.

Downtown streetscape improvements will support pedestrian activity.

4.2 OVERALL CIRCULATION SYSTEM PLANNING

Citywide policies that will guide overall circulation system planning emphasize the need to consider all modes, not just automobile circulation. Implementation actions will support the overall objective of having a multi-modal transportation system.

GUIDING POLICIES

C-G-1 Promote safe and efficient vehicular circulation.

C-G-2 Provide a wide variety of transportation alternatives and modes to service all residents and businesses to enhance the quality of life.

C-G-3 Make efficient use of existing transportation facilities and, through coordinated land use planning, strive to improve accessibility to shops, schools, parks and employment centers and reduce total vehicle miles traveled per household to minimize vehicle emissions and save energy.

C-G-4 Protect neighborhoods by discouraging through-traffic on local streets.

C-G-5 Improve the scenic character of transportation corridors in the Porterville Area.

IMPLEMENTING POLICIES

C-I-1 Adopt street standards that provide flexibility in design, especially in residential neighborhoods. Revise right-of-way and pavement standards to reflect adjacent land use and/or anticipated traffic, and permit reduced right-of-way dimensions where necessary to maintain neighborhood character.

C-I-2 Require all new developments to provide right-of-way and improvements consistent with the Plan street designations and City street section standards.

This may include frontage roads adjacent to State highways, where needed.

C-I-3 Provide for greater street connectivity by:

- Incorporating in subdivision regulations requirements for a minimum number of access points to existing local or collector streets for each development;
- Encouraging roundabouts over signals, where feasible and appropriate;
- Requiring the bicycle and pedestrian connections from cul-de-sacs to nearby public areas and main streets; and
- Requiring new residential communities on undeveloped land planned for urban uses to provide stubs for future connections to the edge of the property line. Where stubs exist on adjacent properties, new streets within the development should connect to these stubs.

C-I-4 Develop a multi-modal transit system map integrating bicycle, public transportation, pedestrian and vehicle linkages within the Porterville Area to ensure circulation gaps are being met.

The Porterville Area has a Transit Service Map that is updated regularly and can be used as the base for implementing this policy.

C-I-5 Install traffic calming devices, such as signage and bulbs, as needed and appropriate in existing neighborhoods.

C-I-6 Require the installation of landscaping in center medians and at major intersections to minimize summer heat and enhance the character of the streetscapes.

For small-lot subdivisions (with an average lot size of 6,000 square feet or less), the planter strip for a local street may be omitted if:

- *A five-foot sidewalk is provided on both sides of the street and trees are provided in the front yards of private lots parallel with the sidewalk at the minimum frequency required for street trees; and/or*
- *Street trees are provided in landscaped bulb-outs into the parking lane at intersections.*

Alternatively, where a planter strip is provided along a local street, the front setback for buildings may be reduced an additional two feet from the normally required setback.

C-I-7 Require street tree planting as part of an urban forestry program.

4.3 ROADWAY NETWORK

In Porterville, the roadway system is based on a traditional grid pattern, on which all modes of transportation depend to some degree. This pattern has been modified in recent years to include some suburban curvilinear and cul-de-sac streets in the western portions of the Porterville Area. While state routes 190 and 65 provide regional east/west and north/south access respectively, these large arterials create lineal barriers to connectivity. In addition, the Tule River constrains local north/south access to approximately ten bridges.

FUNCTIONAL STREET CLASSIFICATIONS

Porterville's roadway system is set up around a hierarchy of street types, which are commonly referred to as functional classifications. The functional classifications for most major streets are illustrated on Figure 4-1 and are defined as follows:

Freeways. Freeways serve regional and inter-city travel and should not become the optimum route for intra-city trips. Access is controlled, grade crossings are separated, and medians separate lanes moving in opposite directions. Typical free flow speeds exceed 55 miles per hour.

Highways. Highways are designed to carry heavy traffic volumes and should serve longer distance intra-city travel as well as linking the Porterville Area with other nearby urban areas. Access is limited, crossings are generally signalized at grade, parking is not allowed, and a continuous median separates lanes moving in opposite directions. State routes 65 and 190 are regional State Highways, with portions designated as freeways.

Arterials. Arterials are designed to move large volumes of traffic between freeways/highways and other arterials in Porterville and to adjacent jurisdictions. Major arterials are four- or six- lane, access-controlled roadways emphasizing mobility between major portions of the Porterville Area and to regional freeways and highways. On-street parking m a y be restricted on major arterials to maintain traffic levels of service. Major east-west arterials will be Reid, Henderson, Morton, Olive, and Teapot Dome avenues. Westwood, Newcomb, Prospect, Indiana, Jaye, Main, Plano and Hillcrest streets will provide major north-south access.

Minor arterials provide mobility through the Porterville Area and access to major residential, employment, and activity centers. Minor arterials provide two travel lanes. Driveway access should be minimized, consistent with the primary function of arterials to move through traffic. Bike lanes, landscaped parkstrips, sidewalks, and transit facilities may also be accommodated within the right-of-way of minor arterials. Westfield Avenue and portions of Teapot Dome Avenue will serve as minor east-west arterials, while Doyle Street and the southern portion of Main Street will be minor north-south arterials.

Parkways. Parkways provide an attractive, limited access link between residential communities and commercial centers. Parkways are tree-lined with landscaped medians and four travel lanes.

Sidewalks and transit facilities may be provided. Curbs should be provided with limited curb cuts. On-street parking should not be provided. New parkways will be constructed along the foothills and around Rocky Hill.

Collectors. Collector streets provide a link between neighborhood streets and arterials. Collectors provide two travel lanes and bike lanes. On-street parking may be provided if sufficient width is available. Collectors also provide access to adjacent properties so driveway access should be discouraged but need not be restricted (subject to accepted engineering practice). Bike lanes, landscaped parkstrips, sidewalks, and transit facilities may also be accommodated.

Local Streets. The primary function of local streets is to provide direct access to adjacent properties. Neighborhood streets should provide two travel lanes, landscaped parkstrips, and sidewalks. On-street parking may be regulated. Bike lanes are usually not needed because neighborhood streets carry low traffic volumes and all neighborhood streets are considered to be bicycle friendly. Neighborhood streets are not shown on the Plan Land Use Diagram or Figure 4-1: 2030 Circulation Network.

New neighborhood streets will have two travel lanes, landscaped parkstrips, and sidewalks.

LEVEL OF SERVICE

To determine the operating conditions of a roadway segment or intersection, the concept of level of service (LOS) is commonly used. The LOS grading system is a ratings scale ranging from LOS A to LOS F, with LOS A representing free-flow conditions and LOS F representing congested conditions. Table 4-1 provides more specific definitions.

Table 4-1: Level of Service Definitions

LOS	*Description*	*Max. Volume/ Capacity Ratio*
A	*Free Flow or Insignificant Delays*: Vehicles are completely unimpeded in their ability to maneuver Within the traffic stream. Control delay at signalized intersections is minimal.	0.6
B	*Stable Operation or Minimal Delays:* The ability to maneuver within the traffic stream is only Slightly restricted, and control delay at signalized intersections are not significant.	0.7
C	*Stable Operation or Acceptable Delays:* The ability to maneuver and change lanes is somewhat restricted, and average travel speeds may be about 50 percent of the free flow speed.	0.8
D	*Approaching Unstable or Tolerable Delays:* Small increases in flow may cause substantial increases in delay and decreases in travel speed.	0.9
E	*Unstable Operation or Significant Delays*: Significant delays may occur and average travel speeds may be 33 percent or less of the free flow speed.	1.0
F	*Forced Flow or Excessive Delays*: Congestion, high delays, and extensive queuing occur at critical signalized intersections with urban street flow at extremely low speeds.	>1.0

Source: Highway Capacity Manual, Transportation Research Board, Washington D.C, 2000.

Existing conditions for roadway segment levels of service were estimated utilizing average daily traffic (ADT) and then evaluated based on LOS thresholds; see Table 4-2.

Table 4-2: Level-of Service Criteria for Roadway Segments

	Total Two-way Average Daily Traffic (ADT)			
Roadway Segment Type	*LOS B*	*LOS C*	*LOS D*	*LOS E*
6-Lane Divided Freeway	64,800	92,400	111,600	120,000
4-Lane Divided Freeway	43,200	61,600	74,400	80,000
2-Lane Rural Highway	4,800	7,900	13,500	22,900
6-lane Divided Expressway (with left-turn lanes)	42,200	46,200	55,800	60,000
6-Lane Divided Arterial (with left-turn lane)	38,000	43,000	49,000	54,000
4-Lane Divided Arterial (with left-turn lane)	25,000	29,000	32,500	36,000
4-Lane Undivided Arterial (no left-turn	21,000	24,000	27,000	30,000
2-Lane Arterial (with left-turn lane)	12,500	14,500	16,000	18,000
2-Lane Arterial (no left-turn lane)	10,500	12,000	13,500	15,000
2-Lane Collector/Local Street	7,500	9,000	10,500	12,000

All volumes are approximate and assume ideal roadway characteristics. Actual threshold volumes for each Level of Service listed above may vary depending on a variety of factors including curvature and grade, intersection or interchange spacing, driveway spacing, percentage of trucks and other heavy vehicles, travel lane widths, signal timing characteristics, on-street parking, volume of cross traffic and pedestrians, etc.

Source: Based on "Highway Capacity Manual," Transportation Research Board, 2000. Omni-Means, 2005.

EXISTING TRAFFIC CONDITIONS

Traffic conditions, based on traffic counts conducted in October 2005, for 23 road segments in Porterville are shown in Table 4-3. Additional traffic counts were obtained from Caltrans and subsequent studies.

Based on the roadway LOS thresholds, all the study roadway segments operate at an acceptable LOS except for Date Avenue, which is operating at LOS F, and Prospect Street between Morton and Grand avenues, which is operating at LOS E. The existing collector street cannot accommodate the high traffic volume of approximately 12,710 vehicles per day.

the foothills and around Rocky Hill.

Table 4-3: Daily Roadway Segment Operations – 2005

Roadway Segment	*Limits*	*Lanes*	*Facility Type*	*AADT*	*LOS*
SR 65	SR 190 - Westfield Ave.	4	Divided Freeway	25,000	A
SR 65	Westfield Ave. - Linda Vista Ave.	4	Divided Freeway	19,800	A
SR 190	Road 192 - SR 65	2	Arterial	5,700	A
SR 190	SR 65 - Jaye St.	4	Divided Arterial	24,100	B
SR 190	Jaye St. - Main St.	4	Divided Arterial	20,500	A
SR 190	Main St. - Plano St.	4	Divided Arterial	18,900	A
SR 190	Plano St. - Road 265	4	Divided Arterial	10,900	A
SR 190	Road 265 - Road 284	2	Arterial	8,000	A
SR 190	Road 284 - Success Valley Dr.	2	Arterial	6,300	A
Date Ave.	Plano St. - Park St.	2	Collector	12,710	**F**
Main St.	North Grand Ave. - Linda Vista Ave.	2	Arterial	7,490	A
Main St.	Pioneer Ave. - Reid Ave.	2	Arterial	8,210	A
Morton Ave.	Plano St. - Larson St.	4	Divided Arterial	6,590	A
Morton Ave.	Crestview St. - Hillcrest St.	4	Undivided Arterial	2,700	A
Newcomb St.	Scranton Ave. - SR 190	2	Arterial	1,080	A
Olive Ave.	A St. - Plano St.	4	Divided Arterial	7,580	A
Plano St.	Henderson Ave. - Prosperity Cir	2	Collector	5,230	A
Plano St.	Westfield Ave. - Reid Ave.	2	Collector	2,730	A
Prospect St.	Morton Ave. - Grand Ave.	2	Collector	11,130	**E**
Prospect St.	Glenn Court - Pioneer Ave.	2	Collector	5,260	A
Putnam Ave.	Plano St. - Esther St.	2	Collector	6,960	B
Westfield Ave.	Prospect St. - Maston St.	2	Local St.	8,030	C
Westwood St.	Roby Ave. - Olive Ave	2	Local St.	6,560	B

Source: Omni-Means, 2005.

4.4 PLANNED IMPROVEMENTS

To achieve a balance between existing and future land use and traffic carrying capacity, improvements to the roadway network will be needed. Major street improvements planned for Porterville are listed in Table 4 -4. These improvements include widening portions of SR 65 and other major arterials, new bridge crossings, interchange improvements and grade separations.

A few new arterial roads will need to be constructed as well as numerous collector and residential streets in the targeted growth areas.

- As part of developing the area near Lake Success, a new parkway, Hillcrest Parkway will extend from Hillcrest Street over the Rocky Hill area to Lake Success. The road will approximately follow the lakeshore, as Lake Success Parkway, to connect with Road 284/Reservation Road.

- A new parkway, Foothill Parkway, will follow the foothills, linking new neighborhoods and potential college sites between Reid Avenue and Road 284/Reservation Road and SR 190.

- A third parkway, Teapot Dome Parkway, will extend from Teapot Dome Avenue along the southeastern foothills to Road 284/Reservation Road. This is designed to provide access from new residential neighborhoods to the major employment center near the airport, as well as provide alternative access to SR 190 or SR 65.

The future circulation network is illustrated in Figure 4-1. The proposed roads are conceptual, subject to further engineering and environmental review. No General Plan amendment is required if the general location, anticipated level of service, and connections to the street network are maintained.

The typical street widths and design elements listed in Table 4-5 are illustrated in Figure 4-2. All street designs are subject to review and approval by the Public Works Department and additional local street cross-sections may be approved with area plans, development projects or subdivisions to reflect specific design concepts. These sections assume 11-foot travel lanes.

Table 4-4: Major Planned Street Improvements

Roadway Segments	*Improvement*
Gibbons Ave: Indiana St - Jaye St	Widen to 4-lane Arterial
Henderson Ave: Friant-Kern Canal - Newcomb St	Complete 4-lane Arterial
Henderson Ave: Prospect St - Indiana St	Widen to 6-lane Major Arterial
Hillcrest St: Teapot Dome Ave - Morton Ave	Complete 4-lane Arterial, new bridge
Indiana Ave: Ave 128 – Westfield Ave	Complete 4 lane Arterial, new bridge
Jaye St: Springville Dr - Olive Ave	Complete 4-lane Arterial
Jaye St: SR 190 - Springville Dr	Widen to 6-lane Arterial
Jaye St: Gibbons Ave – SR 190	Widen to 4-lane Arterial
Main St: Henderson Ave - Ave 181	Widen to 4-lane Arterial
Newcomb St: Pioneer Ave - North Grand Ave	Widen to 4-lane Arterial
Newcomb St: Teapot Dome Ave - Olive Ave	Complete 4-lane Arterial, new bridge
North Grand Ave/Reid Ave: SR 65 - Plano St	Widen to 4-lane Arterial
North Grand Ave: Prospect St - SR 65	Widen to 4-lane Arterial
Olive Ave: Friant-Kern Canal - Westwood St	Widen to 4-lane Arterial
Olive Ave: Prospect St - Indiana St	Widen to 6-lane Major Arterial
Plano St: Henderson Ave - Reid Ave	Complete 4-lane Arterial
Plano St: Scranton Ave - SR 190	Widen to 4-lane Arterial
Prospect St: Mulberry Ave - Westfield Ave	Widen to 4-lane Arterial
Scranton Ave: SR 65 - Indiana St	Widen to 4-lane Arterial
Springville Dr: Indiana St - East of Jaye St	Widen to 4-lane Arterial
SR 65: S. City Limits - SR 190	Widen to 4-lane expressway/freeway
Teapot Dome Ave: Newcomb St - S. Main St	Widen to 4-lane Arterial Westwood
St: Henderson Ave - Friant-Kern Canal	Widen to 4-lane Arterial Westwood
St: SR 190 - Olive Ave	Widen to 4-lane Arterial

New Major Roads	
Foothill Parkway: Reid to Road 284	Lake Success Parkway: Hillcrest Parkway to Road 284
Hillcrest Parkway (Extension): Foothill Parkway to Ave 176	Teapot Dome Parkway (Extension): Hillcrest St to Road 284
Mentz Avenue Extension: Newcomb - Hillcrest	

SR 65 Interchange Improvements	*SR 65 Grade Separations*
Avenue 181 (new)	Westfield Ave
Olive Ave (exists)	Morton Ave
Teapot Dome Ave (new)	Scranton Ave
North Grand Ave (new)	
Henderson Ave (exists)	

SR 190 Interchange Improvements	*SR 190 Grade Separations*
Westwood St (new)	Newcomb St
Main St (existing)	Plano St
Hillcrest St (new)	Indiana St
Road 284 (new)	

Source: City of Porterville; Omni-Means, 2007; Dyett & Bhatia, 2007.

FIGURE 4-1

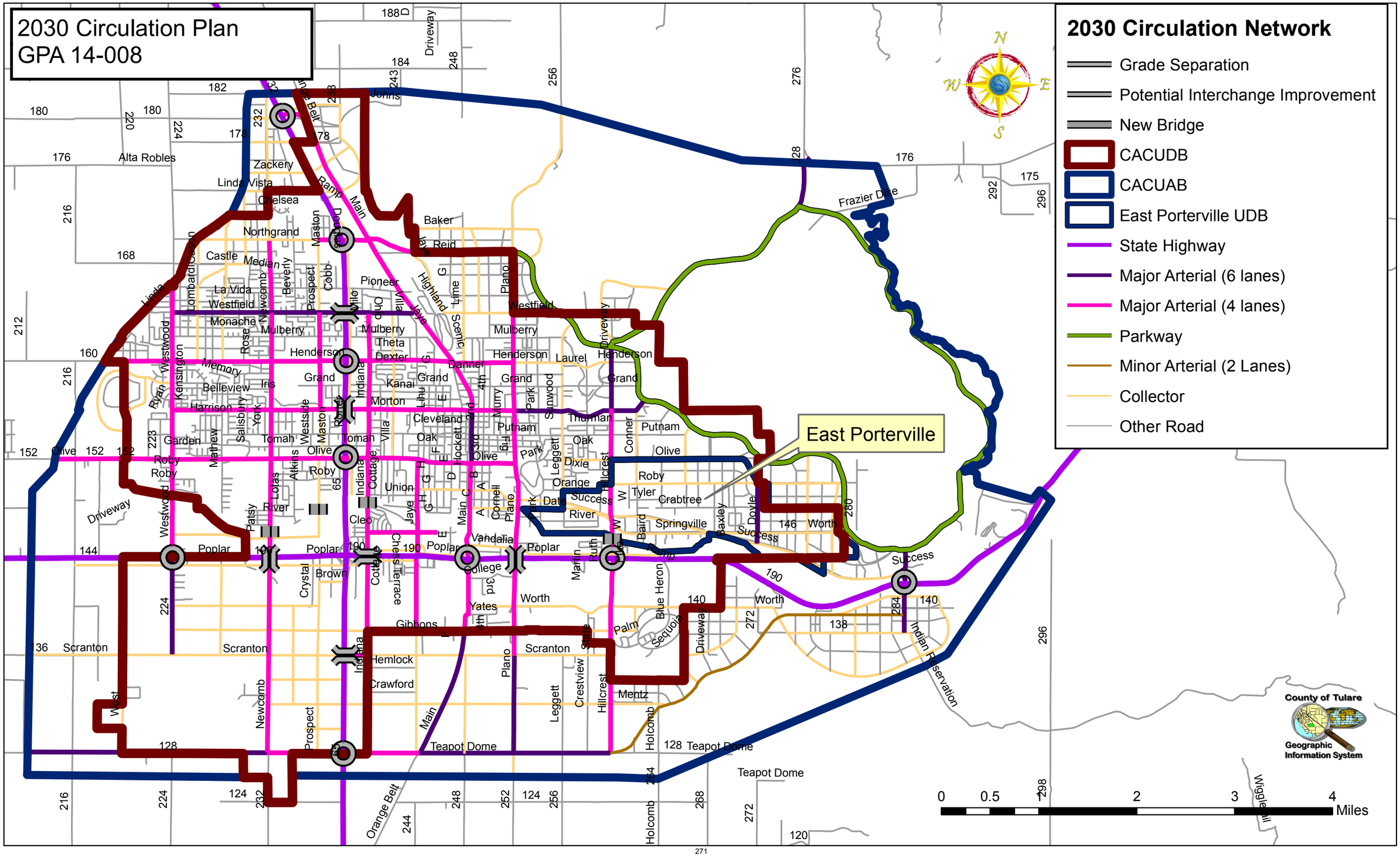

2030 Circulation Plan
GPA 14-008
2030 Circulation Network
Grade Separation
Potential Interchange Improvement
New Bridge
CACUDB
CACUAB
East Porterville UDB
State Highway
Major Arterial (6 lanes)
Major Arterial (4 lanes)
Parkway
Minor Arterial (2 Lanes)
Collector
Other Road
East Porterville
County of Tulare
Geographic Information System
0 0.5 1 2 3 4 Miles

Figure 4-1 BACK

Figure4-2: Street Sections

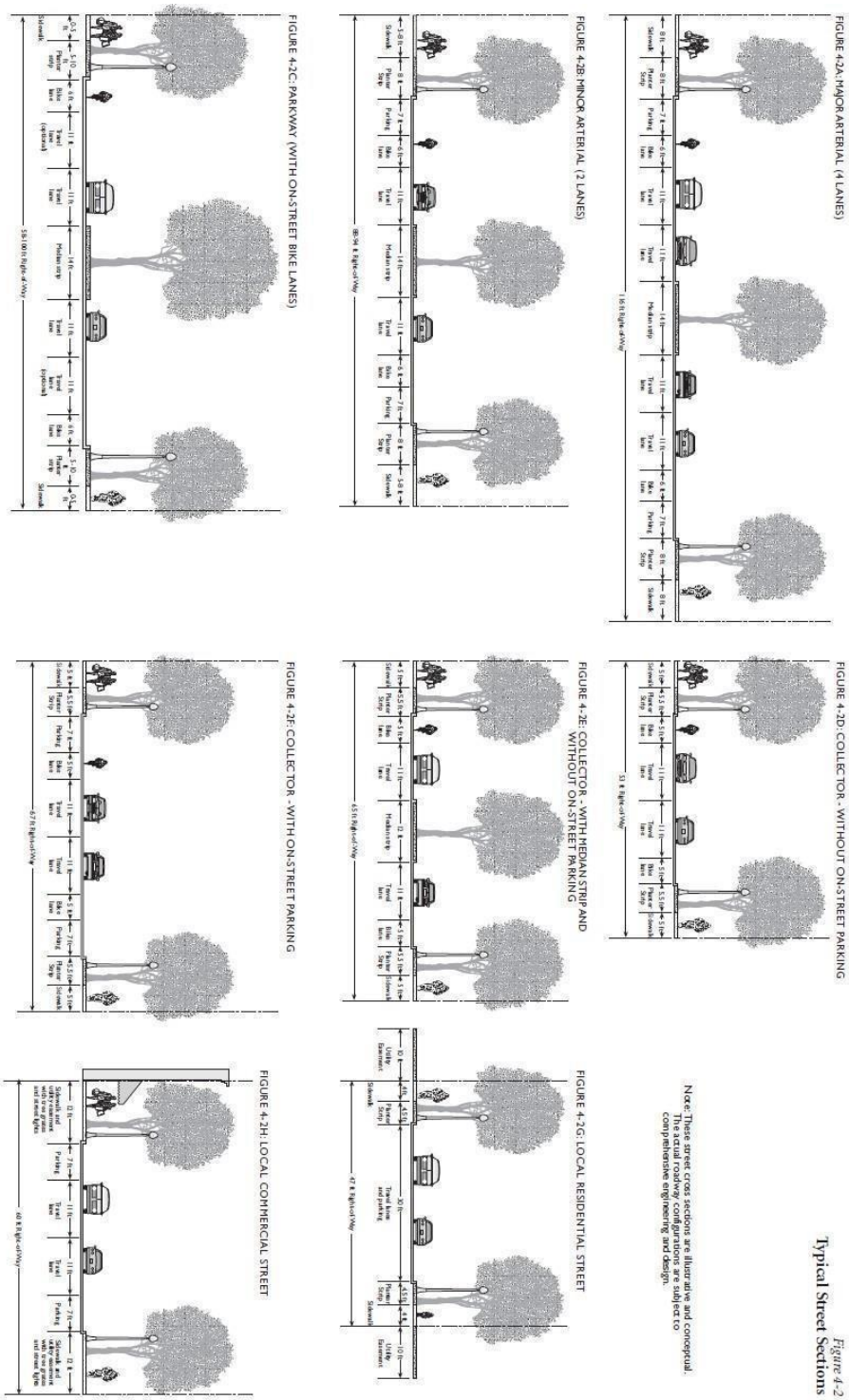


Figure 4-2
Typical Street Sections

Note: These street cross sections are illustrative and conceptual. The actual roadway configurations are subject to comprehensive engineering and design.

Figure 4-2 BACK

Table 4-5: Typical Street Elements and Widths (Feet)

Street Classification	*Right-of-Way Width*	*Curb-to-Curb Width*	*Travel Lanes: Number*	*Parking Lanes: Number*	*Bicycle Lanes: (each*	*Median Strip*	*Planter Strip (each side)*[1]	*Sidewalks (each side)*
MajorArterial	116	84	4	2	6	14	8	8
Minor Arterial	88-94	62	2	2	6	14	8	5 - 8[2]
Parkway	Varies	Varies	2 - 4	None	6	Varies	5 - 10	- 5
Collector: withouton-streetparking	53	32	2	None	5	None	5.5	5
Collector:with medianand withouton-streetparking	65	44	2	None	5	12	5.5	5
Collector:with on-street parking	67	46	2	2	5	None	5.5	5
LocalResidential Street	47	30	Parking lanes on each side, and one shared central travel lane.		None	None	4.5	4
Local Commercial Street	60	36	2	2	None	None	12, combined width of sidewalks and planter strip.	
Cul-de-sacor Other Dead-End Street Serving Less than 10 Homes	47	30 – 41	2	2	None	5, as alternative to planter strip	4.5, or option to substitute median strip	4

1. Minimum planter strip width stated in the table includes the width of the curb.
2. In residential areas, the narrower sidewalk may be appropriate.

Source: Dyett & Bhatia, 2007.

FUTURE TRAFFIC CONDITIONS

The traffic model predicts that by making the planned improvements the Porterville Planning Area will generate approximately 2,150,000 vehicle miles traveled (VMT) or approximately 21 miles per person per day. In addition, only SR 190 between SR 65 and Plano Street will be operating below the LOS standards of this Plan. Plus, one of the new collector roads to be built between Newcomb Street and SR 65 will be operating at the General Plan minimum standard, LOS D.

Table 4-6: Daily Roadway Segment Operations - 2030 Buildout

Roadway Segment	*Lanes*	*Type*	*AADT*	*LOS*
Avenue 128: Newcomb St - SR 65	4	Major Arterial	5,120	B
Avenue 128: SR 65 - Main St	4	Major Arterial	7,530	B
Henderson Ave: Westwood St - Prospect St	4	Major Arterial	18,610	B
Henderson Ave: Prospect St - Indiana St	6	Major Arterial	28,110	B
Henderson Ave: Indiana St - Main St	4	Major Arterial	19,210	B
Hillcrest St: Worth Ave - SR 190	4	Major Arterial	4,880	B
Hillcrest St: SR 190 - Roby Ave	4	Major Arterial	12,680	B
Hillcrest Pkwy: Foothill Pkwy - Avenue 176	2	Parkway	9,810	C
Indiana St: SR 190 - Olive Ave	2	Minor Arterial	1,520	B
Indiana St: Olive Ave - Westfield St	4	Major Arterial	2,930	A
Jaye St: Teapot Dome Ave - SR 190	2	Collector	9,310	C
Jaye St: SR 190 - Date Ave	6	Major Arterial		
Jaye St: Date Ave – Olive Ave	4	Major Arterial	21,760	B
Main St: Gibbons Ave - SR 190	4	Major Arterial	5,890	B
Main St: SR 190 - Olive Ave	4	Major Arterial	7,390	B
Main St: Olive Ave – Morton Ave	2	Arterial	8,430	A
Main St: Morton Ave - Westfield Ave	4	Major Arterial	21,680	B
Main St: Westfield Ave - Linda Vista Ave	4	Major Arterial	19,620	B
Morton Ave: Westwood St - SR 65	4	Major Arterial	5,390	B
Morton Ave: SR 65 - Main St	4	Major Arterial	5,250	B
Morton Ave: Plano St - Hillcrest St	4	Major Arterial	13,460	C
Mentz Ave Extension: Newcomb St - SR 65	2	Collector	14,480	D
Mentz Ave Extension: SR 65 - Jaye Street	2	Collector	5,160	C
Foothill Pkwy: Morton Ave - Road 284	2	Parkway	9,370	C
Newcomb St: Scranton Ave - SR 190	4	Major Arterial	15,940	B
Newcomb St: SR 190 - Henderson Ave	4	Major Arterial	12,750	B
Olive Ave: Westwood St - Prospect St	4	Major Arterial	22,300	B
Olive Ave: Prospect St - Indiana St	6	Major Arterial	30,520	B
Olive Ave: Indiana St - Main St	4	Major Arterial	20,750	B
Plano St: Scranton Ave - SR 190	4	Major Arterial	14,500	B
Plano St: SR 190 - Morton Ave	4	Major Arterial	21,350	B
Plano St: Morton Ave - Reid Ave	4	Major Arterial	14,500	B
Prospect St: Morton Ave - Westfield St	4	Major Arterial	12,760	B
Reid Ave: SR 65 - Plano St	4	Major Arterial	12,520	B
Road 284: SR 190 - Reservation Rd	2	Minor Arterial	8,480	C
Scranton Ave: Newcomb St - SR 65	2	Collector	4,070	B
Scranton Ave: SR 65 - Jaye St	2	Collector	8,260	C

Table 4-6: Daily Roadway Segment Operations - 2030 Buildout

Roadway Segment	*Lanes*	*Type*	*AADT*	*LOS*
Springville Ave: Indiana St - Jaye St	4	Major Arterial	1,460	A
Springville Ave: Hillcrest St - Doyle St	2	Collector	6,470	C
SR 190: Westwood St - SR 65	4	State Highway	21,820	B
SR 190: SR 65 - Plano St	4	State Highway	37,540	**F**
SR 190: Reservation Rd - Success Valley Dr	4	State Highway	14,630	B
SR 65: Teapot Dome Ave - SR 190	4	State Highway	34,486	B
SR 65: SR 190 - Henderson Ave	4	State Highway	43,990	C
SR 65: Henderson Ave - North Grand Ave	4	State Highway	38,570	B
Teapot Dome Pkwy: Hillcrest St - Reservation Rd	2	Parkway	2,510	B
Westwood St: Scranton Ave - SR 190	2	Minor Arterial	1,110	B
Westwood St: SR 190 - Morton Ave	4	Major Arterial	9,550	B
Westwood St: Morton Ave - Westfield Ave	4	Major Arterial	11,080	B

Source: Omni-Means, 2007.

GUIDING POLICIES

Traffic Level of Service (LOS)

C-G-6 Maintain acceptable levels of service and ensure that future development and the circulation system are in balance.

Funding for Improvements

C-G-7 Ensure that new development pays its fair share of the costs of transportation facilities.

IMPLEMENTING POLICIES

Traffic Level of Service (LOS)

C-I-8 Develop and manage the roadway system to obtain LOS D or better during the peak hour for all major roadways and intersections in the Porterville Area. This policy does not extend to residential streets (i.e., streets with direct driveway access to homes) or state highways and their intersections, where Caltrans policies apply. Exceptions to LOS D policy may be allowed by the County in cooperation with the City Council in areas such as downtown and at highway interchanges, where allowing a lower LOS would result in clear public benefits.

No new development will be approved unless it can be shown that required level of service can be maintained on the affected roadways or there are specific benefits that justify accepting a lower level of service.

C-I-9 Develop and manage local residential streets (i.e., streets with direct driveway access to homes) to limit average daily vehicle traffic volumes to 2,500 or less and 85th percentile speeds to 25 miles per hour or less.

Neighborhood traffic control measures to be considered include: regulatory devices, such as right-of-way controls, speed limits, and parking regulations; as well as geometric fixtures such as roundabouts, semi-diverters, and diagonal diverters.

C-I-10 Require traffic impact studies for all Plan amendments that will generate more than 100 peak hour trips.

Exceptions may be granted where traffic studies have been completed for adjacent development. The City's new traffic model developed for the Porterville Area Community Plan will facilitate this analysis.

C-I-11 Establish and implement additional programs to maintain adequate levels of service at intersections and along roadway segments as circumstances warrant, including the following actions:

- Collect and analyze traffic volume data on a regular basis and monitor current intersection and roadway segment levels of service on a regular basis. Use this information to update and refine the TCAG travel forecasting model so that estimates of future conditions are more strongly based upon local travel behavior and trends.
- Consider, on a case by case basis, how to shift travel demand away from the peak period, especially in those situations where peak traffic problems result from a few major generators (e.g., major new retail development in the highway corridors).
- Perform periodic evaluations of the efficiency of the Porterville Area's traffic control system, with emphasis on traffic signal timing, phasing and coordination to optimize traffic flow along arterial corridors.

Funding for Improvements

C-I-12 Continue to require that new development pay a fair share of the costs of street and other traffic and local transportation improvements based on traffic generated and impacts on traffic service levels.

C-I-13 Use Porterville Area-wide traffic impact fees to provide additional funding for transportation improvements needed to serve new development.

C-I-14 Require new development that will have an impact on regional transportation facilities to pay a regional transportation impact fee.

A two-tier system will generate funds not only for the Porterville Area street system but also for any needed improvements to the State highway facilities that are needed to serve new development. These fees would be set on a "fair share" basis.

4.5 PUBLIC TRANSIT

Bus public transit is provided by Porterville Transit and Tulare County Area Transit Porterville Transit is the municipal public transit operator and is managed by Sierra Management for the City of Porterville. The local transit system consists of seven fixed-routes that run Monday through Friday, 7 a.m. to 7 p.m. and Saturday, 9 a.m. to 5 p.m. and a demand-response "Dial-a-Ride" service called Porterville COLT (City Owned Local Transit). There is no bus service on Sunday. The frequency between buses during both peak and off-peak hours of operation is approximately every 30 minutes.

The 2006 Short Range Transit Plan (SRTP) estimates annual bus ridership to be approximately 450,000 and 27,500 for the demand-response service. This represents a per capita trip rate of 9.9 on the buses and 0.6 on the demand-response service. The dramatic decrease in ridership on the demand-response system is because it restricted service to seniors and persons with disabilities in 2006. The SRTP uses a range of per capita trip rates to estimate future transit demand, as shown in Table 4-7.

Table 4-7: Current and Future Local Transit Ridership

Year	*Bus Ridership*	*Per capita trip rate*	*COLT Ridership*	*Per capita trip rate*
2006	451,046	10.1	58,611	1.3
2007	449,538	9.9	27,477[1]	0.6
2030 (Low)	671,698	6.3	35,409	0.3
2030 (High)	1,158,840	10.8	96,570	0.9

[1] In 2006, Porterville COLT restricted its service to only seniors and persons with disabilities.

Source: City of Porterville, Short Range Transit Plan, 2006. Linda Clark, City of Porterville. July 12, 2007.

The Porterville Transit Center is located on "D" Street at Oak Avenue and serves as the transfer node for each of the seven bus routes. This fixed transfer point provides increased connectivity between bus routes.

Tulare County Area Transit provides regional bus service from the City of Porterville to surrounding communities via five routes. Tulare County Area Transit provides bus service Monday through Saturday.

GUIDING POLICY

C-G-8 Promote the use of public transit for daily trips to schools and work and for other purposes.

IMPLEMENTING POLICIES

C-I-15 Situate transit stops and hubs at locations that are convenient for transit users, and promote increased transit ridership through the provision of shelters, benches, bike racks on buses, and other amenities.

C-I-16 Ensure that new development is designed to make transit a viable choice for residents. Design options include:

- Have neighborhood focal points with sheltered bus stops;
- Locate medium-high density development whenever feasible near streets served by transit; and
- Link neighborhoods to bus stops by continuous sidewalks or pedestrian paths.

4.6 BICYCLES, TRAILS AND PEDESTRIAN CIRCULATION

Bicycling and walking are inexpensive, energy conserving, and non-polluting modes of transportation. Porterville's typically flat topography and dry, moderate climate make choosing to walk or bicycle an attractive transportation option during much of the year.

As pedestrian and bicycle travel is directly related to perceived safety and convenience, providing a safe and complete network of pedestrian and bicycle facilities should continue to increase the use of these modes of travel, especially when crossing heavily traveled roads such as SR 190 and SR 65.

BIKEWAYS/TRAILS

Porterville has recently completed eight miles of bikeway segments and eleven bike parking facilities, however few of the segments are linked. The City is in the process of developing a Class 1 Tule River Parkway bicycle and pedestrian path and a Class 1 rails-to-trails path along the abandoned Tulare Valley Railroad Corridor. The first two phases of the Tule River Parkway between Main Street and SR 65 are complete. The Rails-to-Trails project will run from the Tule River Parkway to Mulberry Avenue. An on-street connection is planned to link the two pathways using Plano Street. Additional bikeways, particularly to and from Lake Success and along the new Foothill Boulevard should encourage recreational biking. New intra-city bikeways will support bicycling commuting to employment and commercial centers.

Rails-To-Trails project will reuse abandoned rail right-of-way.

A "Class I" bikeway, also referred to as a bike path or multi-use trail, is a right-of-way that is completely separated from any street. A "Class II" bikeway, or bike lane, is a one-way, striped, and signed lane on a street or highway. A "Class III" bike route shares the road with pedestrians and motor vehicle traffic and is marked only by signs. The existing bikeway miles are shown in Table 4-8.

Table 4-8: Existing Bikeways (miles)

Class I	*Class II*	*Class III*
0.2	5.0	3.0

Source: City of Porterville.

Figure 4-3: Bikeways and Trails

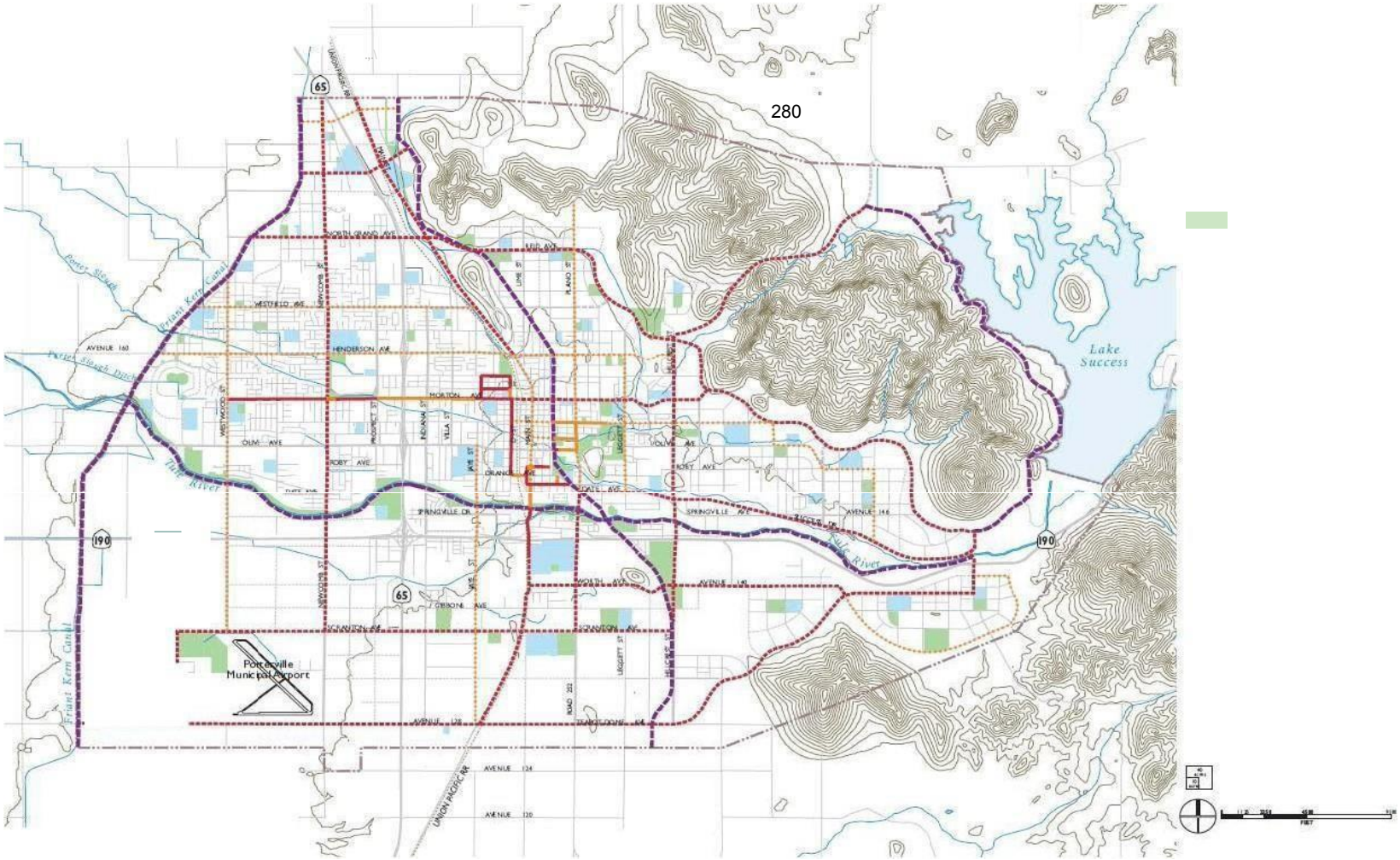


Figure 4-3 BACK

Bicycle Transportation Plan

In addition to the bikeway improvements already made by the City, the 2002 Tulare County Association of Governments (TCAG) Bicycle Transportation Plan identifies 110.5 miles of existing and proposed bikeways in the Porterville area. These improvements are intended to complete a regional network. This plan is currently being updated.

Table 4-9: Proposed TCAG Projects in Porterville Area

Name/Classification	*From*	*To*	*Miles*
Class I			
Tule River Bike Path	Road 224	Success Lake	10
San Joaquin Valley Railroad Bike Path	Porterville	Lindsay	10.5
Main Street Bike Path	North City Limit	Avenue 128	6.5
Class II or III			
SR 65/Road 196	Avenue 344	Teapot Dome Ave.	45
Porterville to Springville (Ave. 144, SR 190)	State Route 65	Springville	16.5
Class II			
Newcomb Street	Linda Vista	Avenue 144	5
Jaye Street	Olive Avenue	Avenue 144	5
Plano Street	Success Dr.	Avenue 136	2
Morton Avenue	Westwood St.	Conner Street	4.8
Success Drive	Plano Street	Page Street	2
Yates Ave.-Worth Ave	Main Street	Blue Heron	3.2
Total Miles			**110.5**

Source: TCAG Bicycle Transportation Plan, 2002.

As part of the proposed street standards, the bikeway network will be expanded as new arterial and collector streets are built. New streets will support approximately 75 miles of new Class II or III bikeways. The proposed Plan Land Use Diagram also illustrates the expansion of the Tule River Parkway and Rail-to-Trails bikeway projects, as well as a new trail along the Friant-Kern Canal. These trails add approximately 25 miles of Class I bikeways to the network. Key upgrades within the existing built areas will be identified and prioritized to link schools, parks, trails, and other recreation areas.

PEDESTRIAN CIRCULATION

The pedestrian circulation system in Porterville is mainly comprised of sidewalks. Currently, the street environment is mostly auto-oriented with wide roadways and discontinuous sidewalks. In some areas, there are no existing sidewalks or they have fallen into disrepair.

While sidewalk capacity is not generally an issue, all areas should be designed to a scale that accommodates pedestrians and bicyclists (in areas where bikeways are unavailable). Improvements in areas within the Porterville Area that currently have undersized, damaged or no pedestrian facilities should be made a priority so that the pedestrian system will be better connected. The new neighborhood centers should also be designed to be “pedestrian friendly.”

In these areas, wider sidewalks should be considered to accommodate increased flows and to give preferential treatment to pedestrians. Pedestrian-friendly facilities should also be provided near transit stops and adjacent to medium and higher density residential areas.

GUIDING POLICIES

C-G-9 Promote the use of bicycles to alleviate vehicle traffic and improve public health.

C-G-10 Promote pedestrian activity.

IMPLEMENTING POLICIES

C-I-17 Establish bicycle lanes, bike routes and bike paths consistent with the Plan.

C-I-18 Amend the Zoning Ordinance to require bicycle facilities at large commercial and industrial employer sites.

C-I-19 Increase bicycle safety by:

- Sweeping and repairing bicycle lanes and paths on a regular basis;
- Ensuring that bikeways are delineated and signed in accordance with Caltrans' standards, and lighting is provided, where needed;
- Providing bicycle paths or lanes on bridges and overpasses;
- Ensuring that all new and improved streets have bicycle-safe drainage grates and are free of hazards such as uneven pavement and gravel;
- Provide adequate signage and markings warning vehicular traffic of the existence of merging or crossing bicycle traffic where bike routes and paths make transitions into or across roadways; and
- Work with the school districts to promote classes on bicycle safety in the schools.

C-I-20 Give bikes equal treatment in terms of provisions for safety and comfort on arterials and collectors as motor vehicles.

C-I-21 Develop a series of continuous walkways within new office parks, commercial districts, and residential neighborhoods so they connect to one another.

C-I-22 Provide for pedestrian-friendly zones in conjunction with the development, and design of mixed-use neighborhood core areas, the Downtown area, schools, parks, and other high use areas by:

- Providing intersection "bump outs" to reduce walking distances across streets in the Downtown and other high use areas;
- Providing pedestrian facilities at all signalized intersections;

- Providing sidewalks of adequate width to encourage pedestrian use; and
- Constructing adequately lit and safe access through subdivision sites.

C-I-23 Establish specific standards for pedestrian facilities to be accessible to physically disabled persons, and ensure that roadway improvement projects address mobility or accessibility for bicyclists or pedestrians.

C-I-24 Amend the Zoning Ordinance to include standards for pedestrian circulation in all new development, including patterned concrete sidewalks, pedestrian-scale lighting and tree canopy shading for walkways.

4.7 PARKING

Parking decisions affect land use and development patterns, as well as travel behavior. The placement and type of parking must accommodate the needs of businesses, pedestrians, motorists, and residents, while not overwhelming the urban design.

Parking regulations can help to provide accessible, attractive, secured parking facilities as well as manage supply. New ideas about parking include shared parking, multi-use parking lots, and the use of pervious surfaces with water runoff filtering systems and the use of solar panels to provide shade as well as energy production.

DOWNTOWN PARKING

According to the *2001 Downtown Parking Management and Implementation Study*, downtown Porterville supply consists of 11 public lots with a total capacity of 839 spaces; numerous private lots totaling 1,429 spaces; and 974 public "on street" parking spaces. This study concluded that the parking supply downtown adequately serves the existing and anticipated future demand. However, the study recommended that the City be proactive in acquiring additional identified locations and developing municipal lots in order to regulate the future supply of parking as vacant lots or existing parking facilities are developed or converted.

GUIDING POLICY

C-G-11 Foster practical parking solutions.

IMPLEMENTING POLICIES

C-I-25 Ensure that downtown commercial businesses have adequate parking facilities; consider the need to construct new parking structures for public convenience and to promote economic development.

C-I-26 Amend the Zoning Ordinance to allow shared parking for mixed-uses where peak parking demands do not overlap.

C-I-27 Amend the Parking Design Standards to promote multiple benefits, including shared parking for mixed-use projects, passive solar on parking structures to generate energy for parking lot lighting, and pervious parking paving to improve groundwater recharge.

4.8 TRUCK ROUTES

In addition to moving people, the roadway system in Porterville carries a substantial number of trucks moving goods. Existing, designated truck routes within the Planning Area are shown on Figure 4-4. These routes are designed to allow truck traffic to pass through the City with minimal impact on residential neighborhoods as well as local vehicular and pedestrian traffic.

GUIDING POLICY

C-G-12 Improve commercial goods movement.

IMPLEMENTING POLICIES

C-I-28 Designate specific truck routes to provide for movement of goods throughout the Porterville Area, ensure that adequate pavement depth, lane widths, and turn radii are maintained on the designated truck routes, and prohibit commercial trucks from non-truck routes except for deliveries.

These routes should avoid residential neighborhoods.

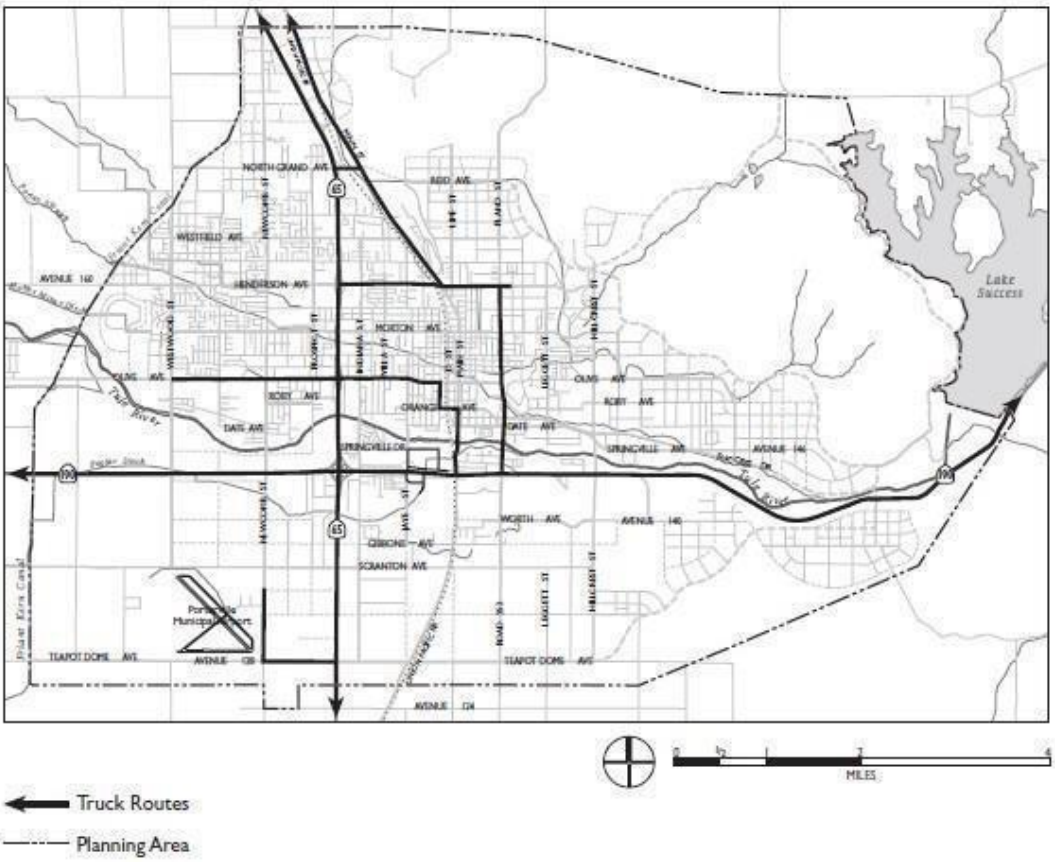
C-I-29 Maintain design standards for industrial streets that incorporate heavier loads associated with truck operations and larger turning radii to facilitate truck movements.

C-I-30 Continue to ensure adequate truck access to off-street loading areas in commercial areas.

C-I-31 Encourage regional freight movement on freeways and other appropriate routes; evaluate and implement vehicle weight limits as appropriate on arterial, collector, and local roadways to mitigate truck traffic impacts in the community.

C-I-32 Designate truck and tractor vehicle overnight parking at key freeway-oriented locations to avoid truck parking in residential neighborhoods.

Figure 4-4: Existing Truck Routes



Source: City of Porterville

Figure 4-4
Existing Truck Routes

4.9 AVIATION

The Porterville Municipal Airport provides aviation and transportation services for State and federal fire suppression activities, passengers, and commercial goods. The Airport is located southwest of the intersection of state routes 65 and 190, with access provided via Newcomb Street. The majority of the airport land, approximately 770 acres, is owned by the City of Porterville. Portions of the runway protection zone for Runway 30 extend outside of Airport property across Teapot Dome Avenue to the south and Newcomb Street to the east. The City does not have aviation easements over these areas.

In 2003, there were 73 aircraft based at the airport – 54 single-engine, 13 multi-engine, and six helicopters. Of the approximate 51,200 total aircraft operations (140 flights per day), 44 percent were local operations, 52 percent were itinerant, three percent were air taxi services, and one percent were military flights.

The Porterville Municipal Airport Rules and Regulations are contained in Chapter 4 of the City Code. The 1990 Airport Master Plan Report is intended to guide the long-term development of the airport, including the compatibility of adjacent land uses. The Airport Master Plan and the Plan must be consistent with the Tulare County Comprehensive Airport Land Use Plan (CALUP). The principle concerns of airport land use planning fall into four categories:

- *Height restrictions*: to enhance aircraft safety by protecting the navigable airspace around airports;
- *Safety of persons on the ground*: to reduce risks to the population from aircraft operations and accidents;
- *Noise compatibility*: to minimize the effects of aircraft noise on communities adjacent to airports;and
- *Overflight*: to balance land development within traffic patterns of public use airports.

Porterville Municipal Airport

Currently, the airport is primarily used for general aviation operations, including local and itinerant services. Other Airport activities include air taxi service and government operations.

AIRPORT LAYOUT PLAN

The *2006 Airport Layout Plan (ALP)* updated the airport's physical development plan in accordance with Federal Aviation Administration Advisory Circular 150/5300- 13, Airport Design. The Plan is intended to provide for approximately 93,900 total aircraft operations or 257 flights per day by 2025.

GUIDING POLICY

C-G-13 Promote the Porterville Airport to meet increasing business and industrial goods movement demand.

IMPLEMENTING POLICIES

C-I-33 Work with Caltrans on providing interchange improvements and access to the Airport from the State highway system, at a location that will minimize environmental impacts, consistent with State design criteria.

C-I-34 Coordinate Airport access improvement with planned commercial and industrial development on Airport lands and in the Airport environs to minimize traffic conflicts and ensure efficient use of these facilities.

C-I-35 Ensure that the land uses in the Airport environs are consistent with the *Tulare County Comprehensive Airport Land Use Plan* in order to protect the safety of persons and property.

- Ensure no new schools and other noise sensitive uses are built within 4,000 feet of the Airport Clear Zone.
- Ensure that any non -residential uses are not subject to aircraft hazards based on specific criteria developed to evaluate safety risks.
- Limit residential parcels within the Airport Outer Approach/Departure Zone to at least five acres in size.

4.10 RAIL

Porterville was historically connected to Fresno and Bakersfield via two railway lines which primarily transported lumber and agricultural produce and goods. The Southern Pacific right- of- way was abandoned and the City is in the process of converting it to a trail. The San Joaquin Valley Railroad Company (SJVR), a subsidiary of Rail America, now owns the service rights to the Union Pacific right-of-way. However, since trucking became more economical, usage diminished and the railroad discontinued operations to Porterville. If service were to be restored, SJVR would operate one train to and from Porterville twice per week.

It is the City's goal to maintain the remaining railroad right-of-way. Future industrial development may allow freight operations to resume. In addition, the right-of-way may allow opportunities to transition the rail to passenger-carrying operations as a part of a regional light rail system.

GUIDING POLICY

C-G-14 Protect the City's rail corridor as an economic asset.

Implementing policies in the Land Use Element and Economic Development Element support this goal.

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5
Parks, Schools & Community Facilities

This element presents Porterville's policies and programs for the development and maintenance of parks, schools, and community facilities. In order to foster compact development, these facilities are viewed as fundamental building blocks for new neighborhoods to be built over the next two decades. As discussed in the Land Use Element, new neighborhoods are designed to protect and enhance community assets including small town character and strong sense of community. The Circulation Element policies ensure that parks and schools will be linked, where possible, by bikeways, trails, and pedestrian facilities.

5.1 PARKS

Neighborhood and community parks are an important component of Porterville in 2030, as both recreational and aesthetic resources that contribute to the Porterville Area's character. Porterville is committed to creating and maintaining a park system that meets citizens' recreational needs, maximizes landscapes endowed by the natural environment, and contributes to the Porterville Area's quality of life. The Parks, Schools & Community Facilities Element serves as a guide for park planning and development documents.

PARK CLASSIFICATIONS

The City provides its residents with several types of parks and facilities. Parks are defined as land owned or leased by the City and used for public recreational purposes. Several parks also serve as water detention basins. Park types are classified as follows:

- *Pocket Park.* A park typically under an acre in size intended to serve the needs of a specific neighborhood within a half-mile radius.
- *Neighborhood Park.* A park typically one to 15 acres in size which provide basic recreation activities for one or more neighborhoods. The service area ranges from a half- to one-mile radius. These parks may include facilities such as children's playgrounds, picnic tables, benches, and walkways.

Local pocket park

- *Community Park.* A park typically greater than 15 acres in size intended to serve the recreational needs of the entire Porterville Area, especially those living or working within a two-mile radius. These parks may include facilities such as sport fields, exercise courses, recreation buildings, and restrooms. Other facilities may include community centers, swimming pools, tennis courts, and concession stands.
- *Specialized Recreation.* A park of any size intended to serve the specialized recreational needs of residents. These parks may include large sports fields, off road vehicle parks, and golf courses.
- *Trail/Parkways.* A network of linear parks of varying size intended to serve the recreational needs of Porterville Area residents. These parks may include facilities such as bikeways, walkways, and riding trails.

Table 5-1: Park Facility Standards

Park Type	*Typical Size*	*Service Area*
Pocket	Less than 1 acre	½ mile
Neighborhood	1 to 15 acres More	½ to 1 mile radius
Community	than 15 acres Vary	Entire City
Specialized	Vary	Entire City
Recreation		Entire City

Source: Dyett & Bhatia, 2007.

EXISTING CITY PARK FACILITIES

Currently, Porterville has 15 parks for a total of almost 295 acres of parkland, plus other community facilities. These facilities range in size from the 0.1-acre North Park pocket park to the 95-acre Sports Complex. Marry Park is currently a 36-acre community park which includes the municipal swimming pool, family picnic areas, pavilions, barbecue pits, sinks, tables and benches, fishing pond, two Children's play areas, and restrooms. The Sports Complex consists of a 17-acre Off- Highway Vehicle Park, a two -acre B M X Facility, 62 acres of soccer fields, and a 14-acre parking lot. The Porterville Municipal Golf Course features a nine-hole course and driving range. The existing Tule River Parkway is a linear trail along the river from Main Street to SR 65 which features a walking and bike-riding trail.

Murry Park Playground

Other community facilities include the Community Center, the Zalud House, and the Heritage Center.

With a 2006 population of 45,220 residents, the City has a ratio of 5.1 acres of parkland per 1,000 residents. The park ratio is based on Neighborhood Parks, Community Parks and Specialized Recreation areas only. Trails Community Facilities and Pocket Parks do not contribute to the ratio. Table 5-2 summarizes Porterville's existing parks and recreation facilities. Figure 5-1 illustrates the existing parks, as well as the proposed facilities.

Table 5-2: Existing Park and Recreation Facilities

Name	*Acres*
Pocket Parks	
Centennial Plaza	0.25
Lions Mini Park	0.25
North Park	0.25
Olivewood Mini Park	0.25
Neighborhood Parks	
Burton Ball field	5.3
Hayes Field	7.5
Pioneer School Ball field	3.9
Community Parks	
Fairgrounds - Municipal Ball Park	3.6
Murry Park	36.1
Veterans Park	26.0
Zalud Park	14.6
Specialized Recreation	
Porterville Sports Complex	95.5
Municipal Golf Course	38.0
Trails/Parkways	
Rails-to-Trails	14.3
Tule River Parkway	48.3
Other Community Facilities	
Community Center	1.5
Zalud House	0.3
Heritage Center	13.9
Grand Total	**309.7[1]**
Park Ratio Subtotal	**230.5**
Park Ratio[2]	**5.1**

[1] Total acreage represents gross park acres which may be more than the improved park acres.
[2] Park Ratio is based only on Neighborhood Parks, Community Parks, and Specialized Recreation areas. Pocket Parks, Community Facilities, and Trails are excluded.

Source: City of Porterville, Dyett & Bhatia, 2007.

Existing Tulare County Park Facilities

There are several Federal, State, and local parks within Tulare County, including 13 park and recreational facilities operated by the County of Tulare. A list of these local park facilities is provided in **Table 5.3**. There are no park facilities within any of the identified unincorporated communities. "All of the communities are in much closer proximity to City park facilities than County park facilities with exception of the eastern portion of East Porterville which is closer to Bartlett Park, located near the base of Success Dam.[11]

Table 5-3
Recreational Areas in Tulare County

ID	Recreation Area	Location	Acres	Type of Use/Features
1	Alpaugh Park	Located in Alpaugh on Road 40.	3	Reservations for picnic areas are taken. No entrance fee.
2	Balch Park Campgrounds	20 miles NE of Springville in the Sierras.	160	71 Campsites. No reservations taken; first come first serve basis. Entrance fee for vehicles.
3	Bartlett Park	8 miles east of Porterville on North Drive.	127.5	Reservations for picnic areas are taken. Entrance fee for vehicles.
4	Cutler Park	5 miles east of Visalia on Highway 216 to Ivanhoe.	50	Reservations for picnic areas are taken. Entrance fee for vehicles.
5	Elk Bayou Park	6 miles SE of Tulare on Avenue 200.	60	Reservations for picnic areas are taken. No fee for day use.
6	Kings River Nature Preserve	2 miles east of Highway 99 on Road 28	85	This park is only for school environmental programs.
7	Ledbetter Park	1 mile northwest of Cutler on Road 124/Hwy 63	11	Reservations for picnic areas are taken. No fee.
8	Mooney Grove Park	2 Miles south of Caldwell Avenue on Mooney Blvd. In South Visalia.	143	Reservations for picnic areas are taken. Paddle boats, playground, and baseball diamonds. Home of the End Trail statue. One of the largest oak woodlands in Tulare County. Location of the Agriculture and Farm Labor Museum.
9	Pixley Park	1 mile NE of Pixley on Road 124.	22	Reservations for picnic areas are taken. No fee.
10	Tulare County Museum	In Mooney Grove Park, South Visalia	8.5	Free admission with park fee. Museum is opened Thursday thru Monday (closed Tuesday and Wednesday).

[11] City of Porterville Draft Municipal Service Review (MSR) September 2014

ID	Recreation Area	Location	Acres	Type of Use/Features
11	Woodville Park	Located in Avenue 166 in	10	Reservations for picnic areas are taken. Day use no entrance fee.
12	West Main Street Park	2 blocks west of County Courthouse on Main Street in Downtown Visalia.	5	Day use no entrance fee.

Source: Tulare County Plan Background Report

Figure 5-1: Parks

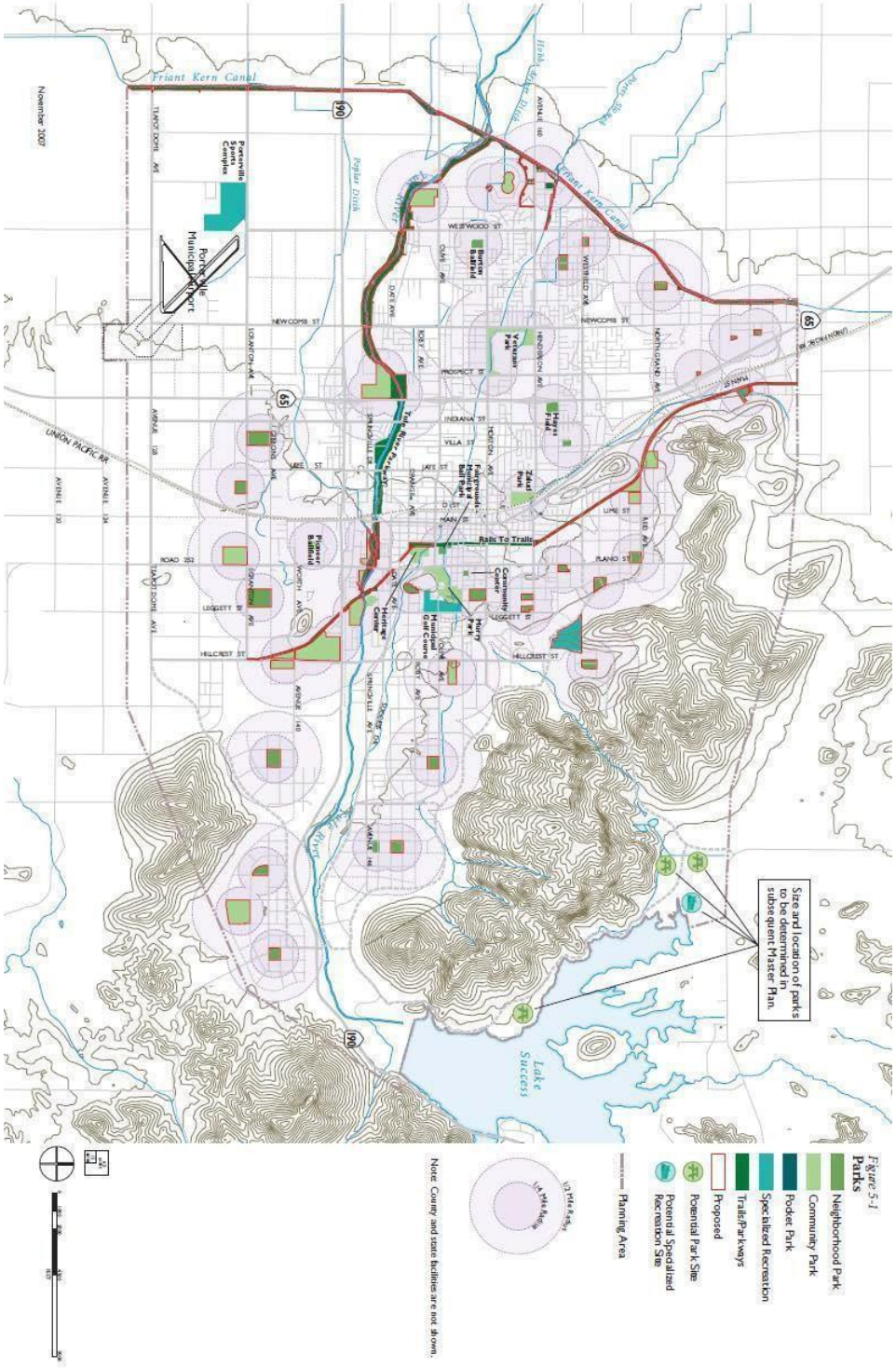

Figure 5-1 BACK

PLANNED PARK NETWORK

The development of an open space and park network integrating park, recreation facilities, and open space is central to enhancing the quality of life and promoting the unique environment of Porterville. A very important component to this network will be the Tule River Parkway, as it is integral to connecting other parks, recreation facilities, neighborhoods, the foothills, and Lake Success. The Plan also proposes sites for additional Sports Complexes.

One major objective for Porterville is to ensure the accessibility of parks to all its residents and visitors. This Plan's parks are located so that the majority of new residential development is within a quarter- or half-mile walking radius of a park. This will ensure that at least 80 percent of the residents live within easy walking distance of a school or park. Trails will be used to connect neighborhoods to parks and recreation facilities.

Park Demand

The City's park standard for neighborhood and community parks is 5.0 acres per 1,000 residents. The goal for all parkland, including specialized facilities, is 10.0 acres per 1,000 residents. The buildout of the Plan Land Use Diagram would result in approximately 62,080 new residents in Porterville, with a total population of about 107,300. Using this park standard, this additional population would require an additional 620 acres of parkland.

The Plan provides approximately 870 acres of parkland within the Planning Area. Buildout of the proposed Porterville Area Community Plan would result in approximately a park ratio of 6.3 acres of neighborhood and community parks, and 10.3 acres of total parkland per 1,000 residents. Table 5-1 summarizes existing and proposed park calculations. In addition, new development in the Resort Residential Community near Lake Success requires a minimum of 9 acres of parkland per 1,000 residents. With approximately 4,400 additional residents proposed for this area, 40 acres of new parkland would be required. Therefore, in total the Plan provides 914 acres of additional parkland.

Table 5-4: Parks by Type at Buildout

Park Type	*Existing Acreage*	*Proposed Acreage*	*Total Acreage at Buildout*	*Parkland Ratio at Buildout*[1]
Neighborhood	16.7	220	237	2.2
Community	80.3	360	440	4.1
Specialized Recreation	133.5	290	424	3.9
Total[2]	**230.5**	**870**	**1,100**	**10.3**

[1] Acres of neighborhood, community, and specialized recreation parkland per 1,000 residents.
[2] The 40 acres of parkland in the Resort Residential area is not represented in the total because the type of facility has not Yet been determined.

Source: Dyett & Bhatia, 2007.

Sports Fields Evaluation

The 2006 *Sports Field Evaluation* evaluated the sports fields in Porterville and made various recommendations to development of existing and future recreational facilities. There are currently seven lighted and four unlit baseball diamonds, 11 soccer fields, and three football fields.

However, the study concludes that these fields are not sufficient, particularly the lighted baseball diamonds, to meet future demand.

The Parks and Leisure Services Commission recommends the development of a Sports Complex with a minimum of four full-size, lighted softball fields and providing lights at the other existing fields.

Parks, Recreation & Open Space Master Plan

Following the City's 2030 General Plan Porterville Area Community Plan adoption, a new Porterville Parks, Recreation, and Open Space Master Plan the City will be prepared as a guiding blueprint for the City Council, the Parks and Leisure Services Commission, and the public. In conjunction with the General Plan, this Master Plan will ensure the cohesive development of a parks and open space system that upholds the standards and goals set forth in the Plan. In addition, the Master Plan will include a range of programs for all ages and interests. It will determine which parks and recreation facilities will be shared with school programs, while others are wholly public. As the Master Plan would encompass the entire Planning Area, it would include standards for the Porterville Area and would be incorporated into the Porterville Area Community Plan.

Centennial Park off Main Street is an important Downtown amenity.

GUIDING POLICIES

PSCF-G-1 Establish and maintain a high-quality, enjoyable, and attractive public park system for the entire community.

PSCF-G-2 Provide park and recreation facilities within close proximity to residents they are intended to serve.

PSCF-G-3 Ensure adequate funding for park and recreation facilities acquisition, development, operations, maintenance, and enforcement of park rules.

IMPLEMENTATION POLICIES

PSCF-I-1 Prepare, adopt, and implement a Parks and Recreation Master Plan, including:

- Plans for the development and acquisition of parks, recreation facilities, trails, and open space;
- Specific facility standards and guidelines for landscaping, lighting, signage, parking, and recreational equipment design;
- Performance guidelines to minimize water, energy, and chemical use and preserve wildlife;
- Recommended programs for parks and recreation; and
- Programs for enforcement of park rules.

A comprehensive Master Plan will ensure that planned park, amenities, and recreational programs will serve the needs of all residents regardless of age, income, or ability, including the physically disabled, and that recreational equipment meet passive (picnicking, walking, etc.) and active needs (sports and team activities) of the population. The Plan also will show how existing parks and recreation facilities will be improved to reduce maintenance cost and water use, along with improving safety and aesthetics.

PSCF-I-2 Update park impact fees to fund the acquisition and development of land for park and recreation facilities, pursuant to the Porterville Area Community Plan.

PSCF-I-3 Amend the Subdivision Ordinance to require that residential developers provide a minimum of five acres of neighborhood and community parks per 1,000 residents or pay in lieu fees.

In-lieu fees can be used for any capacity-building park and recreation facility improvements.

PSCF-I-4 Establish additional funding for the acquisition and development of specialized park and recreation facilities to serve existing and future residents.

PSCF-I-5 Require developers for new neighborhoods to agree to the establishment of, or annexation into, a Park Maintenance District in new neighborhoods.

PSCF-I-6 Establish a program for contributions to the Porterville Area's park system by non-residential developers, based on their proportional share of needs generated and use of facilities.

PSCF-I-7 Establish dedication and reservation requirements in the Subdivision Ordinance for open space, parkways, and trail systems in new residential developments.

PSCF-I-8 Provide lighted facilities for active community recreation areas in order to extend usability, whenever possible.

Address compatibility with surrounding uses and use energy-efficient lighting design with limited glare and spillover.

PSCF-I-9 Design park and recreation facilities to be as flexible as possible, so that they may adapt to changes in the population served and in the recreation programs offered.

Changing neighborhood demographics can lead to different user requirements over the life of a park. By having flexible park facilities, this will enable the park to adapt to the changing needs of the adjacent neighborhood.

PSCF-I-10 Place neighborhood and community parks at the core of new neighborhoods and co-locate parks and school sites where possible, as depicted on the Porterville Area Community Plan Land Use Diagram.

PSCF-I-11 Combine use of park, recreation, and open space lands with drainage facilities and school facilities, where feasible.

PSCF-I-12 Evaluate the feasibility and benefit derived from relocating the existing Sports Complex to a more accessible location that can accommodate lighted fields.

PSCF-I-13 Conduct community surveys as needed to identify unmet demand for park and recreation services.

The Parks and Leisure Services Commission will take the lead to conduct and evaluate the survey.

PSCF-I-14 Develop a safe and efficient trail network throughout the Porterville Area that links parks and other key Porterville Area destinations.

PSCF-I-15 Continue to support the development of the Tule River Parkway Bicycle and Pedestrian path and the Rails to Trails Project.

PSCF-I-16 Work with the appropriate government agencies and local businesses to produce a bicycle map that shows touring and commuting bicycle routes, mountain bike trails, and school commute routes.

PSCF-I-17 Involve citizens, especially the youth, in maintaining park areas through participation in park watches, citizen based on graffiti watch and cleanup and repair.

PSCF-I-18 Cooperate with the school districts to promote joint development and use of school facilities after school hours.

Joint development and use of school sites is especially important in developed areas where park standards have not yet been achieved. This approach will maximize opportunities for park and recreation facilities for Porterville residents.

5.2 SCHOOLS

Providing adequate, flexible school sites is another key objective of the Porterville Area Community Plan. New sites for elementary, middle and high schools are recommended and discussed in this section. Plus, land for a new campus to support higher education and job training facilities is set aside to reinforce economic development initiatives.

Porterville Schools

Within the Planning Area, Porterville Unified School District, Burton Elementary School District, Alta Vista School District, and Tulare County Office of Education operate a total of 28 schools. These schools along with district boundaries are illustrated in Figure 5 -2. Two private schools, Landmark Christian Academy and St. Anne School, are also located in the Planning Area. The Porterville Unified School District completed a 500-student high school north of the City of Porterville in 2008 and has begun planning a new elementary school. Burton Elementary School District completed Thurman Avenue Middle School in 2008 and Lombard Elementary School in 2010.

Tulare County Schools

A total of 48 school districts provide education throughout Tulare County. Of the 48 school districts, seven are unified districts providing educational services for kindergarten through 12th grade. The remaining 41 districts consist of 36 elementary school districts and four high school districts. Many districts only have one school.

Total enrollment in Tulare public schools has increased from about 80,000 to 88,300 students during a nine-year span from 1993 to 2002. On average, the growth rate has remained steady with annual increases approximating two percent.

Enrollment and Capacity

According to 2006 enrollment data provided by the California Department of Education, the four school districts serve approximately 17,600 students and operate 16 elementary, six middle, and six high schools in the Planning Area. On average, these public schools are at 93 percent capacity. Four schools are over capacity. Table 5 -5 summarizes current enrollment and capacity information.

The Porterville Unified School District anticipates the completion of a 500-student high school north of the City of Porterville in 2008 and has begun planning a new elementary school. Burton Elementary School District anticipates the completion of Thurman Avenue Middle School in 2008 and Lombardi Elementary School in 2010.

Table 5-5: Existing Public Schools in Planning Area, 2005-2006

School	*Enrollment*	*Capacity*	*%of Capacity*
Elementary Schools (K-5)			
Alta Vista Elementary	518	635	81.6%
Belleview Elementary*	413	425	97.2%
Buckley (William R.) Elementary	552	473	116.7%
Burton Elementary	571	629	90.8%
Doyle (John J.) Elementary	706	750	94.1%
Hope Elementary	144	140	102.9%
Los Robles Elementary	523	625	83.7%
Monte Vista Elementary	527	575	91.7%
Oak Grove Elementary*	554	566	97.9%
Olive Street Elementary*	671	750	89.5%
Roche Elementary	365	400	91.3%
Santa Fe Elementary*	571	625	91.4%
Summit Charter Academy	393	612	64.2%
Vandalia Elementary*	710	750	94.7%
West Putnam Elementary	506	600	84.3%
Westfield Elementary	690	775	89.0%
Total Elementary Schools	*8,414*	*9,330*	*90.2%*
Middle Schools (6-8)			
Bartlett Intermediate	620	700	88.6%
Burton Middle*	720	648	111.1%
Horizon Community Day	6	15	40.0%
Jim Maples Academy*	589	660	89.2%
Pioneer Intermediate*	773	900	85.9%
Sequoia Middle School	446	550	81.1%
Total Middle Schools	*3,154*	*3,473*	*90.8%*
High Schools (9-12)			
Citrus High (Continuation)	283	180	157.2%
Granite Hills High	1,479	1,525	97.0%
La Sierra Charter School	332	150	221.3%
Monache High*	1,989	2,100	94.7%
Porterville High	1,936	2,075	93.3%
Vine Street Community Day	23	45	51.1%
Total High Schools	*6,042*	*6,075*	*99.5%*
Total	**17,610**	**18,878**	**93.3%**

* Indicates school located within ¼-mile walking distance to a park and recreation facility.

Source: Enrollment data from California Department of Education, 2004-5; Capacity data from Burton Elementary School District & Porterville Unified School Districts and individual schools; Dyett & Bhatia, 2006.

Figure 5-2: Schools and School Districts

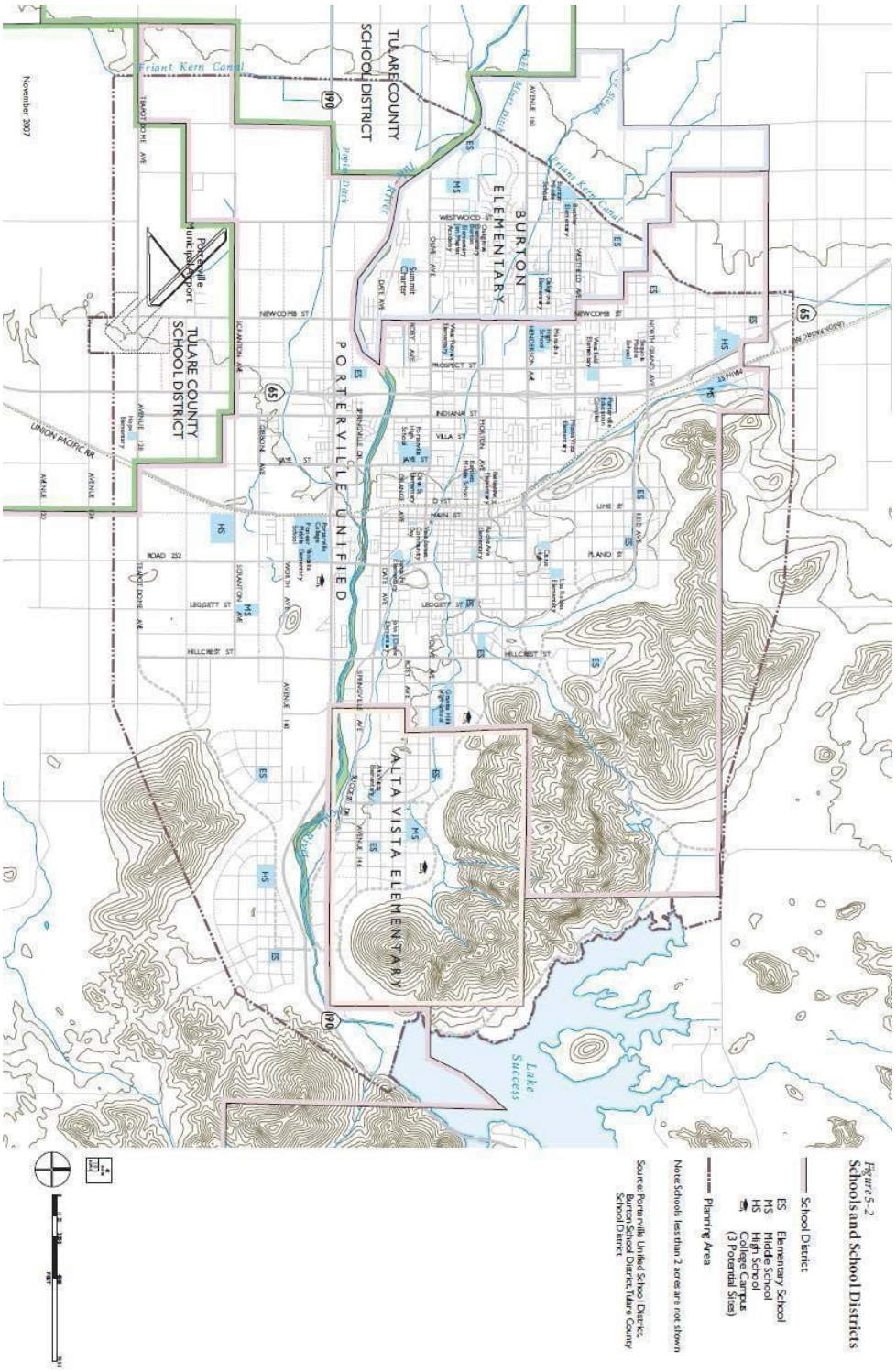
Figure 5-2
Schools and School Districts
School District
ES Elementary School
MS Middle School
HS High School
College Campus
(3 Potential Sites)
Planning Area
Note: Schools less than 3 acres are not shown
Source: Porterville Unified School District, Burton School District, Tulare County School District
November 2007
Friant Kern Canal
Lake Success
TULARE COUNTY SCHOOL DISTRICT
PORTERVILLE UNIFIED
BURTON ELEMENTARY
ALTA VISTA ELEMENTARY
Porterville Municipal Airport
UNION PACIFIC RR
NEWCOMB ST
MAIN ST
INDIANA ST
PROSPECT ST
HILLCREST ST
LIGGETT ST
ROAD 252
SCRANTON AVE
GRAND AVE
WESTWOOD
Summit Charter
Pioneer Middle School
Porterville High School
Monte Vista Elementary
Pioneer Elementary
Lincoln Elementary
Nelson Ave Elementary
Olivet Elementary
Cesar Chavez Elementary
Green Hill Elementary
Pioneer Middle School
Porterville Junior High School
Porterville Middle School
Pioneer Elementary
Pioneer Elementary Center
Lake Success Elementary
Nixon Elementary
Tulare County Office of Education
Tulare County Office of Education
Tulare County Office of Education

Figure 5-2 back

Projected Enrollment

Buildout of the Porterville Area Community Plan will result in the addition of 20,170 housing units. However, it is assumed that only 25 percent of the proposed units in the Resort Residential community near Lake Success will generate students. Therefore, buildout of the Porterville Area Community Plan will generate approximately 13,069 new students, according to the school districts' average student yield factors. This buildout would result in a total of 30,814 students and a demand for an additional 12 elementary schools, two middle schools, and three high schools. The number of students added for each school type represents a significant increase (almost 75 percent) over current levels. Student buildout calculations are provided in Table 5-6.

Table 5-6: Buildout Student Population and School Demand

Type	Current Capacity	New Students[1]	Total Students at Buildout[2]	Students at Buildout in Excess of Capacity	New Schools Needed[3]
K-5	9,330	7,468	15,882	6,552	12
6-8	3,473	1,867	5,021	1,548	2
9-12	6,075	3,734	9,911	3,836	3
Total	**18,878**	**13,069**	**30,814**	**11,936**	**17**

[1] Assumes only 25 percent of the housing units Resort Residential community will generate students.
[2] Assumes 2005 school district generation rates: 0.4 elementary school students, 0.1 middle school students, and 0.2 high school students per new housing unit.
[3] Assumes average school size of 550 students (grades K-5), 800 students (grades 6-8), and 1,500 students (grades 9-12). The number of schools needed is rounded up.

Source: Dyett & Bhatia, 2007.

Planned Facilities

Figure 5-2 illustrates planned school sites in the Planning Area, which are also shown on the Plan Land Use Diagram. A total of 14 elementary, four middle and three high schools are planned in new and existing neighborhoods.

SPECIALIZED SCHOOL FACILITIES

Specialized school facilities include the Lillian B. Hill Learning Center, offering special education services; the newly opened Prospect Education Center, offering both on-site and home instruction to any student residing in the Porterville Unified School District; and the Porterville Adult School, offering adult classes and child care services.

HIGHER EDUCATION

Porterville College is a comprehensive community college that provides general, transfer and career education at the undergraduate level, training and services for updating skills in the existing workforce, and basic skills. Porterville College has an average attendance of 3,850 students, of which about 20 percent are full-time. [1]

[1] Porterville College Fall Student Demographics 2003-2006, and Porterville College Growth and Space Needs Plan. October 2003.

The Plan Land Use Diagram illustrates three options for sites for new post-secondary education facilities to support the economic development strategy discussed in the Economic Development Element.

GUIDING POLICIES

PSCF-G-4 Support efforts to provide superior public and private educational opportunities for all segments of the population.

PSCF-G-5 Place schools at the core of new neighborhoods and co-locate parks and school sites where possible.

PSCF-G-6 Advocate the development of post-secondary education institutions.

IMPLEMENTATION POLICIES

PSCF-I-19 Cooperate with local school districts to ensure that educational facilities with sufficient permanent capacity are constructed to meet the needs of current and projected student enrollment and required infrastructure is constructed when needed.

PSCF-I-20 Amend the Subdivision Ordinance to require reservation of school sites, as shown on the Plan Land Use Diagram, for school district acquisition for a reasonable period of time, not to exceed five years.

PSCF-I-21 Establish zoning and development incentives for developers who provide sites to accommodate higher education institutions.

5.3 COMMUNITY FACILITIES

Community facilities are the network of public and private institutions that support the civic and social needs of the population. They offer a variety of recreational, artistic, and educational programs and special events. New community facilities are not specifically sited on the Porterville Area Community Plan Land Use Diagram. Small-scale facilities are appropriately sited as integral parts of neighborhoods and communities, while existing larger-scale facilities are generally depicted as public/semi-public land use, as appropriate.

Porterville Heritage Center

Other types of important social and community services, such as child day care and elder care, are provided by the private sector and Tulare County Health and Human Services Agency.

These facilities in Porterville can be grouped into the following categories:

- *Community Centers*. These facilities are designed to meet the needs of the population for civic meetings, recreational activities, social gatherings, and cultural events. These facilities may be located in Community Parks.
- *Museums and Galleries*. These facilities house scientific and historical exhibits or offer space for artistic performances and presentations. The Porterville Historical Museum was founded in 1965 and is housed in the former Southern Pacific depot, constructed in 1913, The Zalud House, a historic site built in 1891, is also open to the public.
- *Civic Buildings*. This category of community facilities includes City and County administrative and public buildings. City Hall is currently located at 291 N. Main Street. The Tulare County Courts system is currently maintains a courthouse at 87 East Morton Avenue, Porterville. Plans are underway to expand and relocate the courthouse.
- *Libraries*. These facilities house literary, artistic, and reference materials for public use and circulation. The City of Porterville owns and maintains two public library facilities that provide library resources for residents and businesses within the community. Porterville City Library is a member of the San Joaquin Valley Library System, a library consortium. Member libraries are integrated into a common patron database which provides a common computer system platform, technical support, and facilitates the sharing of collection materials within the San Joaquin Valley. Libraries are located at 41 W. Thurman Avenue and at 256 E. Orange Avenue. Porterville's Library Board of Trustees meets monthly and serves as an advisory body to the Porterville City Council.
- *Medical Facilities*. This category of community facilities includes hospitals, clinics, long- term care facilities, and medical offices. In 2005 Sierra View District Hospital, handled more than 46,000 visits and admitted about 8,700 patients.[1] The Tulare County Health and Human Services Agency provides social services to residents in need of assistance throughout Tulare County. Porterville is served by the Imperial Ambulance District and other private ambulance services.

Tulare County Library System

The Tulare County Public Library System is comprised of interdependent branches, grouped by services, geography and usage patterns to provide efficient and economical services to the residents of the county. At present, there are 14 regional libraries and one main branch.[13]

Table 5.10
Tulare County Libraries

Branch	Address	Service Hours (2003)
Alpaugh	3816 Avenue 54 Alpaugh, CA 93201-0069	Tuesday: 10 am – 1 pm, 2 pm - 6 pm Wednesday: 10 am - 1 pm, 2pm – 6pm
Dinuba	150 South I Street Dinuba, CA 93618-2399	Tuesday: 11 am - 5 pm, 6 pm - 8 pm Wednesday: 9 am- 1 pm, 2 pm - 6 pm Thursday: 11 am - 5 pm, 6 pm - 8 pm Friday: 9 am - 1 pm, 2 pm -6 pm

Earlimart	780 East Washington Earlimart, CA 93219-2153	Tuesday: 10 am -1 pm, 2 pm - 6 pm Wednesday: 10 am - 1pm, 2pm - 6pm Thursday: 10 am - 1 pm, 2 pm - 6 pm Friday: 10 am - 1, 2 pm - 6 pm
Exeter	230 East Chestnut Exeter, CA 93221-1712	Tuesday: 11 am -5 pm; 6 pm - 8 pm Wednesday: 11 pm - 5pm, 6 pm-8pm Thursday: 9 am - 1 pm; 2 pm - 6 pm Friday: 9 am - 1 pm; 2 pm – 6 pm
Ivanhoe	15964 Heather Ivanhoe, CA 93235-1253	Wednesday: 10 am - 1 pm, 2 pm - 6pm Thursday: 10 am - 1 pm, 2 pm - 6 pm
Lindsay	165 North Gale Hill Street Lindsay, CA 93247-2507	Tuesday: 11 pm - 5 pm; 6 pm - 8 pm Wednesday: 9 am - 1 pm; 2pm- 6pm Thursday: 11 am - 5 pm; 6 pm - 8 pm Friday: 9 am - 1 pm; 2 pm - 6 pm
Cutler-Orosi	12646 Avenue 416 Orosi, CA 93647-2018	Wednesday: 9 am - 1 pm, 2 pm - 6pm Thursday: 9 am - 1 pm, 2 pm - 6 pm Friday: 9 am -1 pm, 2 pm - 6 pm
Pixley	300 North School Pixley, CA 93256-1011	Tuesday: 9:30 am - 8 pm Wednesday : 9:30 am - 5 pm Thursday: 9:30 am - 8 pm Friday: 9:30 am - 3:30 pm
Springville	35800 Highway 190 Springville, CA 93265-0257	Thursday: 11 am - 5 pm , 6 pm - 8 pm Friday: 9 am - 1 pm , 2 pm - 6 pm Saturday: 9 am - 1 pm, 2 pm - 5 pm
Strathmore	19646 Road 230 Strathmore, CA 93267-0595	Tuesday: 9 am - 1 pm, 2 pm - 6 pm Wednesday: 9 am - 1 pm, 2 pm-6pm
Terra Bella	23825 Avenue 92 Terra Bella, CA 93270-0442	Monday – Friday: 8:30 am - 2:30 pm
Three Rivers	42052 Eggers Drive Three Rivers, CA 93271-0216	Wednesday: 10 pm - 1 pm, 2 pm-6pm Thursday: 12 pm - 1 pm, 6 pm - 8 pm Friday: 10 am - 1 pm, 2 pm - 6 pm
Tipton	301 East Woods Avenue Tipton, CA 93272-0039	Thursday: 9 am - 1 pm, 2 pm - 6 pm Friday: 9 am - 1 pm, 2 pm - 6 pm
Visalia	Main Branch 200 West Oak Avenue Visalia, CA 93291-4993	Tuesday: 9 am - 8 pm Wednesday: 9 am - 8 pm Thursday: 9 am - 8 pm Friday: 12 pm - 6 pm Saturday: 9 am - 5 pm
Woodlake	400 West Whitney Woodlake, CA 93286-1298	Wednesday: 9 am - 1 pm, 2pm -6pm Thursday: 9 am - 1 pm, 2 pm - 6 pm Friday: 9 am - 1 pm, 2 pm - 6 pm

Library hours current as of February 2010
Source: Plan Background Report

[12] Tulare County 2030 Plan, page 14-12

GUIDING POLICIES

PSCF-G-7	Support the development of public and cultural facilities to enhance community identity and meet the civic and social needs of the community.
PSCF-G-8	Ensure that community centers provide sufficient space to conduct civic meetings, recreational programs, and social activities to meet the needs of Porterville's citizens.
PSCF-G-9	Achieve and maintain library services that provide adequate and accessible informational, recreational and research materials in a variety of formats for all ages and for a culturally diverse population.
PSCF-G-10	Promote the development of medical facilities in Porterville to serve a local and regional population

IMPLEMENTATION POLICIES

PSCF-I-22 Amend the Subdivision Ordinance to require reservation of community facility sites in new neighborhoods for a reasonable period of time.

PSCF-I-23 Maintain a minimum ratio of 1.2 square feet of community center space per resident.

PSCF-I-24 Locate new Community Centers, to be operated by the Porterville Parks and Leisure Services Department, in neighborhood centers, Downtown or within or adjacent to parks.

PSCF-I-25 Support the Youth Services Foundation's efforts to identify and evaluate recreational, social, and cultural activities and facilities for youth in the community.

PSCF-I-26 Support the development of a range of cultural and arts facilities throughout the Porterville Area, including museums, performing art centers, shared cultural spaces, and art exhibition spaces, working in partnership with non-profit organizations, the school districts, and the private sector.

PSCF-I-27 Cooperate with the Porterville Art Association to promote visual arts in the Porterville area through workshops, educational programs, art exhibits and other appropriate activities.

PSCF-I-28 Explore the long term demand and feasibility of developing a regional-scale performing arts center or museum facility in downtown Porterville.

PSCF-I-29 Expand library facilities to achieve a standard of 0.5 to 1.0 square feet of public library space per capita with a goal of providing up to date facilities fully capable of supporting state-of-the-art technology in library services.

Expansion options may include, but are not limited to:

- Construction or expansion of Downtown Library;
- Mobile libraries to augment library services; and/or
- Other satellite facilities.

PSCF-I-30 Work with health care providers to maintain a full range of health care facilities and services designed to meet regional and community needs.

PSCF-I-31 Support public, private, and non-profit service providers to create and expand opportunities for safe, affordable, and quality child care facilities and services, and more opportunities for elder care facilities, programs, and services.

PSCF-I-32 Enforce code requirements to ensure accessibility for disabled persons to all buildings offering health and social services, consistent with the Americans with Disabilities Act of 1990.

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6
Open Space & Conservation

The Porterville Planning Area includes natural resources that are important, not only for their aesthetic values, but also for environmental quality, habitat protection, recreation, water resources, and agriculture production. The Open Space & Conservation Element is intended to establish policies and programs for the conservation, development, and use of open space and natural resources. Topics addressed include: open space; agriculture and farmland resources; land resources including soils and minerals; biological resources; water quality; air quality; and cultural resources.

The three Plan initiatives this element addresses are: providing Porterville with a network of parks and open space; protecting ridgelines, visible hillsides, and significant environmental resources; and protecting community assets. This element also supports rural conservation within the County through compatible development that preserves natural features, sensitive habitats, and agricultural resources.

In conjunction with the Land Use Element and the Circulation Element, the policies and implementation actions of this element become an Open Space & Conservation Action Plan. The Land Use Element fosters a compact development pattern with strong urban "edges" in order to protect adjacent agricultural lands, the Tule River Parkway, and hillsides, and contribute to the sense of place for the community. The new Resort Residential area near Lake Success will incorporate an open space system of parks, trails, and natural reserves, while accommodating new housing and recreation opportunities. The expanded and interconnected trail and circulation network in the Circulation Element links Porterville's residents directly to these resources.

6.1 OPEN SPACE

Porterville is located in the southern portion of the San Joaquin Valley at the base of the Sierra Nevada foothills. It is surrounded by farmland. The Tule River flows down from Lake Success and through the Porterville Area. Views extending along the river and of its heavily vegetated banks contribute to the scenic quality of the area. Rocky Hill is a prominent visual landmark and potential recreation area. The agricultural foundation, topography and landscape are important not only for community identity and aesthetic value, but also for environmental quality, habitat protection and recreation opportunities

Open space near Porterville

The plan defines open space as any parcel of land or body of water that is essentially unimproved and underdeveloped, with the exception of designated historical properties. This includes agricultural land, recreation areas, areas with hazardous conditions, and conservation areas. Currently there are approximately 21,270 acres being used for agriculture or are considered rural or conservation uses. In addition, there are about 1,400 acres of other public/quasi-public land which is open space:

- Parkland – 295 acres
- Yandanchi Ecological Preserve – 164 acres
- Lewis Hill Preserve – 107 acres (included in the Agriculture/Rural/Conservation total)
- Cemeteries – 195 acres
- Water systems and sewer treatment plant – 725 acres

Tulare County's Bartlett Park is located near the base of Success Dam; however its future status is unconfirmed.

The Lake Success recreation areas, along the north-eastern edge of the Planning Area, provide camping, fishing, picnicking and boating opportunities. Tulare County's Bartlett Park is located near the base of Success Dam; however its future status is unconfirmed. In total, approximately 62 percent of the Planning Area was open space in 2005.

In order to conserve the existing open space and unique landscape features, and protect views, the City adopted a Hillside Development Ordinance which details design and planning standards for the foothills area. In addition, the Foothill Growth Management Plan, an element of the existing Tulare County General Plan, helps guide development in the area.

Figure 6-1: Open Space

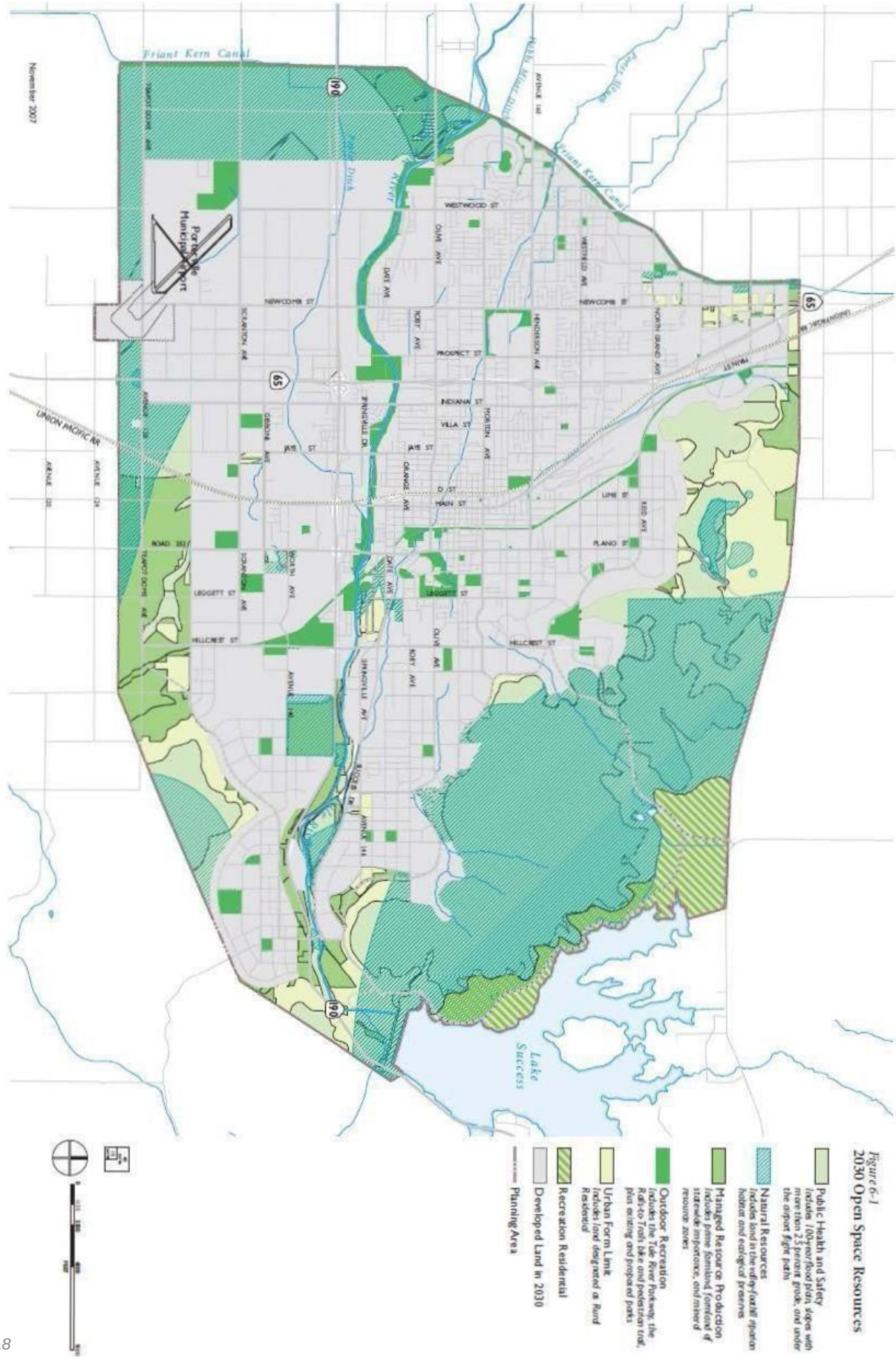


Figure 6-1
2030 Open Space Resources

November 2007

Figure 6-1- BACK

CLASSIFICATION OF OPEN SPACE

State planning law (Government Code Section 65560) provides a structure for the preservation of open space by identifying open space categories. An additional category is proposed for this Plan to help define the urban development edge.

- *Open space for public health and safety* including, but not limited to, areas that require special management or regulation due to hazardous or special conditions. This type of open space might include: earthquake fault zones, unstable soil areas, floodplains, watersheds, areas presenting high fire risks, and areas required for the protection of water quality and water reservoirs. In Porterville, this category includes land in the 100-year flood plain, slopes with more than 25 percent grade, and land beneath the airport approach and departure zones.
- *Open space for the preservation of natural resources,* including, but not limited to, areas required for the preservation of plant and animal life, such as habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, and creeks, lakeshores, banks of rivers and streams; and watershed lands. In Porterville, this category includes lands such as those in the valley-foothill riparian habitat, ecological preserves, and conservation areas.
- *Open space used for the managed production of resources*, including, but not limited to, forest lands, rangeland, agricultural lands and areas of economic importance for the production of food or fiber; areas required for recharge of ground water basins; marshes, rivers and streams that are important for the management of commercial fisheries; and areas containing major mineral deposits. In Porterville, this category includes prime farmland, farmland of statewide importance, and mineral resource zones.
- *Open space for outdoor recreation,* including, but not limited to, areas of outstanding scenic, historic and cultural value; areas particularly suited for park and recreation purposes, such as access to lakeshores, beaches, rivers and streams; and areas that serve as links between major recreation and open space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors. In Porterville, this category includes areas such as the Tule River Parkway, the Rails-to-Trails bike and pedestrian trail, plus existing and proposed parks. Over the long-term, Rocky Hill will also provide opportunities for limited outdoor activities, such as hiking and horseback riding.
- *Open space for the protection of Native American sites,* including, but not limited to, places, features and objects of historic, cultural, or sacred significance such as Native American sanctified cemeteries, places of worship, religious or ceremonial sites, or sacred shrines located on public property (further defined in California Public Resources Code Sections 5097.9 and 5097.993). These sites are not included on Figure 6-1, as locations are suppressed for their protection.
- *Open space to shape and limit urban form,* including, but not limited to, areas such as greenbelts and open space corridors established to implement community design goals and objectives. In some areas of Porterville, this category includes land designated as Rural Residential, as well as open space in other categories.

PLANNED OPEN SPACE NETWORK

Figure 6-1 illustrates a composite of the open space classifications established in State law, with the addition of the land categorized as Rural Residential in order to shape the urban form. The illustrated open space resources are not intended to imply that the public interest would be best served by prohibiting development on all such lands. Rather, these open space resources likely signify one of three possible scenarios, depending upon the ecosystem fragility, location, hazard potential, regulatory constraints, and other pertinent factors.

The three possible scenarios are:

- All development should be prohibited;
- Development should be permitted on part of the land and the balance preserved as open space—a clustering concept; or
- Development should be permitted subject to site plan review and the imposition of specific conditions to protect against hazards, preserve the integrity of the land and the environment, and meet specific development and design standards (e.g., for the Hillside Development Zone).

Determination of how these open space resources are to be protected will be made on a case- by-case basis following standards and review procedures established in the Zoning and Subdivision ordinances consistent with Porterville Area Community Plan policies.

Resort Residential Community near Lake Success

Integrating the Lake Success Resort Residential area with the open space network is a very high priority for future planning efforts. The physical designs of the park and open space systems for the Resort Residential Community should create a unique image and recreational space. This includes the connectivity to the Rocky Hill area, its trails, and its other recreational amenities.

GUIDING POLICIES

OSC-G-1 Protect the Tule River Corridor and Rocky Hill as significant open space resources.

OSC-G-2 Use the open space system to meet multiple needs, including bike and trail linkages, storm water drainage and treatment, wildlife habitat, and active and passive recreation.

OSC-G-3 Design public open spaces as sustainable systems.

IMPLEMENTATION POLICIES

OSC-I-1 Adopt resource protection regulations for Agricultural/Rural/Conservation areas designated on the Porterville Area Community Plan Land Use Diagram.

This will include City-owned lands used for wastewater reclamation.

OSC-I-2 Work with the City with the objective of:

- Retaining agriculture and open space areas around the City, consistent with the Porterville Area Community Plan; and
- Notifying the City of development applications to areas adjacent to the City's Planning Area.

Joint planning agreements or MOU's have been used successfully in many jurisdictions. This policy is intended to create a mechanism to protect the open space, wetlands, and creeks that form the backdrop for the Porterville Area, so that the Porterville Area can keep a distinct urban edge.

OSC-I-3 Establish a secure funding source for open space acquisition and management.

Options to be evaluated may include, but are not limited to: a dedication by future private development; an increase in the Transient Occupancy Tax; a Utility User's Tax or a Property Transfer Tax. These latter options would require voter approval.

OSC-I-4 Establish standards for the management and maintenance of open space within subdivisions, and require formation of open space acquisition and maintenance districts where necessary and appropriate, to protect open space resources.

OSC-I-5 Require, as a condition of any Resort Residential development, commitments to permanent open space, and preservation of ridges and steep hillside land that form the scenic backdrop of the Resort Residential district.

OSC-I-6 Support the preservation of the Yaudanchi Ecological Preserve.

OSC-I-7 Use native vegetation, drought tolerant plants, recycled water irrigation, other water-saving devices drainage swales and water percolation systems, and recycled building materials in public open spaces for ease of maintenance and environmental sustainability.

OSC-I-8 Provide a variety of outdoor recreation opportunities through improvements to open space and parks, construction of facilities, and sponsoring of programs that stimulate active resident participation.

OSC-I-9 Require degraded open space areas be restored to an environmentally sustainable condition as part of development approval where these lands are proposed as permanent open space in new development.

OSC-I-10 Work with property owners, law enforcement officials, and the public to protect open space resources. These efforts will include, but are not limited to:

- Soliciting volunteers to remove invasive vegetation;
- Removing abandoned items and trash; and
- Ensuring no illegal encampments occur on open space areas.

OSC-I-11 Support regional and sub-regional efforts to acquire, develop, and maintain, open space lands.

OSC-I-12 Establish priorities for open space preservation and acquisition based on an evaluation of:

- Significant natural areas that are historically, ecologically, or scientifically unique or are outstanding, important or threatened;
- Wildlife habitats and fragile ecosystems in need of protection;
- Watersheds or significant water recharge areas;
- Lands suitable for recreation such as biking, photography or nature study; and
- Land suitable for agricultural production.

OSC-I-13 Preserve Rocky Hill as an open space resource through the establishment of a conservancy, Open Space District, or other device.

OSC-I-14 Establish incentives to preserve open space in very low density residential areas.

One option will be to allow clustering of housing units on smaller lots in return for preservation of common area open space.

OSC-I-15 Preserve open space designated for public safety to minimize damage to people and property resulting from potential hazards. Such hazards include, but are not limited to: quaking, slope collapse, liquefaction, fire, earth sliding, flooding, erosion and siltation, soil compression, lateral spreading, and subsidence.

An easement can be used to restrict development near safety hazards, travel networks such as bike or pedestrian paths, as well as near natural resources such as streams that require buffers for water quality protection. The easement does not require the transfer of ownership of property but rather reduces the development potential of the land in order that it may continue to serve the necessary open space purpose.

6.2 AGRICULTURE & FARMLAND RESOURCES

Agriculture is one of the most prominent open space uses in the Porterville Planning Area. Agriculture also is an important contributor to the Porterville Area's economy and character. California law requires that a General Plan address agricultural resources from both a soil conservation and open space perspective.

Grazing land near Lake Success

FARMLAND

Farmland across the state has been classified by the California Department of Conservation with respect to its potential for agricultural productivity based on soil type and other physical characteristics. The State applies seven farmland categories:

- ***Prime Farmland***. Land with the best combination of physical and chemical features able to sustain long-term agricultural production.
- ***Farmland of Statewide Importance.*** Similar to Prime Farmland but with minor shortcomings, such as greater slopes or decreased ability to store soil moisture.
- ***Unique Farmland.*** Land with lesser quality soils used for the production of the state's leading agricultural crops.
- ***Farmland of Local Importance.*** Land of importance to the local agricultural economy as determined by each county's board of supervisors and local advisory committee.
- ***Grazing Land.*** Land on which the existing vegetation is suited to the grazing of livestock.
- ***Urban and Built-up Land.*** Land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel.
- ***Other Land.*** Low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres.

In 2006, farmland, as defined by the States soil categories, accounted for approximately 56 percent of the Planning Area. The remaining 44 percent of the Planning Area is designated as either urban and built-up, water resources, or other types of soils.

Table 6-1: Existing Farmland Soils in Planning Area

Type	*Existing Acres*	*Percent of Planning Area*
Prime Farmland	3,723	10%
Farmland of Statewide Importance	5,579	15%
Unique Farmland	1,351	4%
Farmland of Local Importance	2,060	6%
Grazing Land	7,916	22%
Urban	14,360	40%
Other Land & Water	1,352	4%
Total	**36,341**	**100%**

Note: Farmland is not equivalent to land designated for Agriculture/Rural/Conservation uses. These designations are defined by the State based on soil types.

Source: Department of Conservation, Division of Land Resource Protection; Dyett & Bhatia, 2007.

Williamson Act

The California Land Conservation Act, commonly referred to as the Williamson Act, was enacted in 1965 to preserve agricultural and open space land in danger of premature conversion to urban uses. Its success has been based on the dual incentives of lowered property taxes for individual landowners and payments of subventions to counties for some of the losses of property tax revenues. Currently, approximately 35 percent of the farmland is designated as Williamson Act land.

FARMLAND PROTECTION ISSUES

Significant agricultural land area within the Porterville Planning Area is likely to be converted to urban uses over the next 23 years, in order to accommodate the projected growth. At buildout, 70 percent of the Planning Area will be either urban, water resources or other soil types, and 30 percent will be in agricultural use. Farmland soils at buildout are illustrated on Figure 6-2.

Table 6-2: Buildout Farmland Soils in Planning Area

Type	*Buildout Acres*	*Percent of Planning Area*
Prime Farmland	674	2%
Farmland of Statewide Importance	2,187	6%
Unique Farmland	528	1%
Farmland of Local Importance	548	2%
Grazing Land	6,946	19%
Urban	25,239	69%
Other Land & Water Resources	219	1%
Total	**36,341**	**100%**

Source: Department of Conservation, Division of Land Resource Protection; Dyett & Bhatia, 2007.

Figure 6-2: Farmlands

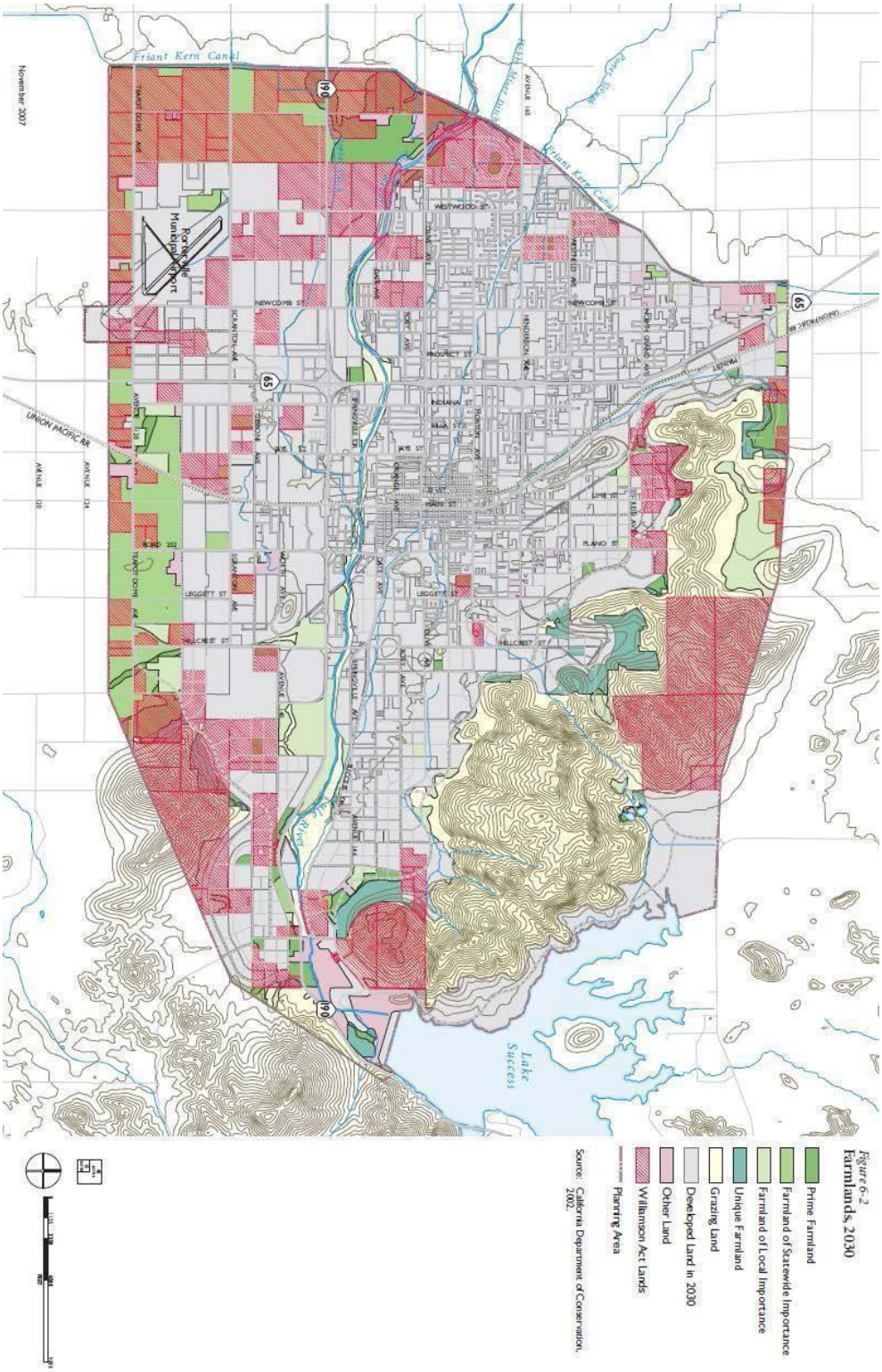


Figure 6-2
Farmlands, 2030

November 2007

Figure 6-2 BACK

Continued conversion of agricultural lands to urban uses and rural residential uses could have an impact on the County's agricultural economic base. For that reason, the Land Use Element establishes a fairly compact urban area, encouraging infill development and new growth adjacent to or near existing urban uses, thus minimizing sprawl and unnecessary conversion of agricultural lands. The Open Space and Conservation Action Plan also calls for protection of surrounding agricultural lands

GUIDING POLICY

OSC-G-4 Promote preservation of agriculture lands within and adjacent to the Planning Area.

IMPLEMENTATION POLICIES

OSC-I-16 Decline requests for annexation of any land subject to an ongoing Williamson Act contract.

OSC-I-17 Prohibit the conversion of prime agricultural land for urban development through Plan amendments, after adoption of this Porterville Area Community Plan Update, unless there are no other feasible alternatives for development.

OSC-I-18 Adopt a Right to Farm Ordinance to facilitate the continuance of agricultural activities within the Planning Area until the land is needed to accommodate population and employment growth.

A Right to Farm ordinance will require developers adjacent to sites where agricultural uses are being conducted to inform subsequent buyers of potential continued agricultural production and the lawful use of agricultural chemicals, including pesticide sand fertilizers.

OSC-I-19 Work with the County Sheriff and other law enforcement agencies to combat vandalism of agricultural activities.

OSC-I-20 Work with Tulare County and non-profit land trusts to establish and fund programs for purchase of conservation easements, which may assist property owners who want to maintain agricultural and rural land in the Planning Area.

6.3 LAND RESOURCE CONSERVATION

SOILS

The Porterville area sits on top of the alluvial fans of the Tule River and its distributaries. The bedrock is present at relatively shallow depths beneath the eastern end of Porterville. However, the depth to bedrock deepens appreciably to the southwest. There are four general soil types in the Planning Area. The first is located northeast of the Porterville Area and is described as moderately deep to very deep, well-drained, low permeability clay. The second is located to the south of the Porterville Area and consists of very deep, moderately well to excessively well-drained, fine sandy loam. The third, found northwest of the Porterville Area, is characterized as moderately deep, well-drained, sandy loam underlain by hardpan. The fourth type consists of rock outcrops of exposed bedrock found on the slopes of the Sierra Foothills.

Conservation efforts are continually being made to prevent soil erosion and the chemical alteration of soils caused by overuse, salinization, acidification, or other chemical soil contamination. It is important to maintain soil quality to sustain plant and animal productivity, maintain or enhance water and air quality, and support human health and habitation. While State and federal laws regulate soil quality, as indicated by the farmland classification system, local land use planning is important for limiting erosion potential.

Erosion Potential

Erosion is the process by which the soil and rock components of the Earth's crust are worn away and removed from one place to another by natural forces such as weathering, solution, and transportation. Soil erosion can lead to sedimentation of watercourses, eventually having an adverse impact on water quality and aquatic life. Furthermore, once erosion occurs, it may be difficult for natural vegetation to reestablish itself. The loss of topsoil to erosion is detrimental to agriculture and other landscaping. The risk of erosion is greatly increased during grading and construction activities, and agricultural practices, when soils are loosened and bare of vegetation.

Soil erodibility can be identified by a specific soil's "K-Factor." 5 Values of K range from 0.02 to 0.69, with the higher the value, the more susceptible t h e soil is to erosion. Soils with K factors above 0.40 are considered to be the most susceptible to erosion. However, this factor is only one of the measurements needed to determine overall soil erosion potential. It does not take the impacts of rainfall, slope above nine percent and groundcover on erosion potential into account.

There are no soils with a K factor higher than 0.37, as determined by the U.S. Natural Resource Conservation Service, in the Planning Area. Soils with moderate or moderate-high erodibility are found throughout the Planning Area. In general, soil conservation is addressed by the City's site review and grading plan requirements. Soil erosion potential is mapped in Figure 7-1, Geologic Hazards, and the acreage of land in each category is summarized in Table 6-3.

Table 6-3: Soil Erosion Susceptibility[1]

Category	*Total Acres*	*Percentage of Total*
Low (0 – 0.17)	1,888	5%
Moderate (0.18- 0.28)	4,728	13%
Moderate-High (0.29 - 0.37)	19,995	55%
Not Classified[2]	9,729	27%
Total	**36,341**	**100%**

[1] The evaluation does not account for slope above 9 percent grade, amount of groundcover, or amount of rainfall which Impact erosion.

[2] Unclassified could mean the area is currently under study, about to be studied or does not meet basic classification Criteria (such as rivers, lakes, etc.).

Source: USDA Soil Survey Geographic Database, 2005.

[5] Natural Resources Conservation Service. *National Soi lSurvey Handbook*. http://soils.usda.gov/technical/handbook/contents/part618.html

MINERAL RESOURCES

The most economically significant mineral resources in Tulare County are sand, gravel, and crushed stone, used as sources for aggregate (road materials and other construction). The two major sources of aggregate are alluvial deposits (river beds and floodplains), and hard rock quarries. Consequently, most Tulare County mines are located along rivers at the base of the Sierra foothills.

Surface mining in California is regulated through the Surface Mining and Reclamation Act (SMARA), a State law adopted in 1975 to address the dual goals of protecting the state's need for a continuing supply of mineral resources, while protecting public and environmental health. SMARA mandates that land be reclaimed after mining has ceased. Reclamation plans often restore land for agricultural uses or as wildlife habitat.

SMARA requires that all cities incorporate into their plans mapped mineral resource designations approved by the State Mining and Geology Board. The State Geologist classifies land in California based on availability of mineral resources. Because available aggregate construction material is limited, five designations have been established for the classification of sand, gravel and crushed rock resources:

- **Scientific Resource (SZ)** areas contain unique or rare occurrences of rocks, minerals or fossils that are of outstanding scientific significance.
- **Mineral Resource Zone 1 (MRZ-1)** is an area where adequate information indicates that no significant mineral deposits are present or likely to be present. This zone is applied where well developed lines of reasoning, based on economic-geologic principles and adequate data, indicate that the likelihood for occurrence of significant mineral deposits is nil or slight.
- **Mineral Resource Zone 2 (MRZ-2)** is an area where adequate information indicates that significant mineral deposits are present or there is a high likelihood for their presence and developments should be controlled.
  - **MRZ-2a:** Areas classified MRZ-2a contain discovered mineral deposits that are either measured or indicated reserves as determined by such evidence as drilling records, sample analysis, surface exposure, and mine information. Land included in the MRZ- 2a category is of prime importance because it contains known economic mineral deposits.
  - **MRZ-2b:** Areas classified MRZ-2b contain discovered deposits that are either inferred reserves or deposits that are presently sub-economic as determined by limited sample analysis, exposure, and past mining history.
- **Mineral Resource Zone 3 (MRZ-3)** is an area where the significance of mineral deposits cannot be determined from the available data.
  - **MRZ-3a:** MRZ-3a areas are considered to have a moderate potential for the discovery of economic mineral deposits due to direct evidence of a surface exposure of a geologic unit, such as a limestone body, known to be or to contain a mineral resource elsewhere but has not been sampled or tested at the current location.
  - **MRZ-3b**: Land classified MRZ-3b represents areas in geologic settings which appear to be favorable environments for the occurrence of specific mineral deposits. MRZ-3b is applied to land where geologic evidence leads to the conclusion that it is plausible that economic mineral deposits are present.

- **Mineral Resource Zone 4 (MRZ-4)** is an area where there is insufficient data to assign any other MRZ designation.[6]

Table 6-4: Mineral Resources

Type	*Acres*	*Percent of Planning Area*
MRZ-2a	55	0.2%
MRZ-2b	487	1.3%
MRZ-3a	348	1.0%
Total	**890**	**2.5%**

Source: California Division of Mines and Geology, 1997.

As shown in Table 6-4 and Figure 6-3, the area along the Tule River contains various State-classified mineral resource zones (MRZ-2a, MRZ-2b, and MRZ-3a). While this area was once suitable for mining operations, it is now surrounded by urban development and as such, extraction and transport of mineral resources would conflict with the surrounding urban uses. A total of 890 acres within the Planning Area is located within State-designated mineral resource zones.

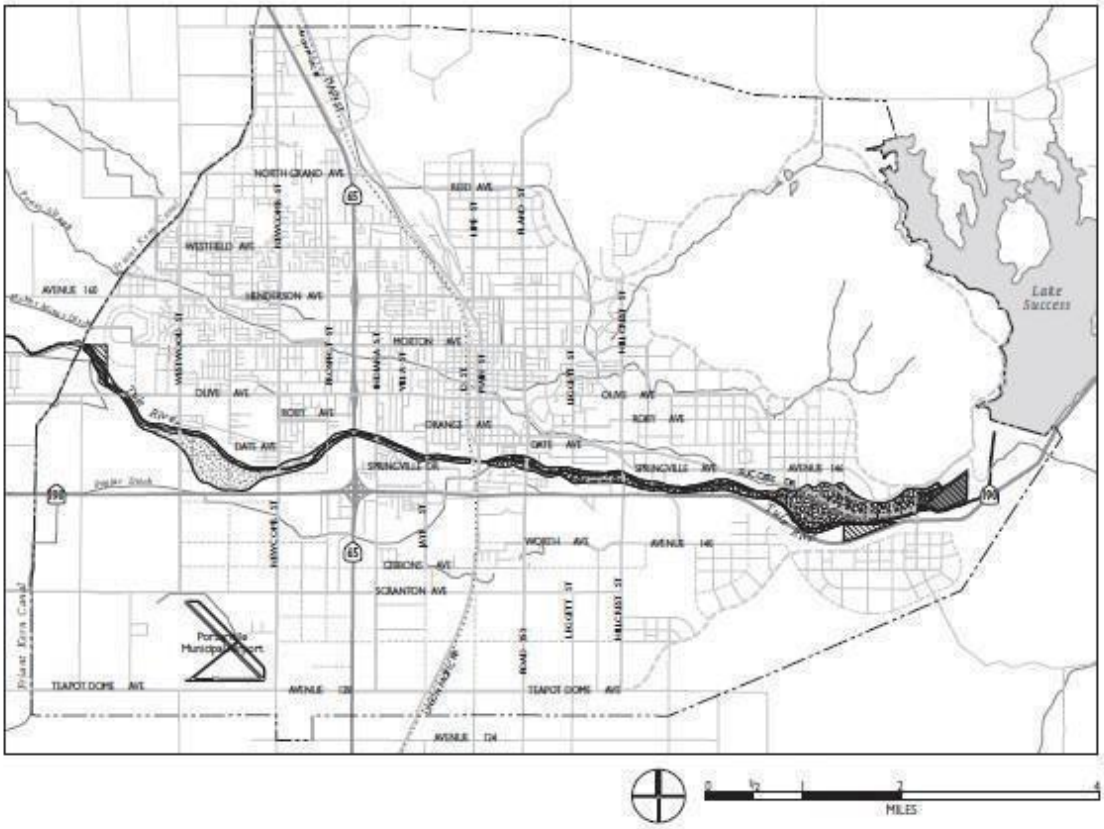
In Tulare County, the Resource Management Agency is the lead agency for processing Tulare County surface mine reclamation plan applications.

The plan is responsible for designating Regionally Significant Construction Aggregate Resource Areas or identifying mineral resources to be conserved. Historically, the quarrying of magnesite was a significant industry in the Porterville Area. As of 2004, there were three active construction-grade sand and gravel mining sites in the Planning Area: Porterville Ready Mix's Vollmer site near where the Tule River meets the Friant-Kern Canal and two Mitch Brown sites along the Tule River below Success Dam. In addition to these known concentrations, there are areas scattered throughout the Planning Area that contain marginal deposits of feldspar, silica, limestone and other rock products which are not mapped.

[6] California Department of Conservation, *Guidelines for Classification and Designation of Mineral Lands*, http://www.consrv.ca.gov/SMGB/Guidelines/ClassDesig.pdf

[7] Tulare County: http://www.co.tulare.ca.us/government/rma/countywide/mineral.asp

Figure 6-3: Mineral Resources



Mineral Resource Zones

- MRZ-2a Significant aggregate deposit
- MRZ-2b High likelihood of significant aggregate deposit
- MRZ-3a May contain significant aggregate deposit
- Active Mining Area
- Planning Area

Source: California Department of Mines and Geology, Tulare County, 2007.

Figure 6-3
Soil and Mineral Conservation

GUIDING POLICIES

OSC-G-5 Preserve soil resources to minimize damage to people, property, and the environment resulting from potential hazards.

OSC-G-6 Protect significant mineral resources.

IMPLEMENTATION POLICIES

OSC-I-21 Adopt soil conservation regulations to reduce erosion caused by overgrazing, plowing, mining, new roadways and paths construction, and off-road vehicles.

OSC-I-22 Continue to require soils and geologic surveys for all proposed development in hillside areas.

OSC-I-23 Require adequate grading and replanting to minimize erosion and prevent slippage of manmade slopes.

Plant materials for re-vegetation should not be limited to hydro seeding and mulching with annual grasses. Trees add structure to the soil and take up moisture while adding color and diversity.

OSC-I-24 Require all mining and sand extraction operations to mitigate completely environmental impacts, including operations affecting water quality, habitat preservation, aesthetics and bridge undermining, and to submit reclamation and ultimate use plans for approval prior to initiating operations.

OSC-I-25 Work with Tulare County to ensure that reclamation and ultimate use plans for mining operations land are consistent with the Porterville Area Community Plan.

6.4 BIOLOGICAL RESOURCES

The Porterville Planning Area lies in two primary eco-regions: the larger Sacramento/San Joaquin Valley (larger western portion of the study area) and the Sierra Nevada Foothills (located near the eastern boundary). Consequently, the Planning Area includes a variety of biological habitats ranging from vernal pools/wetland communities to blue oak woodlands. Both larger eco-regions traverse the study area in a north-south pattern and include a variety of plant and wildlife species. Numerous special status species occur in the Planning Area. These species are designated by federal or State agencies as needing protection due to rarity or threats to their existence.

FLORA

The Sacramento/San Joaquin Valley eco-region includes large agricultural areas, croplands, orchards, and vineyard habitat types. Vernal pools including Northern clay pan vernal pools, can be found in and beyond the southern portion of the Planning Area, particularly along the SR 65 corridor. Seasonal wetlands may occur adjacent to the Tule River, Porter Slough, and Lake Success. Isolated wetlands also may be found within pasture, grazing or grassland areas. The Sierra Nevada Foothill eco-region is largely composed of annual grassland areas, with areas of montane hardwood located in the higher elevations. Areas of valley-foothill riparian habitat are located in less developed areas around the river and enhance the aquatic habitat of the Tule River.

Valley Oak trees, which have inherent aesthetic and wildlife value, occur in the Planning Area. The City of Porterville does not currently have a tree preservation ordinance; therefore, policies aimed to protect these trees whenever possible are included in the Porterville Area Community Plan.

As illustrated in Figure 6-4, portions of the Planning Area provide potential and known habitat for several special status plant species. These species include: Keck's checkerbloom (Sidalcea keckii); Springville clarkia (Clarkia springvillensis); San Joaquin adobe sunburst (Pseudobahia peirsonii); Striped adobe-lily (Fritillaria striata); Madera leptosiphon (Leptosiphon serrulatus); Calico monkeyflower (Mimulus pictus); and Spiny-sepaled button- celery (Eryngium spinosepalum). In addition, elderberry shrubs which support the special status species, Valley elderberry longhorn beetle, are known to occur in various areas throughout the Planning Area.

Lewis Hill Preserve

Lewis Hill Preserve was established in 1994 and is now managed by the Sequoia Riverlands Trust. It is a 110-acre preserve located in the northern portion of the Planning Area which protects two rare wildflower species, the striped adobe lily and San Joaquin adobe sunburst. The open grasslands and blue oak woodlands of the southern Sierra Nevada foothills provide critical habitat for these flowers.[8]

[8] Sequoia Riverlands Trust. http://www.sequoiariverlands.org/ May 24, 2007.

FAUNA

The Planning Area provides appropriate habitats for a variety of wildlife species including but not limited to mule deer, coyotes, grey fox, cottontails, kangaroo rats, scrubjays, herons, falcons, finches, and sparrows.

As illustrated in Figure 6-4, the Planning Area provides known or high potential habitat for various State and federal special status animal species. These species include: California condor (Gymnogyps californianus); San Joaquin kit fox (Vulpes macrotis mutica); Valley elderberry longhorn beetle (Desmocerus californicus dimorphus); Vernal pool fairy shrimp (Branchinecta lynchi); American badger (Taxidea taxus), Pallid bat (Antrozous pallidus); Western mastiff bat (Eumops perotis californicus); Great Blue Heron (Ardea herodias); Western pond turtle (Emys marmorata); Tricolored blackbird (Agelaius tricolor); Morrison's blister beetle (Lytta morrisoni); and Molestan blister beetle (Lytta molesta).[9]

San Joaquin kit fox

In addition, there is potential for a few protected species such as the White-tailed kite (Elanus leucurus) to be found in the Planning Area.[10]

Valley Elderberry Longhorn Beetle Habitat Conservation Plan

The City is preparing a Valley Elderberry Longhorn Beetle Habitat Conservation Plan (HCP), in coordination with the United States Fish and Wildlife Service (USFWS), in order to take a comprehensive approach to impact analysis and mitigation, and to apply for an Incidental Take Permit (ITP) for any Valley elderberry longhorn beetle (VELB) that may result from project activities. The ITP term would be for a period of 25 years. A 7.3-acre Conservation Area has already been established and will be protected in perpetuity. This area can be expanded up to approximately 55 acres.[11]

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[9] California Natural Diversity Database. April 2007.

[10] California Department of Fish and Game. Response to Notice of Preparation of an EIR: City of Porterville Plan Update. November 3, 2006.

[11] City of Porterville. Valley Elderberry Longhorn Beetle Habitat Conservation Plan Draft. April 2007.

Figure 6-4: Special Status Species & Sensitive Vegetation

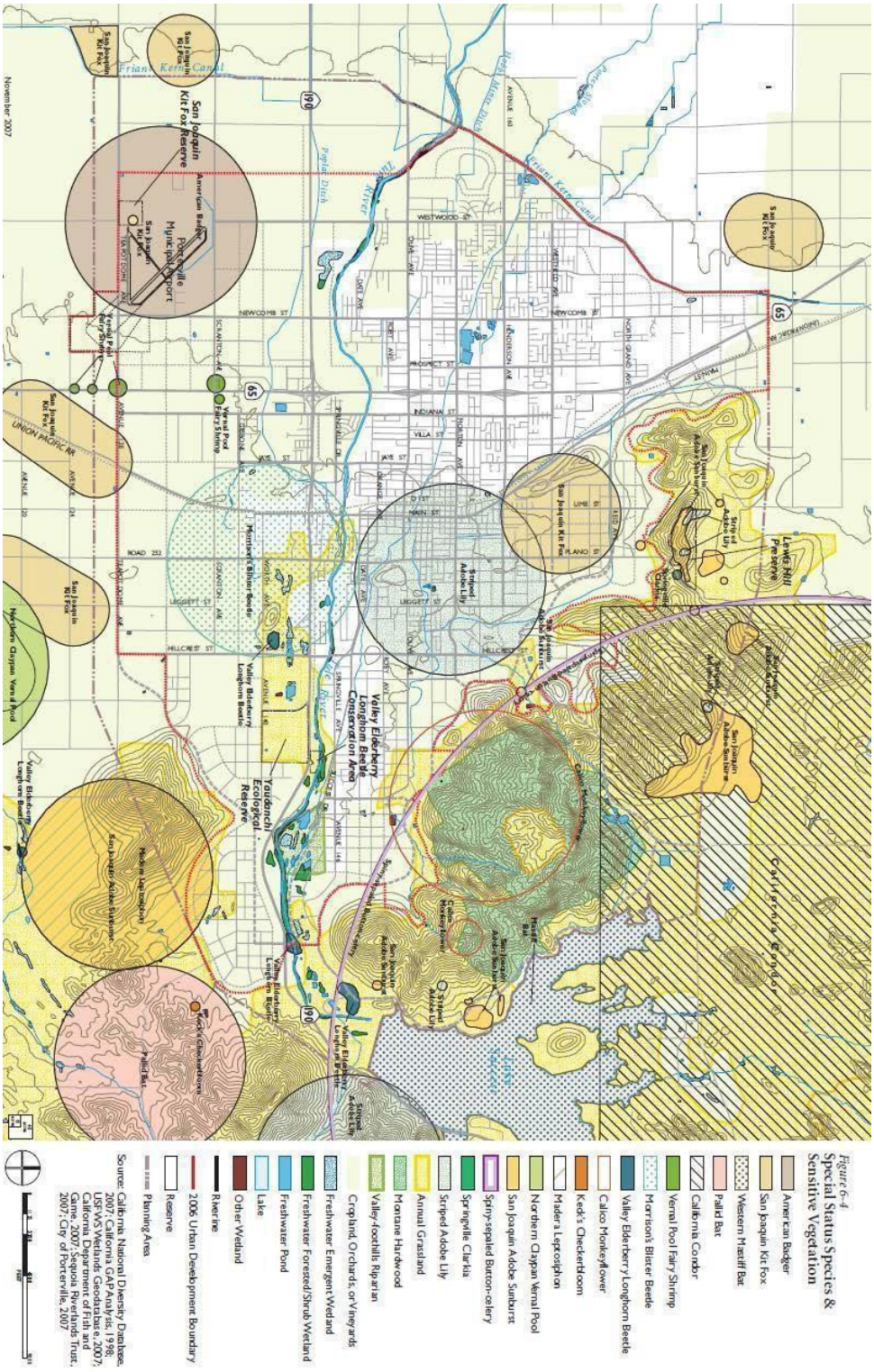

Figure 6-4 BACK

Yaudanchi Ecological Preserve

The 190-acre Yaudanchi Ecological Preserve was established in 1975 to protect a heron and egret rookery. The preserve is owned by the California Department of Developmental Services (DDS) and managed by the Department of Fish and Game (DFG). Even though the rookery has since moved about a mile from the preserve, 12 natural riparian and manmade habitat (a small pond) supports many species including songbirds, raptors, water fowl, bobcats, gray fox and coyote. DFG maintains a small parking lot and nature trail for visitors. DFG has recently partnered with Wild Places, an ecological restoration and education organization, to restore native habitat and remove invasive tree species. This work plus new signage and additional trail maintenance is planned to be completed by 2008.

Development Affecting Biological Resources

Under Plan policies, any hillside residential, Resort Residential, or Tule River Corridor development would have to ensure minimal disruption/loss of habitat that could support special status animal species. Natural Communities Conservation Plans (NCCP) will be required for development that would potentially affect sensitive habitat. The Natural Communities Conservation Planning Act allows a process for developing NCCPs under DFG direction. NCCPs provide regional protection of wildlife diversity, while allowing compatible development.

GUIDING POLICY

OSC-G-7 Protect habitat for special status species, designated under State and federal law.

IMPLEMENTATION POLICIES

OSC-I-26 Adopt habitat conservation regulations, including requirements and incentives to incorporate natural wildlife habitat features into new development and public landscapes, parks, and other public facilities.

The regulations will require adequate mitigation measures (e.g. selective preservation, replanting, sensitive site planning, etc.) for all development that will adversely impact significant biological resources, consistent with State and federal law.

OSC-I-27 Protect and enhance the natural habitat features of the Tule River and open space corridors within the Planning Area.

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[12] Eric Kleinfelter, Associate Wildlife Biologist. California Department of Fish and Game. Personal communication. May 30, 2007. The new location of the rookery is not mapped.

OSC-I-28 Require protection of sensitive habitat areas and special status species in new development site designs in the following order: 1) avoidance; 2) onsite mitigation, 3) offsite mitigation, and 4) purchase of mitigation credits.

OSC-I-29 Require assessments of biological resources prior to approval of any development within 300 feet of any creeks, sensitive habitat areas, or areas of potential sensitive status species.

The term "special status" species includes species classified as rare and endangered. These priorities are consistent with the California Department of Fish and Game guidelines. When habitat preservation on-site is not feasible (i.e., preserved parcels would be too small to be of any value), then off-site mitigation should occur.

OSC-I-30 Adopt regulations to promote water-conserving landscape plans, including the use of drought tolerant plants.

OSC-I-31 Require, as part of the proposed Tule River Corridor Plan, measures to protect and enhance riparian zones, natural areas and wildlife habitat qualities; and establish and maintain a buffer along the river where development shall not occur, except as part of the parkway enhancement (e.g., trails and bikeways).

For park improvements and commercial recreation (campground) proposals, the plan will require a buffer zone along the river in which no grading or construction activities will occur, except as needed for shoreline uses.

OSC-I-32 Identify and protect wildlife movement corridors that serve critical habitats to minimize wildlife-urban conflicts.

OSC-I-33 Protect, revitalize and expand Porterville's urban forest through public education, sensitive regulation, and a long-term financial commitment that is adequate to protect this resource.

OSC-I-34 Continue to require street tree planting in new development and consider support the City's tree planting fund.

OSC-I-35 Consult with all responsible agencies about wetland and vernal pool habitat potentially affected by development.

This consultation will occur as part of the environmental review process.

OSC-I-36 Establish a "no net loss" policy for wetlands and vernal pools, including credits for land banking and off-site mitigation, and maintain a protection zone around wetlands, riparian corridors, and identified habit areas where development shall not occur, except as part of a parkway enhancement program (e.g., trails and bikeways).

Protection zones will be determined on case-by-case based on biological studies and field assessment.

6.5 WATER RESOURCES

This section addresses surface and groundwater resources. Water quality standards are established and enforced by the State and the Central Valley Regional Water Quality Control Board (RWQCB). Water supply, use, and conservation measures are addressed in Public Utilities Element and the Porterville Urban Water Management Plan. Drainage and flooding hazards in Porterville are addressed in Public Health& Safety Element.

SURFACE WATER

Hydrologic Features & Supply

The Tule River, which flows through the central portion of the Planning, is one of the principal watercourses in Tulare County. Under normal conditions discharge in this River is regulated by Success Dam, located approximately five miles upstream from Porterville. Porter Slough is a natural distributary of the Tule River and flows through the center of Porterville. It originates from the Tule River approximately four miles upstream from the Porterville Area, and returns to the river approximately 17 miles below its point of origin.

Seven ditch companies divert water from the Tule River and/or Porter Slough at points within the Planning Area: Pioneer, Campbell-Moreland, Porter Slough, Vandalia, Poplar, Hubbs- Miner, and Woods-Central. In addition to delivering water for irrigation, these ditches also provide extra capacity to carry peak flood flows and urban stormwater runoff. The Friant- Kern Canal defines the western edge of the Planning Area. Water in the Canal is imported from the San Joaquin River northeast of Fresno and distributed to the western portion of the Planning Area by the Porterville Irrigation District.

The City is considering purchasing additional surface water from local irrigation and water districts which have water rights on the San Joaquin River and Tule River.

Surface Water Quality

Both San Joaquin and Tule River water sources originate primarily from snowmelt in the Sierra Nevada Mountains and as a result have well to excellent water quality. These water supplies have no restrictions on use for municipal water, but they will require standard water treatment.

Tule River water is delivered from Lake Success. According to the Lower Tule River Irrigation District, the Lake periodically experiences turnover episodes which have caused hydrogen sulfide problems. These turnovers take place in the spring and fall. In the summer and fall, the lake experiences algae growth problems. These problems can be remedied with water treatment.

Additional development in watershed areas may cause some water quality degradation in the San Joaquin and Tule Rivers. However, improved watershed management may prevent further degradation or even improve the water quality. As a result, it is assumed that the quality of these surface water sources will remain good to excellent through the next 25 years.

GROUNDWATER

Groundwater Resources

The Porterville area is part of the Tule Sub-basin of the San Joaquin Valley Groundwater Basin. The area is underlain by an unconfined aquifer which receives groundwater recharge from the Sierra Nevada Mountains and seepage from the Tule River and irrigation ditches. The alluvial fans of the Tule River provide highly permeable areas in which groundwater is readily replenished. Annual rainfall in Porterville usually ranges from eight to 12 inches; however, there is no estimate of what percentage of rainfall reaches the groundwater supply.

Groundwater levels have declined an average of 0.75 feet/year on well hydrographs completed by the Department of Water Resources. In addition, well yields have decreased substantially in the past 10 years. Some City wells have seen capacity reductions from 1,500 gallons per minute (gpm) to 500 or 600 gpm. New wells typically have capacities of 500 gpm or less.

Groundwater Quality

Groundwater quality in the Porterville areas is generally good. Groundwater quality and quantity is generally better on the western edge of town, and hence most of the production wells are placed in this area. A few wells have been shut down due to water quality problems. Wells adjacent to Porter Slough have been closed due to percloroethylene (PCE) contamination, and a few wells in the downtown area and eastern portion of town have experienced nitrate problems. In addition, wells in t h e eastern part of town have nitrate problems (originating from citrus orchards). All active wells produce water that meets State and federal drinking water quality standards. The City does not presently provide treatment for any well water.

Groundwater Management

The Deer Creek and Tule River Authority (DCTRA) is a joint powers authority comprised of five local irrigation districts in the vicinity of Porterville. The DCTRA adopted a new Groundwater Management Plan (GMP) in the summer of 2006. The City may consider becoming a partial or full member of the DCTRA and signatory to the GMP, or the City may develop their own GMP.

GUIDING POLICY

OSC-G-8 Ensure adequate water quality and supply for the entire Porterville community.

IMPLEMENTATION POLICIES

OSC-I-37 Establish watershed protection standards and review procedures in the Zoning Ordinance to protect groundwater resources.

These standards may include requirements for water holding areas such as creek beds, recessed athletic fields, ponds, and other features that serve to recharge groundwater, reduce runoff, improve water quality, and decrease flooding.

OSC-I-38 Continue to work with the Central Valley Regional Water Quality Control Board (RWQCB) for short- and long-term solutions for excessive salts in the groundwater, and maintain a valid RWQCB permit for all wastewater treatment operations.

OSC-I-39 Adopt the Regional Water Quality Control Board's policies on soil disturbance activities in order to minimize the disturbance of soil, vegetation, organic debris, and other materials that control runoff.

These policies include*:*

- *Planning and conducting operations and activities in a manner that will not disturb extensive areas of soil or that will disrupt local drainage;*
- *Promptly reseeding or stabilizing areas where soil is disturbed to prevent erosion;*
- *Establishing restrictions on activities in water protection zones, designated by the U.S. Forest Service and the California Department of Forestry and Protection;*
- *Stabilizing and maintaining the stream flow regimen and apply soil control measures in a timely manner;*
- *Prohibiting organic or earthen material from being discharged into any streams or placed at locations where they can pass into streams in quantities that could impair any beneficial use of the water; and*
- *Regulating operations and activities that cause increased turbidity levels in local streams so that streams are not affected for extended periods or for more than ten percent of the time and operations and activities shall not violate water quality objectives*.

OSC-I-40 Support the identification of degraded surface water and groundwater resources and promote restoration where appropriate.

This will be accomplished as part of the groundwater quality and quantity monitoring program.

OSC-I-41 Monitor and enforce provisions to control non-point source water pollution, including storm water flows, contained in the United States Environmental Protection Agency NPDES program as implemented by the Regional Water Quality Control Board.

OSC-I-42 Support the collection of monitoring data for facilities or uses that are potential sources of groundwater pollution as part of project approvals, including residential and industrial development.

OSC-I-43 Work with agricultural and industrial uses to ensure that water contamination and waste products are handled in a manner that protects the long-term viability of water resources.

OSC-I-44 Work with the Regional Water Quality Control Board to ensure that all point source pollutants are adequately mitigated (as part of the CEQA review and project approval process) and monitored to ensure long-term compliance.

The City will develop a priority list of businesses that may impact water quality as a result of the services they provide and give recognition to businesses that actively promote activities that reduce or eliminate storm water pollution.

OSC-I-45 Continue to require use of feasible and practical best management practices (BMPs) and other mitigation measures designed to protect surface water and groundwater from the adverse effects of construction activities and urban runoff in coordination with the Regional Water Quality Control Board.

OSC-I-46 Adopt water well standards meeting the requirements of the State with Department of Water Resources.

OSC-I-47 Prepare a Groundwater Management Plan and develop groundwater monitoring programs with federal, State, and local agencies and the private sector to improve local groundwater pollution detection and monitoring.

The Plan will be developed in consultation with the Deer Creek and Tule River Authority.

OSC-I-48 Protect groundwater recharge areas by carefully regulating the type of development within these areas.

Regulations may include limitations on structural coverage and impervious surfaces and prohibition of uses with the potential to discharge harmful pollutants, increase erosion, or create other impacts degrading water quality.

OSC-I-49 Promote the combined use of recharge areas, public recreation, wetland mitigation programs and/or banking, as part of the open space or recreational trail system to the extent deemed feasible by good engineering or geotechnical practice.

Such programs may be jointly or individually managed by the City of Porterville.

OSC-I-50 Do not allow new septic systems within the Porterville Area unless wastewater collection facilities are unavailable and the applicant agrees to connect when permanent facilities are constructed.

OSC-I-51 Prior to the approval of individual projects, require the County Engineer and/or Building Official to verify that the provisions of applicable point source pollution programs have been satisfied.

OSC-I-52 Establish requirements for appropriate Best Management Practices to be implemented during construction efforts to control the discharge of pollutants, prevent sewage spills, and avoid discharge of sediments into streets, stormwater conveyance channels, or waterways.

The use of pervious materials for runoff channels and parking areas shall be encouraged, such as grass or permeable/porous pavement.

OSC-I-53 Require development to retain areas of open space as natural or landscaped to aid in the recharge and retention of runoff.

Use of native and/or drought-tolerant plant material is encouraged in replanting and hydroseeding operations.

OSC-I-54 Support efforts to create additional water storage where needed, in cooperation with federal, State, and local water authorities. Additionally, support and/or engage in water banking in conjunction with these agencies where appropriate.

OSC-I-55 Participate in the development, implementation, and maintenance of a program to institute recharge aquifers underlying the Planning Area. The program shall make use of flood and other waters to offset existing and future groundwater pumping.

OSC-I-56 Incorporate natural drainage systems and groundwater recharge features into developments where appropriate and feasible.

These drainage systems and groundwater recharge features shall be reviewed by the County Engineer and/or Building Official prior to the issuance of grading permits.

OSC-I-57 Update the emergency water conservation plan to include appropriate conservation policies that can be implemented during times of water shortages caused by drought, loss of one or more major sources of supply, contamination of one of more sources of supply, or other natural or manmade events.

This update will ensure consistency with the City's Urban Water Management Plan.

6.6 AIR RESOURCES

Porterville is located in the San Joaquin Valley Air Basin (SJVAB). The Air Quality monitoring has been conducted in the SJVAB for the last 15 years. While new and innovative pollution controls has made the San Joaquin Valley Air Pollution Control District (SJVAPCD) a leader in the rate of improvement, the region is not in attainment and the air basin still has poor air quality. Much of this pollution is attributed to the valley's topography, meteorology, and intensive agricultural uses. In 2006, the major sources of air pollution in the San Joaquin Valley were heavy duty trucks, other mobile sources, autos and light trucks, and fuel combustion from stationary sources.[13]

The California Air Resources Board (CARB) operates a regional network of air pollution monitoring stations that provide information on ambient concentrations of criteria air pollutants and toxic air contaminants. In Tulare County, CARB measures certain air pollutants, such as carbon monoxide (CO), ozone (O3), nitrogen dioxide (NO2), and particulate matter less than ten microns in diameter (PM-10). Data is collected at five active air quality stations located in Tulare County. The station closest to Porterville is about 20 miles to the northwest in Visalia on North Church Street.

[13] San Joaquin Valley Regional Air Pollution Control District, http://www.valleyair.org/General_info/aboutdist.htm. April 16, 2007.

PHYSICAL SETTING & AIR QUALITY

The SJVAB has an inland Mediterranean climate that is characterized by warm, dry summers and cooler winters. Summer high temperatures often exceed 100 degrees Fahrenheit (°F), averaging from the low 90s in the northern part of the valley to the high 90s in the south. The daily summer temperature variation can be as high as 30 °F. Winters are for the most part mild and humid. Average high temperatures during the winter are in the 50s, while the average daily low temperature is approximately 45 °F.

The vertical dispersion of air pollutants in the valley is limited by the presence of persistent temperature inversions. Air temperatures usually decrease with an increase in altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. Air above and below an inversion does not mix because of differences in air density thereby restricting air pollutant dispersal.

Wind speed and direction play an important role in dispersion and transport of air pollutants. During summer periods, winds usually originate from the north end of the San Joaquin Valley and flow in a south-southeasterly direction through the valley, through the Tehachapi Pass and into the neighboring Southeast Desert Air Basin. In the winter months, winds occasionally originate from the south end of the valley and flow in a north-northwesterly direction. Also, during winter months, the valley experiences light, variable winds, less than 10 miles per hour. Low wind speeds, combined with low inversion layers in the winter, create a climate conducive to high concentrations of certain air pollutants.

The SJVAB is basically a flat area bordered on the east by the Sierra Nevada Mountains; on the west by the Coast Ranges; and to the south by the Tehachapi Mountains. Airflow in the SJVAB is primarily influenced by marine air that enters through the Carquinez Straits where the San Joaquin-Sacramento Delta empties into the San Francisco Bay. The region's topographic features restrict air movement through and out of the basin. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Frequent transport of pollutants into the SJVAB from upwind sources also contributes to poor air quality.

AIR QUALITY REGULATORY SYSTEM

Federal and State laws require emission control measures in areas where air pollution exceeds standards. The San Joaquin Valley is one of these areas. The federal government, primarily through the Environmental Protection Agency (EPA) and the federal Clean Air Act, sets standards, oversees state and local actions, and implements programs for toxic air pollutants, heavy-duty trucks, locomotives, ships, aircraft, off-road diesel equipment, and some types of industrial equipment. Currently, EPA has established national standards for criteria air pollutants: ozone (O3); carbon monoxide (CO); nitrogen dioxide (NO2); sulfur dioxide (SO2); suspended particulate matter (PM-10 and PM-2.5); and lead (Pb).

Pursuant to the California Clean Air Act of 1988, the State government, through CARB and the Bureau of Automotive Repair, set more stringent State standards, oversees local actions, and implements programs for motor vehicle emissions, fuels, and smog checks.

The San Joaquin Valley Air Pollution Control District (SJVAPCD) was established in 1991 to administer local, state, and federal air quality management programs and implement control measures. The SJVAPCD is responsible for developing attainment plans for the San Joaquin Valley Air Basin, for inclusion in California's State Implementation Plan (SIP), as well as establishing and enforcing air pollution control rules and regulations. The attainment plans must demonstrate compliance with federal and State ambient air quality standards, and must first be approved by CARB before inclusion into the SIP. The SJVAPCD regulates, permits, and inspects stationary sources of air pollution.

SJVAPCD also administers the Air Toxics "Hot Spots" Program which involves reviewing new stationary sources to ensure compliance with required emission controls and limits, maintaining an inventory of existing stationary sources of toxic air contaminants, and developing new rules and regulations to reduce toxic air contaminant emissions.

Local cities and counties are responsible for implementing air friendly community planning that promotes pedestrian traffic, commute alternatives and cleaner transit fleets. They can also regulate odors and nuisances and the release of particulate matter at construction sites.

CRITERIA AIR POLLUTANTS

As required by the Federal Clean Air Act passed in 1977, EPA has identified six criteria air pollutants that are pervasive in urban environments and for which State and national health- based ambient air quality standards have been established. EPA identifies these pollutants as criteria air pollutants because the agency has regulated them by developing specific public health and welfare based criteria as the basis for setting permissible levels. Ozone, carbon monoxide (CO), nitrogen dioxide (NO2), sulfur dioxide (SO2), particulate matter (PM), and lead (Pb) are the six criteria air pollutants.

Ozone (O3)

Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. Ozone is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NOx). ROG and NOx are known as precursor compounds for ozone. Significant ozone production generally requires ozone precursors to be present in a stable atmosphere with strong sunlight for approximately three hours. Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources of ROG and NOx under the influence of wind and sunlight. Ozone concentrations tend to be higher in the late spring, summer, and fall, when the long sunny days combine with regional subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds, like ozone. Ground level ozone in conjunction with suspended particulate matter in the atmosphere leads to hazy conditions generally termed as "smog."

Carbon Monoxide (CO)

Carbon monoxide, a colorless and odorless gas, is a non-reactive pollutant that is a product of incomplete combustion and is mostly associated with motor vehicle traffic. High carbon monoxide concentrations develop primarily during winter when periods of light wind combine with the formation of ground level

temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased carbon monoxide emission rates at low air temperatures. When inhaled at high concentrations, carbon monoxide combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia.

Nitrogen Dioxide (NO_2)

Nitrogen dioxide is an air quality concern because it acts a respiratory irritant and is a precursor of ozone. Nitrogen dioxide is produced by fuel combustion in motor vehicles, industrial stationary sources, ships, aircraft, and rail transit.

Sulfur Dioxide(SO_2)

Sulfur dioxide is a combustion product of sulfur or sulfur-containing fuels such as coal and oil, which are restricted in the San Joaquin Valley. Its health effects include breathing problems and may cause permanent damage to lungs. SO2 is an ingredient in acid rain, which can damage trees, lakes and property, and can also reduce visibility.

Particulate Matter (PM)

PM-10 and PM-2.5 consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. (A micron is one-millionth of a meter). PM-10 and PM-2.5 represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles (PM-2.5) of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates also can damage materials and reduce visibility.

PM emissions in the Planning Area are mainly from urban sources, dust suspended by vehicle traffic and secondary aerosols formed by reactions in the atmosphere. Particulate concentrations near residential sources generally are higher during the winter, when more fireplaces are in use and meteorological conditions prevent the dispersion of directly emitted contaminants.

Lead(Pb)

Leaded gasoline (which is being phased out), paint (houses, cars), and manufacture of lead storage batteries have been the primary sources of lead released into the atmosphere. Lead has a range of adverse neurotoxic health effects for which children are at special risk. Some lead- containing chemicals cause cancer in animals.

AMBIENT AIR QUALITY STANDARDS

Regulation of air pollution is achieved through both national and State ambient air quality standards and emissions limits for individual sources of air pollutants. As required by the Federal Clean Air Act, the EPA has established National Ambient Air Quality Standards (national standards) to protect public health and welfare. California has adopted more stringent ambient air quality standards for most of the criteria air pollutants (referred to as State Ambient Air Quality Standards or State standards). In addition, California has established State ambient air quality standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Because of California's unique meteorological problems, there are considerable differences between State and federal standards currently in effect in California, as shown in Table 6-5. The table also summarizes the related health effects and principal sources for each pollutant.

The ambient air quality standards are intended to protect the public health and welfare, and they incorporate an adequate margin of safety. They are designed to protect those segments of the public most susceptible to respiratory distress, known as sensitive receptors, including asthmatics, the very young, the elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels somewhat above the ambient air quality standards before adverse health effects are observed.

Table 6-5: State and National Criteria Air Pollutant Standards (2006)

Pollutant	*Averaging Time*	*California Standard*	*National Primary Standard*	*Major Pollutant Sources*	*Pollutant Health and Atmospheric Effects*
Ozone	1 hour	0.09 ppm	---	On-road motor vehicles, other mobile sources, solvent extraction, combustion, industrial and commercial processes.	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.
	8 hours	0.07 ppm	0.08 ppm		
Carbon Monoxide	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.
	8 hours	9.0 ppm	9 ppm		
Nitrogen Dioxide	1 hour	0.25 ppm	---	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.	Irritating to eyes and respiratory tract. Colors atmosphere reddish brown.
	Annual Average	---	0.053 ppm		
Sulfur Dioxide	1 hour	0.25 ppm	---	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.	Irritates upper respiratory tract, injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron and steel. Limits visibility and reduces sunlight.
	24 hours	0.04 ppm	0.14 ppm		
	Annual Average	---	0.03 ppm		
Respirable Particulate Matter (PM_{10})	24 hours	50 $\mu g/m^3$	150 $\mu g/m^3$	Dust- and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g. wind-raised dust and ocean sprays).	May irritate eyes and respiratory tract, decreases lung capacity and increases risk of cancer and mortality. Produces haze and limit visibility.
	Annual Average	20 $\mu g/m^3$	50 $\mu g/m^3$		
Fine Particulate Matter ($PM_{2.5}$)	24 hours	---	65 $\mu g/m^3$	Fuel combustion in motor vehicles, equipment and industrial sources; residential and agricultural burning. Also formed from photochemical reactions of other pollutants, including NOx, sulfur oxides, and organics.	Increases respiratory disease, lung damage, cancer and premature death. Reduces visibility and results in surface soiling.
	Annual Average	12 $\mu g/m^3$	15 $\mu g/m^3$		
Lead	Monthly Average	1.5 $\mu g/m^3$	---	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.
	Quarterly	---	1.5 $\mu g/m^3$		

Note: ppm = parts per million; and $\mu g/m^3$ = micrograms per cubic meter

A few of these standards have been updated for 2007. However, the existing conditions for this document are based on 2006. Therefore the 2006 standards are listed here.

Source: California Air Resource Board.

Attainment Status

Under amendments to the Federal Clean Air Act, the EPA has classified air basins or portions thereof, as either "attainment" or "nonattainment" for each criteria air pollutant, based on whether or not the national standards have been achieved. The California Clean Air Act, which is patterned after the Federal Clean Air Act, also requires areas to be designated as "attainment" or "nonattainment" for the State standards. Thus, areas in California have two sets of attainment/nonattainment designations: one set with respect to the national standards and one set with respect to the State standards.

Table 6-6 shows the attainment status of the San Joaquin Valley with respect to the national and State ambient air quality standards for criteria pollutants.

Table 6-6: San Joaquin Valley Attainment Status for Ambient Air Quality Standards

Pollutant	*Attainment Status*	
	Federal Standards	*State Standards*
Ozone – one hour	No Federal Standard	Nonattainment/Severe
Ozone – eight hour	Nonattainment/Serious	No State Standard
PM-10	Nonattainment/Serious	Nonattainment
PM-2.5	Nonattainment	No State Standard
Carbon Monoxide – Tulare County	Unclassified/Attainment	Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide – Tulare County	Unclassified	Attainment
Lead	No Designation	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility-Reducing Particles	No Federal Standard	Unclassified

Source: San Joaquin Valley Air Pollution Control District, 2006.

TOXIC AIR CONTAMINANTS

The ambient background of toxic air contaminants (TACs) is the combined result of many diverse human activities, including emissions from gasoline stations, automobiles, dry cleaners, industrial operations, hospital sterilizers, and painting operations.

In 1987, the California State legislature enacted, through Assembly Bill 2588, the Air Toxics Hot Spots Information and Assessment Act, which requires companies in California to provide information to the public about emissions of toxic air contaminants and their possible impact on public health. The SJVAPCD implements this act through the local Air Toxics "Hot Spots" Program. Toxic air contaminants are pollutants that occur at relatively low concentrations and are associated with carcinogenic and other adverse health effects, but for which no ambient air quality standards have been established. Impact is measured as "maximum individual cancer risk" which is the likelihood that a person exposed to concentrations of TACs over a lifetime will develop cancer. As of 2005, there were no facilities located in the Porterville Planning Area identified as a significant risk.[14]

The Air Resources Board maintains an inventory of toxic air contaminants concentrations and their health risks. Total emissions in the year 2003 from stationary sources of TACs in the San Joaquin Valley included: 1.34 parts per billion (ppb) of acetaldehyde, 0.46 ppb of benzene; 0.10 of ppb of butadiene, 0.10 ppb of carbon tetrachloride, 0.08 ng/m3of chromium, 0.15 ppb of paraichlorobenzene, 3.02 ppb of formaldehyde, 0.14 ppb of methylene chloride, and 0.03 ppb of perchloroethylene.

The SJVAPCD regulates toxic air contaminants from stationary sources through their permit process. Mobile sources of toxic air contaminants are regulated indirectly through vehicle emissions standards or reactive organic gas (ROG) and through fuel specifications. Cities play a role in reducing public exposure to TACs by enforcing zoning ordinances and ensuring proper buffer zones between stationary sources that emit toxic contaminants and sensitive receptors located down wind.

Asbestos

In 1986, CARB identified asbestos as a TAC based on its classification as a known cancer causing pollutant. In that process, CARB found that no threshold exposure level could be identified below which adverse health effects would not be expected. Asbestos occurs naturally in ultramafic rock (which includes serpentine). When this material is used in unpaved surfacing and disturbed by vehicles and other means, dust containing asbestos can be generated. Serpentine soils have been identified in Tulare County. Figure 7 - 2 in the Public Health & Safety Element shows areas more likely to contain ultramafic rock. Additional policies addressing asbestos are also in the Public Health
& Safety Element.

SENSITIVE RECEPTORS

Some receptors are considered more sensitive than others to air pollutants. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions source, or duration of exposure to air pollutants. Land uses such as schools, children's day care centers, hospitals, and convalescent homes are considered to be more sensitive than the general public to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress and other air quality-related health problems. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions than commercial and industrial areas, because people generally spend longer periods of time at their residences, resulting in greater exposure to ambient air quality conditions. Recreational uses are also considered sensitive, due to the greater exposure to ambient air quality conditions, and because the presence of pollution detracts from the recreational experience.

[14] San Joaquin Air Pollution Control District, *2005 Annual Report on the District's Air Toxics Program.*

GUIDING POLICY

OSC-G-9 Improve and protect Porterville's air quality by making air quality a priority in land use and transportation planning and in development review.

IMPLEMENTATION POLICIES

OSC-I-58 Continue to assess air quality impacts through environmental review and require developers to implement best management practices to reduce air pollutant emissions associated with the construction and operation of development projects.

The County will use the San Joaquin Valley Air Pollution Control District (SJVAPCD) Guidelines for Assessing and Mitigating Air Quality Impacts for determining and mitigating project air quality impacts and related thresholds of significance for use in environmental documents. The County shall cooperate with the SJVAPCD in the review of development proposals.

BMPs could include transportation demand management strategies for large development project such as:

- *Providing bicycle access and parking facilities;*
- *Providing preferential parking for high-occupancy vehicles, carpools, or alternative fuels vehicles;*
- *Establishing telecommuting programs or satellite work centers;*
- *Allowing alternative work schedules;*
- *Subsidizing public transit costs for employee; and*
- *Scheduling deliveries at off-peak traffic periods.*

OSC-I-59 Require preparation of a Health Risk Assessment for any development subject to the Air Toxics "Hot Spots" Act.

OSC-I-60 Require dust control measures as a condition of approval for subdivision maps, site plans, and all grading permits.

OSC-I-61 Coordinate air quality planning efforts with other local, regional and State agencies.

OSC-I-62 Be proactive in educating the public about the linkages between land use, transportation and air quality.

OSC-I-63 Notify local and regional jurisdictions of proposed projects that may affect regional air quality.

OSC-I-64 Investigate replacing vehicles with low-emission technology.

OSC-I-65 When asbestos has been identified in the preliminary soils report, require all new development and public works projects to comply with all provisions of State and regional ATCM regulations for control of airborne asbestos emissions relating to construction, road maintenance, and grading activities.

The plan will establish Best Management Practices for construction, grading and road maintenance in areas with naturally-occurring asbestos, consistent with State and regional regulations for Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations. BMPs may include but are not limited to:

- *Wetting soil during excavation and other dust suppression measures;*
- *Wetting roads, excavated materials and rinsing equipment;*
- *Limiting vehicle speeds within construction areas;*
- *Creating wind breaks and berms;*
- *Suspending activities when wind creates visible dust;*
- *Prohibiting rock-crushing of asbestos-containing materials;*
- *Monitoring dust levels;*
- *Posting warning signs;*
- *Replanting; and*
- *Paving or other permanent sealants or covers.*

6.7 ENERGY RESOURCES

The Porterville Area depends on energy to maintain a vital economy and desirable lifestyle. It uses electricity and natural gas to light, heat, and cool structures and to power its office equipment, industrial machinery, public services, and home appliances. Porterville also uses petroleum products to move people and products along its transportation corridors.

By reducing the amount of energy consumed in housing, commercial structures, public facilities, and transportation and the energy demand per capita plus using more renewable sources of energy, the environment and public health will be better protected, Porterville's standard of living can be increased, and the cost of new infrastructure to deliver energy to the Porterville Area will be reduced. Building design standards which recommend better use of materials and insulation, plus solar oriented site design reduces demand for natural gas and heating products. Transportation and land use measures that support transit and facilitate walking and bicycling reduce dependence on fossil fuels. Together, these steps will lead to a more sustainable energy future.

In addition to the policies below, land use and circulation policies in this General Plan contribute to the goals of reducing energy consumption and per capita energy use.

GUIDING POLICY

OSC-G-10 Reduce and conserve energy use in existing and new commercial, industrial, and public structures.

IMPLEMENTATION POLICIES

OSC-I-66 Adopt guidelines and incentives for using green building standards in new construction.

Green building design guidelines may include required and recommended "green" design and construction strategies including: Building Site and Form, Natural Heating or Cooling, Transportation, Building Envelope and Space Planning, Building Materials, Water Systems, Electrical Systems, HVAC Systems, Construction Management, and Commissioning.

OSC-I-67 Incorporate cost-effective energy conservation measures into all building programs owned by the City, including construction, operations, and maintenance.

Strategies will include conducting periodic energy audits of public buildings.

OSC-I-68 Publish best practices guide to saving energy on the City's website and other City publications.

OSC-I-69 Establish regulations to allow flexibility in site planning, solar orientation, roof design, and landscaping to decrease summer cooling and winter heating needs.

OSC-I-70 Ensure codes allow for environmentally acceptable alternative forms of energy production and green building techniques.

6.8 CULTURAL RESOURCES

One of the Porterville Area Community Plan initiatives is to protect community assets, including sites with historic, archeological or paleontological significance. The lands encompassed by the Planning Area have a long and rich history of human habitation, including primarily the Koyete Indian sub-tribe, the Yokuts. Archeological evidence of pre-historic cultures has been documented. A large inventory of historic homes and buildings provide a visual history of the development of the Porterville Area from its first modern settlement to today. The existence of both archaeologically sensitive areas and historic buildings in Porterville underscores the need for policies that preserve such aspects of the Porterville Area's heritage.

Several State laws, most notably the California Environmental Quality Act (CEQA), protect archaeological and historical resources. To preserve historic resources, the State has formed the State Historical Resources Committee that conducts the State Historic Resource Inventory and maintains the California Register of Historic Resources, which identifies historic landmarks and points of interest. The Committee also provides recommendations for the National Register of Historic Places.

ARCHAEOLOGICAL RESOURCES

According to the Southern San Joaquin Valley Archaeological Information Center at California State University, Bakersfield, 45 archaeological sites have been documented within the Porterville Planning Area.15 The main village of the Yokuts, Chokowisho, was located near Murry Hill north of Porter Slough until the mid-1850s. The Rocky Hill area contains numerous rock art and bedrock mortar sites, not all of which have been officially recorded. Most are these sites are from the prehistoric era and contain bedrock mortars, rock art (i.e. petroglyphs, or pictographs), human burials, village complexes, midden16, and artifacts (i.e. projectile points, pestles, pottery, etc). There are no archaeological sites currently listed on the National Register of Historic Places.

The Yokuts village of Trawoiu (P-54-000313) contained human remains, bedrock mortars, pictographs, artifacts and extensive midden. Archaeologists considered this to be a very important site and recommended that it be protected. The site was compromised when the landowner constructed a dam which inundated the site.

PALEONTOLOGICAL RESOURCES

Paleontological resources are the mineralized (fossilized) remains of prehistoric plant and animal life exclusive of human remains or artifacts. Fossil remains such as bones, teeth, shells, and leaves are found in geologic deposits (rock formations) where they were originally buried. Fossil remains are considered to be important as they provide indicators of the earth's chronology and history. These resources are afforded protection under CEQA and are considered to be limited and nonrenewable, and they provide invaluable scientific and educational data.

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[15] The Northwest Information Center does not provide maps showing specific locations in order to protect these sites fromlooting.

[16] A mound or deposit containing shells, animal bones, and other refuse that indicates the site of a human settlement.

The University of California, Museum of Paleontology lists 25 localities where fossils have been found in Tulare County. However, due to the sensitive nature of these sites, they are not mapped. 17 Identified fossil types in the County include prehistoric mammals, other vertebrates, invertebrates and plants.

HISTORIC RESOURCES

Many of the historic resources in Porterville, which date back to the days of its founding in the late 1800s, are located near Downtown. The Porterville Area's historic buildings reflect its changing role through time as a center of agriculture and commercial activities.

In 1986, the City of Porterville conducted a comprehensive inventory of sites and districts with potential historic significance. This inventory included an assessment of 337 individual residences and 89 "special" structures and sites, including churches, schools, museums, government, and commercial properties. The final evaluation process produced an inventory of 75 sites that may have eligibility for National Register designation. However, these properties are not currently listed on the National Register. According to the Southern San Joaquin Valley Archeological Information Center, many more properties have potential to also be listed in the national and state registries if they were formally evaluated or re-evaluated.

In total, the Porterville Planning Area contains four National Register Sites and two California Historic Landmarks. Five of the six historic sites are shown in Figure 6-5.

National Register Sites

The Salad House is listed in the National Historical Registry of Old Houses and in National Register of Historic Places. Built in 1891, its unique Second Empire architecture and long family residence makes this a significant local historic resource. It is now a museum operated by the City's Department of Parks and Leisure Services.

First Congregational Church (1909)

The Porterville Main U.S. Post Office, built in 1933, was placed on the National Register in 1995 for its distinctive art deco architecture. It still functions as a Post Office.

The First Congregational Church, also known as the United Church of Christ, was placed on the National Register in 1999 for architecture and its role in local social history. It was built in 1909.

The address for Tenable or the Walter Richardson House has been restricted. It was added to the National Register in 1986 because it was designed by Henry Greene of Greene & Greene Architects in 1929.

[17] University of California Museum of Paleontology, http://ucmpdb.berkeley.edu/loc.html. May 25, 2007.

California Historic Landmarks

The Tule River Stage Station (California Historic Landmark #473), located at the intersection of North Main Street and West Henderson Avenue, represents an emigrant trail stopping place on the bank of the Tule River from 1854 until the river changed its course in 1862. It was a Butterfield Overland Mail stage station between 1858 and 1861. R. Porter Putnam, who founded Porterville in 1864, operated the station between 1860 and 1862.

The First Tule River Reservation (California Historic Landmark #388) was originally established in 1857. The marker is located at the Alta Vista School at 2293 E. Crabtree Avenue. Native Americans from a widespread area were brought here. The local Native Americans, the Koyeti Tribe towards the west and the Yandanchi Tribe toward the east, were branches of the Yokuts Indians that occupied the San Joaquin Valley. The Tule River Indian Reservation was moved in 1873 to its present location, 10 miles east southeast of Porterville. Although the current reservation boundaries are located outside the Planning Area, designated Tribal Land Sites, including numerous bridges, dams, canals, and historic roads, are situated within the Planning Area.

Figure 6-5 historic sites

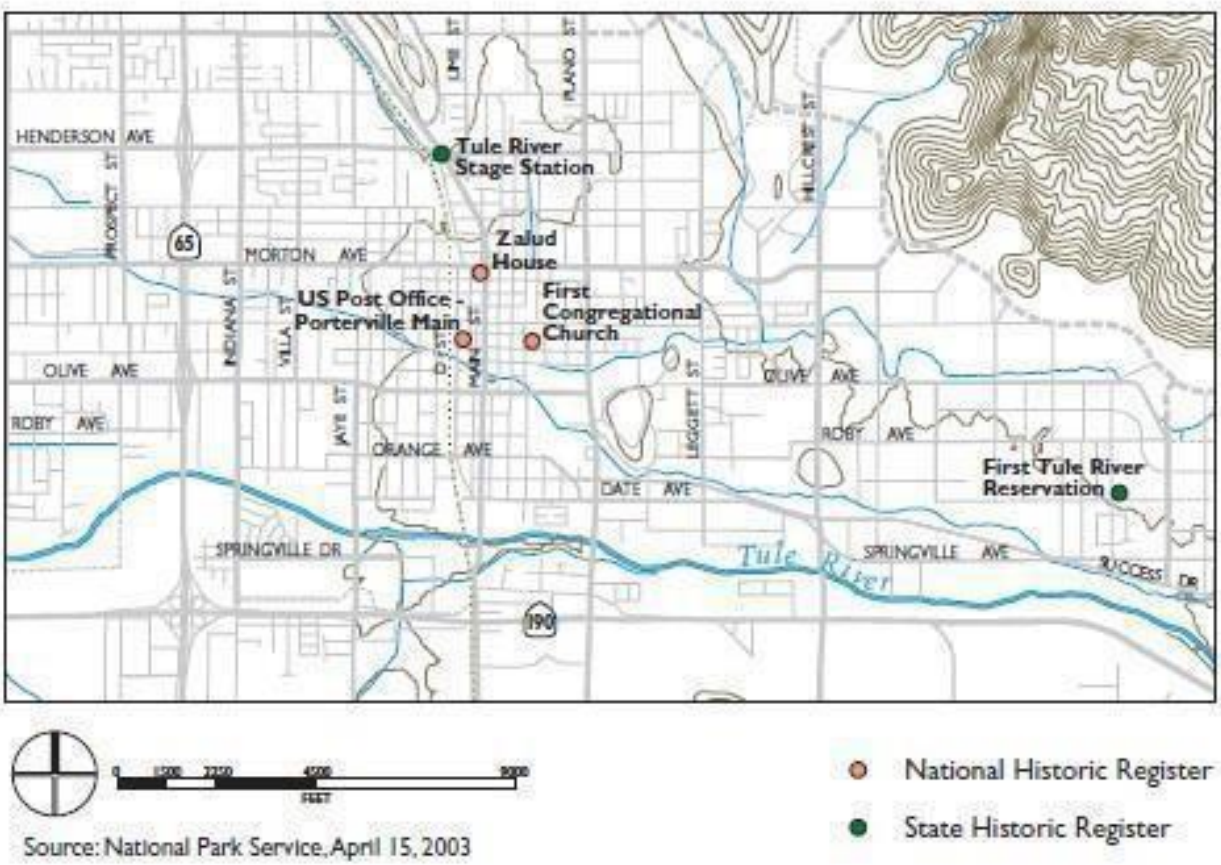

Figure 6-5
Historic Sites

GUIDING POLICY

OSC-G-11 Identify and protect archaeological, paleontological, and historic resources.

IMPLEMENTATION POLICIES

OSC-I-71 The City of Porterville will update the inventory of historic resources to determine sites or buildings of federal, State, or local historic significance.

OSC-I-72 Develop an agreement with Native American representatives for consultation in the cases where new development may result in disturbance to Native American sites.

OSC-I-73 Require that new development analyze and avoid any potential impacts to archaeological, paleontological, and historic resources by:

- Requiring a records review for development proposed in areas that are considered archaeologically sensitive, including hillsides and near the Tule River;
- Studying the potential effects of development and construction (as required by CEQA);
- Developing, where appropriate, mitigation measures to minimize potential impacts; and
- Implementing appropriate measures to avoid the identified impacts.

In the event that historical or archaeological resource are accidentally discovered during construction, the City will require that grading activity in the immediate area cease. A qualified archaeologist will then be required to make an immediate evaluation and recommend avoidance measures or appropriate mitigation.

7
Public Health & Safety

The purpose of the Public Health & Safety Element is to identify the natural and man-made public health and safety hazards that exist within the Porterville Area, and to establish preventative and responsive policies and programs to mitigate their potential impacts. This Element addresses geologic hazards, wildfire hazards, hazardous materials, flood hazards, and safety services. It also includes policies on natural hazards mitigation planning, which respond to the Federal Disaster Mitigation Act of 2000 and the Federal Emergency Management Agency's implementing regulations. Airport safety is addressed in the Land Use, Circulation, and Noise Elements.

7.1 SEISMIC & GEOLOGICAL HAZARDS

Geologic and soils hazards include steep slopes and landslides, subsidence, expansive soils, and soils with naturally-occurring asbestos. These hazards are shown on figures 7-1 and 7-2. Additional information on soils and erosion within the Planning Area is in Open Space & Conservation Element. Seismic hazards related to earthquakes include ground shaking and ground failures, such as liquefaction, lateral spreading, ground lurching, seiches, mudslides, landslides, and soil slumping.

GEOLOGY & SOILS

The valley floor is mostly composed of consolidated alluvial deposits which can be soft near the river and other waterways and firm in the downtown, north and northeast areas as a transition to the granitic bedrock deposits in the foothills. The Porterville Planning Area contains a wide variety of soil types which have a significant bearing on land planning and development. Porterville Clay is the most prominent soil type located within the Planning Area, comprising approximately 18 percent of the Planning Area.

Steep Slopes and Landslides

The majority of the urban area is at elevations between 400 and 800 feet. However, the eastern portion of the Planning Area is in the Sierra Nevada foothills where elevations reach almost 1,800 feet above sea level. Slopes can be greater than 30 percent grade. Development which occurs on slopes greater than 25 percent exacerbates soil erosion, risk of landslides and wildland fires, as well as impacting the visual aesthetics of the area. Figure 7-1 shows the steep slopes in the Planning Area.

Areas with fractured and steep slopes, where less consolidated or weathered soils overlie bedrock, have a higher risk of landslides. The California Geological Survey determined that no areas in Tulare County are at risk for catastrophic failure due to landslides.

The City adopted a Hillside Development Ordinance which includes development, design and landscape standards for the Hillside Development Zone. The Ordinance will limit the number of housing units allowed per acre in sloped areas in order to protect the public health, safety and welfare; protect and preserve natural and biological resources for the long-term benefit of Porterville and the broader community.

Expansive Soils

Expansive soils have the potential to shrink or swell significantly with changes in moisture content, which can limit the development capacity of an area. The type and amount of the silt and clay content in the soil will determine the amount of shrink or swell associated with the various levels of water content. Soils comprised of sand and gravel are not expansive soils.

Expansive soils are most likely to be found in basins and basin rims. Any structure located on expansive soils can be significantly damaged should the soil suddenly shrink or swell. Structural damage may result over a long period of time, usually from inadequate soils and foundation engineering or the placement of structures directly on expansive soils. Construction in areas of expansive soils may require major sub-excavation and replacement of existing materials with more stable soils.

As shown in Figure 7-1 the eastern portion of the Planning Area contains clay soils with high expansion potential. Table 7-1 summarizes the distribution of soil expansion potential for the Planning Area as a whole.

Figure 7-1: Geologic Hazards

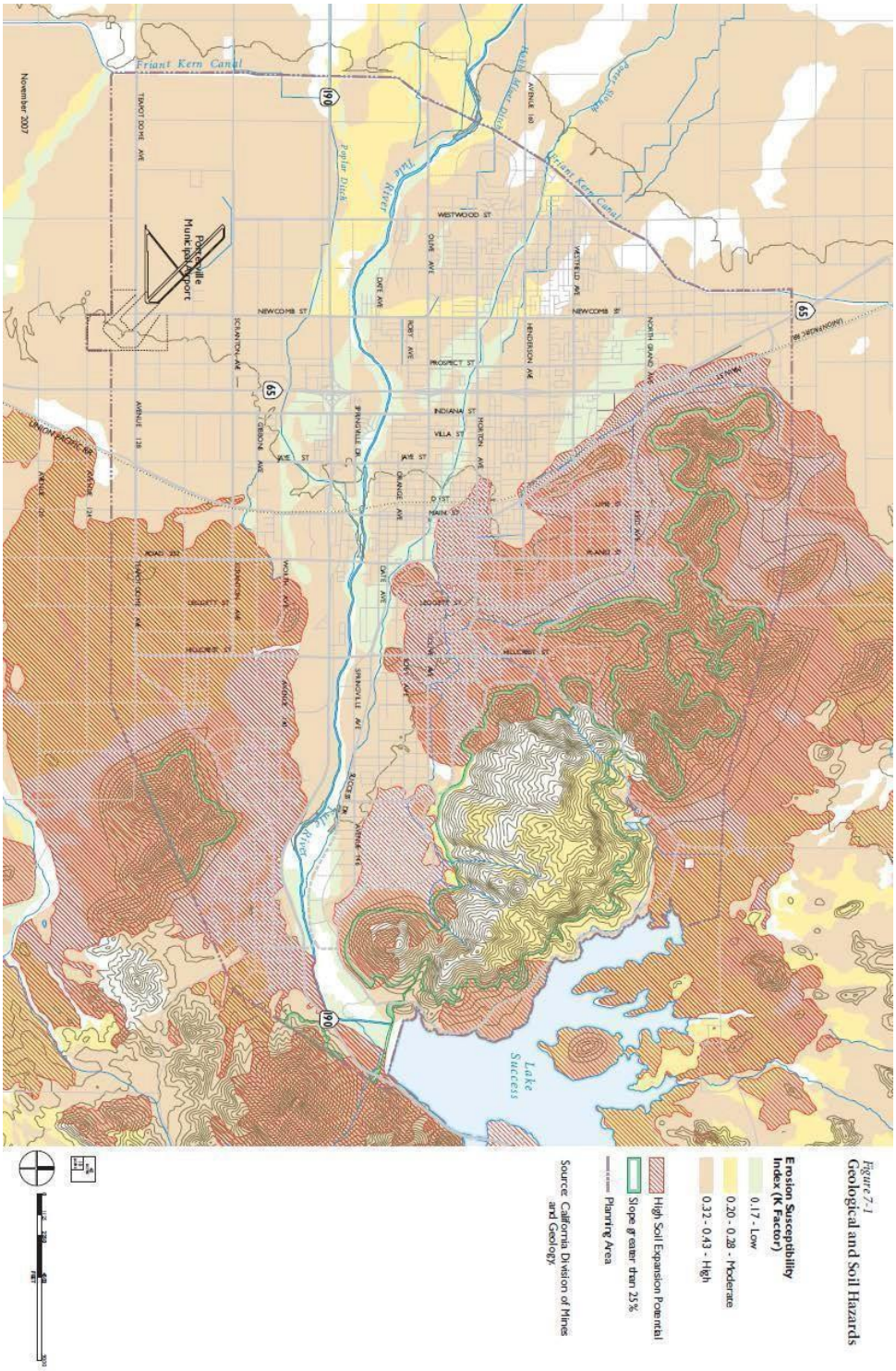

Figure 7-1 BACK

Table 7-1: Expansive Soils

Soil Expansion Potential	Total Acres	Percent of Total
High	13,722	38%
Moderate	349	1%
Low	17,563	48%
Data Unavailable[1]	4,707	13%
Total	**36,283**	**100.0%**

[1] Includes water, riverwash, rock outcrops, pits and dumps

Source: Environmental Science Associates, 2005.

Subsidence

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Soils that are particularly subject to subsidence include those with high silt or clay content. Some areas in the Central Valley have subsided more than 20 feet during the past 50 years.[1] Subsidence may occur in the Planning Area, particularly in areas with high clay content soils or due to groundwater withdrawal.

Naturally-Occurring Asbestos

Asbestos is a term used for several types of naturally-occurring fibrous minerals found in serpentine rock, and its parent material, ultramafic rock. These rock types are abundant in the Sierra foothills. Naturally-occurring asbestos (NOA) has been identified in Tulare County and ultramafic rocks have been generally mapped in the Porterville area.2, 3 Figure 7-2 illustrates areas more likely to contain natural occurrences of asbestos.

Asbestos may be released from ultramafic and serpentine rock when it is broken or crushed. This can happen when land is graded for building or agriculture purposes, at quarrying operations, or when the soil is disturbed by other activities such as the digging of fire suppression trenches. It is also released naturally through weathering and erosion. Once released from the rock, asbestos can become airborne and may stay in the air for long periods of time. Airborne asbestos is classified as a human carcinogen. Exposure to asbestos can result in health ailments, such as lung cancer, mesothelioma (cancer of the linings of the lungs and abdomen), and asbestosis (scarring of lung tissues that results in constricted breathing).[4]

This hazard is also addressed in the Open Space & Conservation Element.

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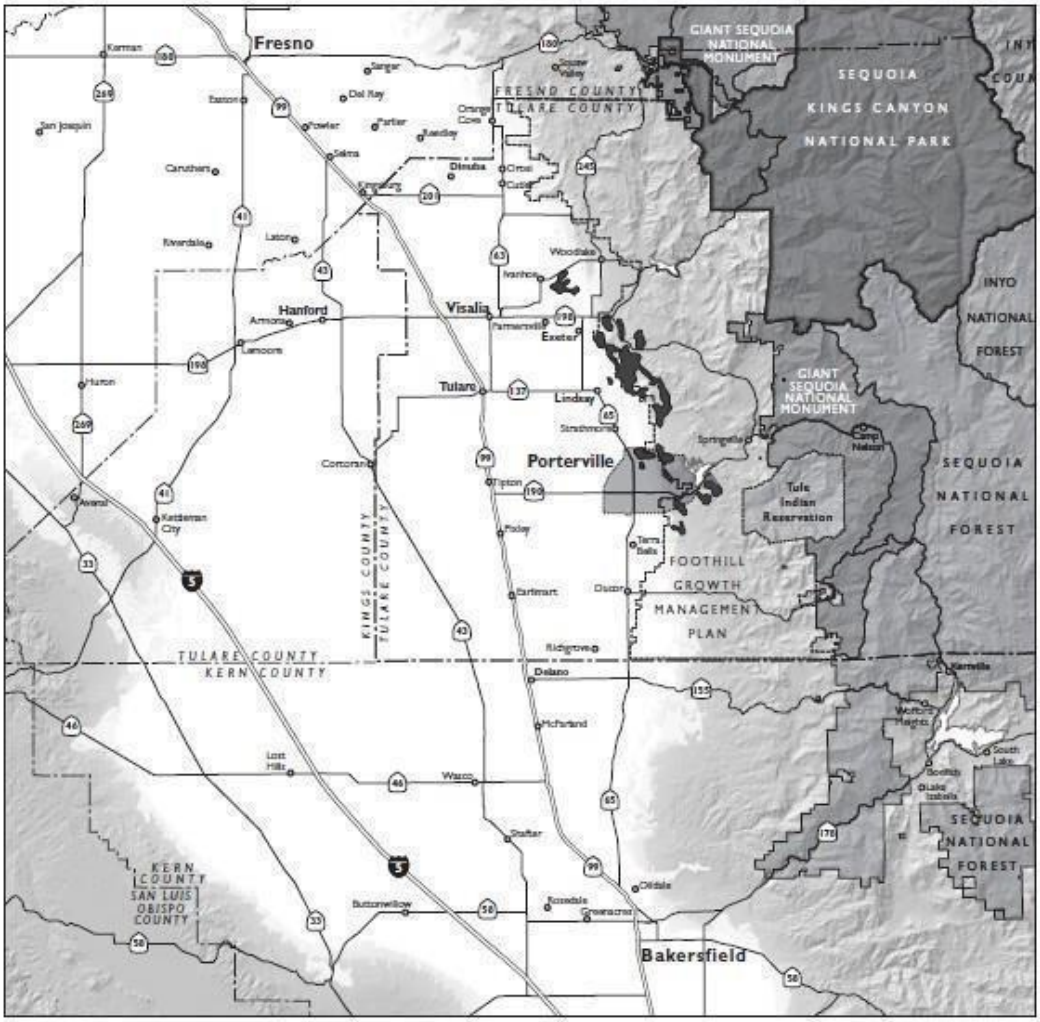
[1] Tulare County, Plan Background Report, October 2004. pg. 8-11.

[2] Geologic maps are generalized depictions of the presence and distribution of rock types. Without extensive surveys, detailed maps of NOA are not feasible.

[3] California Air Resources Board. http://www.arb.ca.gov/toxics/asbestos/geninfo.htm

[4] SJVAPCD, Draft Staff Report Asbestos for Surfacing Applications, March, 2002 .

Figure 7-2 Ultramafic Rock in Region



The ultramafic rock areas shown on this map are adapted from Jennings, C.W., 1977, Geologic Map of California, California Department of Conservation, Division of Mines and Geology, Geologic Data Map No. 2, scale 1:750,000.

This map should not be used to determine whether bedrock or soil on a particular parcel of land in or adjacent to areas identified as ultramafic rocks contains asbestos. A site-specific investigation would be required to make such a determination.

November 2007

Figure 7-2
Location of Ultramafic Rocks, Areas More Likely to Contain Naturally Occuring Asbestos

SEISMIC HAZARDS

There are no known active earthquake faults in the Planning Area. The closest active faults are Owens Valley fault group and Sierra Nevada Fault Zone (50 miles to the east of the Planning Area, the San Andreas Fault Zone (70 miles to the west), and an unnamed fault group north of Bakersfield (40 miles to the south).1 Major earthquakes such as the 1906 San Francisco, 1952 Kern County, and 1983 Coalinga quakes were felt and caused some minor to moderate property damage in Porterville. Other potentially active faults exist near Tulare Buttes, about 30 miles north of Porterville. These faults are small and have exhibited activity in the last 1.6 million years, but not in the last 200 years. It is possible but unlikely that previously unknown faults could become active in the area. The State Geologist has not delineated any Alquist-Priolo Earthquake Fault Zones within or near the Planning Area.

Ground Shaking

The most significant hazard associated with earthquakes for the Porterville area is ground shaking rather than surface rupture or ground failure. However, the hazards due to ground shaking are considered to be minimal. Ground shaking intensities are measured using the modified Mercalli Intensity Scale. This is a 12-point scale of earthquake intensity based on local effects experienced by people, structures, and earth materials. Effects range from those that are detectable only by seismicity recording instruments at M1 (I) to total destruction at M12 (XII). The Modified Mercalli Rating for the Porterville area, as determined by the California Division of Mines and Geology, is estimated to be between Intensity M7 (VII) and M8 (VIII). Intensity M7 will cause considerable damage in poorly designed or constructed buildings (including some broken chimneys), slight to moderate damage in well-built ordinary structures, and negligible damage in buildings of good design and construction. Intensity M8 will cause great damage in poorly designed or constructed buildings (including fall of chimneys, factory stacks, columns, walls, etc.), considerable damage in ordinarily substantial structures (including some partial collapse), but slight damage in specially designed structures.

Ground Failure

Earthquake-induced ground failures, such as ruptures, lateral spreading, ground lurching, seiches, or mudslides, are unlikely to occur in the Planning Area because of its relatively stable geologic formation and lack of active faults. However, there is moderate risks of landslides due to the hillside topography, and soil slumping and liquefaction near the Tule River. There is also the risk of earthquake-induced dam failure at Success Dam. Potential inundation effects are discussed below in the Flood Hazards section.

Seismic Safety

Existing structures in the Planning Area could be affected by the types of earthquake-induced effects listed above, but to varying degrees based on length, intensity, and distance of the earthquake from a given building. New structures are required to adhere to current California Uniform Building Code (CUBC) standards for Seismic Zone 3, providing adequate design, construction and maintenance of structures to prevent exposure of people and structures to major geologic hazards. In particular, any critical facilities such as hospitals, fire and police stations and emergency communications and operations

[1] USGS Fault Maps, http://quake.wr.usgs.gov/info/faultmaps

centers must be adequately designed, constructed and maintained with the goal of remaining functional after a large seismic event. The use of flexible utility connections, building anchors, and adequately reinforced concrete can reduce the loss of life and damage to buildings for human occupancy.

GUIDING POLICY

PHS-G-1 Minimize risks of property damage and personal injury posed by geologic and seismic hazards.

IMPLEMENTING POLICIES

PHS-I-1 Amend the Zoning Ordinance to include provisions for a geologic hazards abatement district for hillside areas to ensure that geologic hazards are properly mitigated by developers or avoided prior to, or during, development.

Geologic Hazard Abatement Districts are potentially useful financing mechanisms for reducing hill slope hazards. They enable the formation of local assessment districts for the purpose of prevention, mitigation, abatement, or control of geologic hazards, allowing property owners to cooperate in solving a common problem and share costs in an equitable way. These districts are established on individual sites on a case- by-case basis through Zoning Map amendments.

PHS-I-2 Maintain and enforce appropriate building standards and codes to avoid and/or reduce risks associated with geologic constraints and to ensure that all new construction is designed to meet current safety regulations.

PHS-I-3 Provide information and incentives for property owners to rehabilitate existing buildings using construction techniques to protect against seismic hazards.

PHS-I-4 Support continued investigation by State agencies of geologic conditions within the Planning Area to promote public awareness of potential geologic and seismic hazards.

PHS-I-5 Require, as part of the preliminary soil report, a construction dust management plan when it has been determined that soils contain naturally-occurring asbestos.

PHS-I-6 If asbestos is present require construction work be done when soil moisture is sufficient to adequately compact the tread and prevent visible dust, which may contain airborne asbestos emissions.

If work is to be done under dry season conditions, then water will be added in sufficient quantities to maintain adequate soil moisture. Upon mechanical disturbance by the treads of track driven equipment, the soil will be re- compacted in six-inch or less lifts.

7.2 FLOOD HAZARDS

Porterville is in the Tulare County Flood Control District. Since the climate is relatively arid and development continues to increase the amount of impervious surfaces, surface run-off and storm drainage must be managed. The average annual precipitation in the Porterville area is approximately 10 inches. However, portions of the Tule River watershed which contribute to flooding in Porterville have a mean annual precipitation of 40 inches. Eighty–five percent of the annual precipitation occurs between November and April.

In the Planning Area, there are two natural channels for storm water discharge, the Tule River and Porter Slough. Flows in the natural waterways are largely controlled by the Success Dam, but still pose some flooding hazards, particularly in the lower-lying western portions of the Porterville Area. Flash flooding has occurred in low-lying drainage areas at the base of the foothills. The main channel of the Tule River can pass flows of about 10,000 cubic feet per second (cfs) before extensive damage occurs. Damage to urban property would occur at flows of approximately 16,000 cfs. Porter Slough has a designated capacity of 450 cfs and is an officially designated floodway of Tule River.

There are also seven irrigation ditch companies and storage reservoirs which divert and manage surface water within the Planning Area. In addition to delivering water for irrigation, the ditches provide extra capacity to carry peak flood flows and urban stormwater runoff. Minor flooding or ponding may occur on the valley floor if irrigation canals or reservoirs overflow. See the Public Facilities Element for more information about storm drainage facilities.

FLOOD ZONES

In Porterville, the storm flood hazard is considered to be low because the City does not permit development in the flood plain without adequate mitigation measures. Flood zone mapping by the Federal Emergency Management Authority (FEMA) indicates that approximately six percent of the total Planning Area is located within the 100-year floodplain and another five percent is located within the 500-year floodplain. These two floodplains closely correspond to the watercourses that flow through the Porterville Area. These flood zones are illustrated in Figure 7-3 and summarized in Table 7-2.

Table 7-2: Floodplains in Planning Area

Type	*Acres*	*Percent of Planning Area*
100 Year Floodplain	2,136	6%
500 Year Floodplain	1,958	5%
Success Dam Inundation Area	13,390	40%

Source: FEMA, 2005; U.S. Army Corps of Engineers, 2004.

Dam Safety & Inundation Hazard

A breach or overflow event at Success L a k e Dam could cause significant flooding in Porterville. This dam is overseen and maintained by the United States Army Corps of Engineers (USACE) and administered by the Sacramento District of the USACE's regional office located in Porterville. Through their work, Porterville is provided with flood safety, water resources, electricity, recreation, and camping. It includes a recreation area, located eight miles east of the Porterville Area in the western portion of the Sierra Nevada foothills.

Construction of the earth-filled dam was completed in 1961. It spans 3,490 feet across the Tule River and is 142 feet high. When full, the lake holds 82,000 acre-feet of water with a surface area of 2,450 acres.

Success Dam was originally designed to withstand an earthquake with a magnitude of 8.3. However, it was built before the process of seismic liquefaction of earth -fill dams was completely understood. The USACE is planning to re-construct and widen the existing earthen embankment dam to bring it up to federal safety standards. Construction should begin in 2009. Once the seismic retrofit is complete, USACE intends to raise the spillway by 10 feet and lengthen it by 165 feet. This addition will increase Lake Success' capacity by 28,000 acre feet.

According to a 2004 report prepared for USACE, approximately 40 percent of the Planning Area is located within the Success Dam inundation area 1. This inundation area runs through Porterville, to a location downstream of Corcoran, a distance of approximately 44 miles. Although subsequent infrastructure and drainage improvements have reduced the threat of flooding in many areas prone to inundation, the City requires a flood certificate and appropriately raised floor plates for any development proposed in an identified hazardous flood zone.

GUIDING POLICY

PHS-G-2 Protect the community from risks to life and property posed by flooding and stormwater runoff.

IMPLEMENTATION POLICIES

PHS-I-7 Coordinate with the U.S. Army Corps of Engineers, the County and local irrigation districts on potential flooding risks, including risks associated with dam failure.

This will include coordination on training to respond to catastrophic dam failure, and maintaining adequate storm drainage capacity in the Tule River and Porter Slough.

PHS-I-8 Implement appropriate flood control measures to assure the safety of residents, while emphasizing maintenance of natural wildlife habitats and vegetation.

PHS-I-9 Require new development to provide for the perpetual funding and ongoing maintenance of detention reservoirs.

Maintenance may be by the City under contract, by a private entity, or by another public agency.

PHS-I-10 Continue to require any new development in the floodway to obtain a permit from the California Reclamation Board and enforce the Flood Damage Prevention Ordinance.

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[1] RAC Engineers & Economists. *Lake Success: Flood Inundation for an Earthquake-Induced Dam Failure with the Reservoir Poll at El. 630 ft msl.* October 2004.

Figure 7-3: Flood Hazards

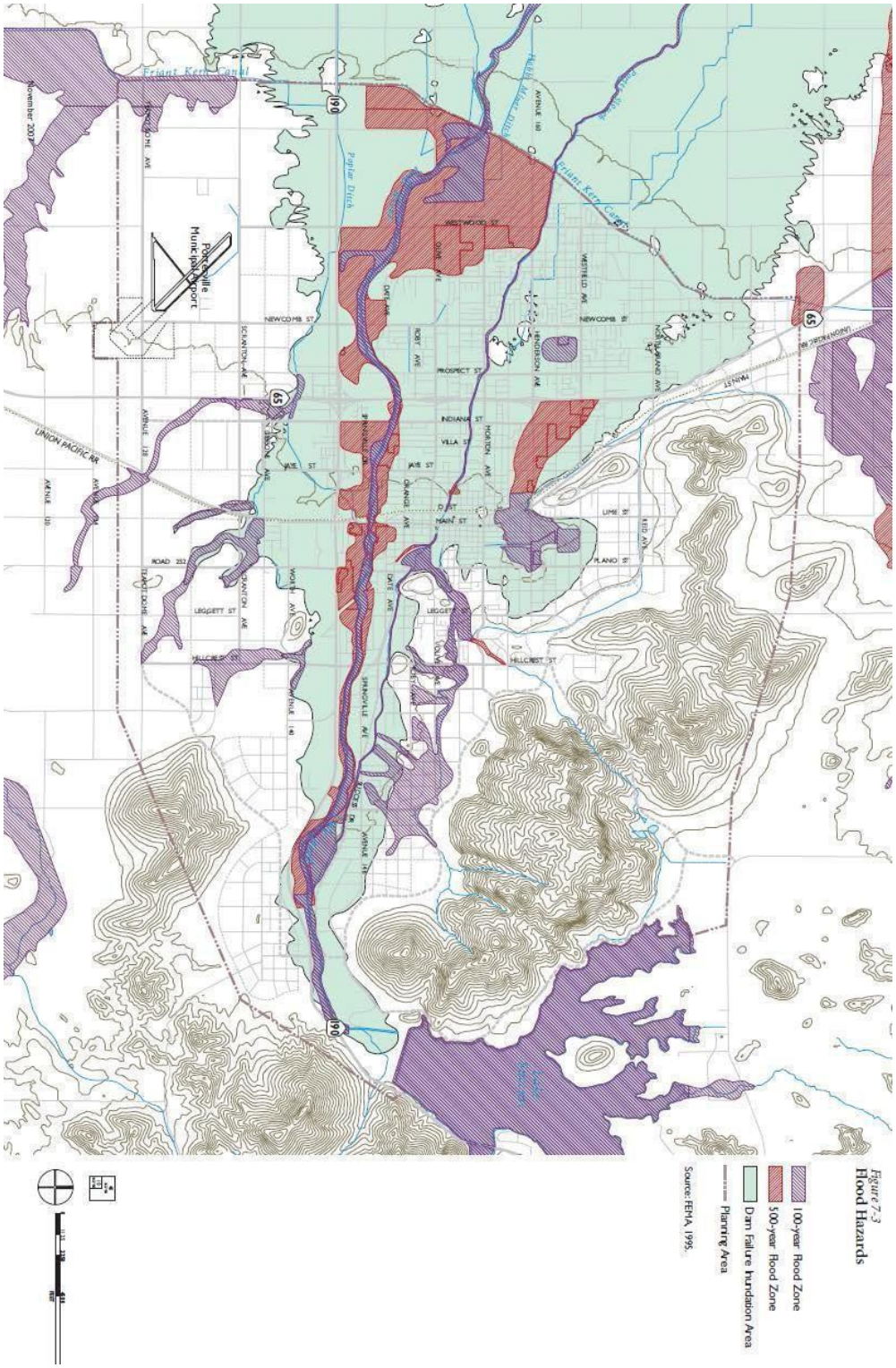

Figure 7-2 BACK

PHS-I-11 Coordinate with appropriate agencies to ensure that new bridges are constructed according to acceptable standards and maintained to avoid flood damage.

PHS-I-12 Continue to participate in the National Flood Insurance Program and encourage all property owners within flood hazard areas to carry flood insurance.

7.3 FIRE HAZARDS

WILDLAND FIRES

Fire hazard potential is largely dependent on the extent and type of vegetation, known as surface fuels, that exists within a region. Fire hazards are typically highest in heavily wooded, undeveloped areas as trees are a greater source of fuel than low-lying brush or grassland. Suburban, urban areas, or rocky barren areas have minimal surface fuels and therefore typically have the lowest fire hazard. Figure 7-4 depicts the risk of fire within the Planning Area.

Due to the wooded nature of the Sierra Nevada foothills and hot summers, land located in the northeast portion of the Planning Area near Lake Success is considered to have a high to very high risk of fire. The fire season has over 100 days of temperatures in excess of 90 degrees Fahrenheit, usually between May and October. Forty-three percent of the Planning Area is considered to have a moderate fire hazard (see Table 7-3). Pockets of land with high fire hazards are found throughout the Planning Area, although the fire hazard currently present in these areas should decrease as vacant parcels become developed. The wooded areas along the Tule River have the potential of allowing a wildland fire to traverse the Planning Area.

Table 7-3: Existing Wildland Fire Hazards

Fire Hazards	*Acres*	*Percent of Planning Area*
Little or No Threat	8,490	23%
Moderate	15,777	43%
High	7,183	20%
Very High	2,373	7%
Unclassified	2,518	7%
Total	**36,341**	**100%**

Level of fire hazard severity based on surface fuels analysis, California Department Of Forestry and Fire Protection.

Source: California Department of Forestry and Fire Protection, Dyett & Bhatia, 2005.

URBAN FIRES

Even though Porterville is not considered to be a fire-prone area, structural fires pose a greater risk to life and property than wildland fires. The City of Porterville requires all new development and subdivisions to meet or exceed the Uniform Fire Code provisions (Porterville City Code: Chapter 12) which address topography, geology, climate, and development conditions. The Public Works Department and Fire Department review all development applications during the review process.

GUIDING POLICY

PHS-G-3 Protect Porterville's residents and businesses from potential fire hazards.

IMPLEMENTATION POLICIES

PHS-I-13 Maintain automatic and/or mutual aid agreements with surrounding jurisdictions for fire protection.

PHS-I-14 Enforce weed abatement programs and building and fire code requirements to assure adequate fire protection.

PHS-I-15 Develop and expand existing public fire safety and emergency life support education programs in order to promote public awareness of fire hazards and emergency procedures.

PHS-I-16 Establish fire hazard standards and review procedures at least equivalent to State requirements to protect new development on or adjacent to the hillsides.

The Subdivision Ordinance and the Zoning Ordinance standards will require new development on the urban fringe to incorporate fuel breaks, fuel reduction and buffer zones to minimize potential fire losses.

Figure 7-4: Wildland Fire Hazards

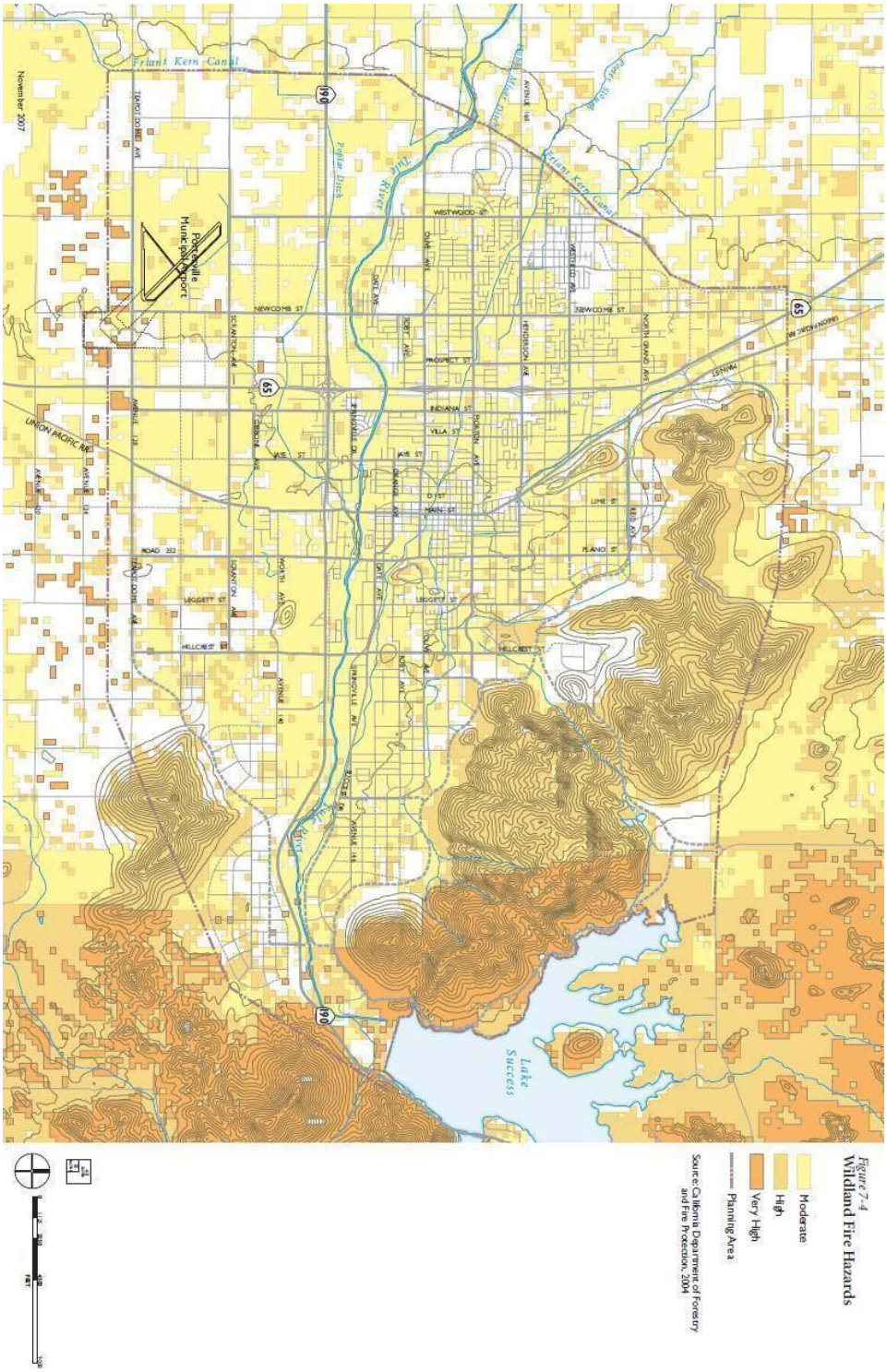

Figure 7-4 BACK

7.4 HAZARDOUS MATERIALS

The California Code of Regulations defines a hazardous material as a substance that, because of physical or chemical properties, quantity, concentration, or other characteristics, may either (1) cause an increase in mortality or an increase in serious, irreversible, or incapacitating, illness or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of, or otherwise managed.1 Hazardous wastes are hazardous materials that no longer have practical use, such as substances that have been discarded, discharged, spilled, contaminated, or are being stored prior to proper disposal. A hazardous materials incident involves the uncontrolled release of a hazardous substance during storage, use, or transport.

LAWS & REGULATIONS

Federal and State laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, transported and disposed of, and in the event that such materials are accidentally released, to prevent or mitigate injury to health or the environment. Laws and regulations require hazardous materials users to train employees to manage them safely. The primary federal agencies with responsibility for hazardous materials management include the U.S. Environmental Protection Agency (EPA), U.S. Department of Labor Occupational Safety and Health Administration (OSHA), and the U.S. Department of Transportation (DOT). In many cases, California State law mirrors or is more restrictive than federal law, and enforcement of these laws has been delegated to the State or a local agency.

The State Water Resources Control Board (SWRCB) administers t h e aboveground storage tank (AST) program and the underground storage tank (UST) program. The AST program covers facilities that store petroleum in a single tank, or multiple tanks with an aggregate capacity in excess of 1,320 gallons, and requires that tank owners or operators file a storage statement, pay a facility fee, and prepare and implement a Federal Soil Prevention, Control and Countermeasure (SPCC) Plan. The SPCC Plan must identify procedures, methods, and equipment in place at the facility to prevent discharges of petroleum from reaching navigable waters. State laws governing USTs specify requirements for permitting, construction, installation, leak detection monitoring, repairs, release reporting requirements, corrective actions, cleanup, and closure.

[1] California Code of Regulations, Title 22, Division 4.5, Chapter 10, Article 2, Section 66260.10

In Porterville, the Tulare County Environmental Health Division (TCEHD) is the local agency responsible for the implementation of the state-mandated Unified Hazardous Waste and Hazardous Materials Management Regulatory Program. Tulare County has prepared a Hazardous Waste Management Plan and a Multi-Hazard Functional Plan that serves as the County's emergency response plan for hazardous materials emergency incidents. In addition, the TCEHD acts as lead agency to ensure proper remediation of leaking underground petroleum storage tank sites and certain other contaminated sites. TCEHD provides a permanent Household Hazardous Waste (HHW) drop-off facility located in Visalia (approximately 30 miles from Porterville) that is available free of charge to any Tulare County resident and operates mobile collection events throughout the year. Typically, two events per year are hosted in Porterville, normally in April and September.

The City of Porterville Fire Department, Fire Prevention Division provides limited oversight of hazardous materials. The Fire Department is responsible for conducting inspections for code compliance and fire-safe practices, permitting of certain hazardous materials, and for investigation of fire and hazardous materials incidents. The Fire Department regulates explosive and hazardous materials under the California Fire Code, and permits the handling, storage and use of any explosive or other hazardous material.

HAZARDOUS MATERIALS SITES

Areas where historic or on-going activities have resulted in the known or suspected release of hazardous materials into the soil and groundwater are identified by Environmental Data Resources, Inc. In Porterville, contaminated sites are largely associated with leaking underground storage tanks and are predominately clustered around primary transportation corridors including State Route 65 (SR 65), Main Street, Henderson Avenue, and Olive Avenue (see Figure 7-5). Most sites are associated with retail and commercial uses (e.g., gas stations, convenience stores, car washes, etc.), but a few are associated with local industrial and agricultural uses. Sites identified on the State's existing Brownfield database are also shown in Figure 7-5.

The City's Emergency Operations Plan also mentions the possibility of illegal drug manufacturing sites as sources of hazardous materials and incidents. Residue and hazardous waste are often dumped illegally and pose a threat to public health.

Figure 7-5: Hazardous Materials Sites

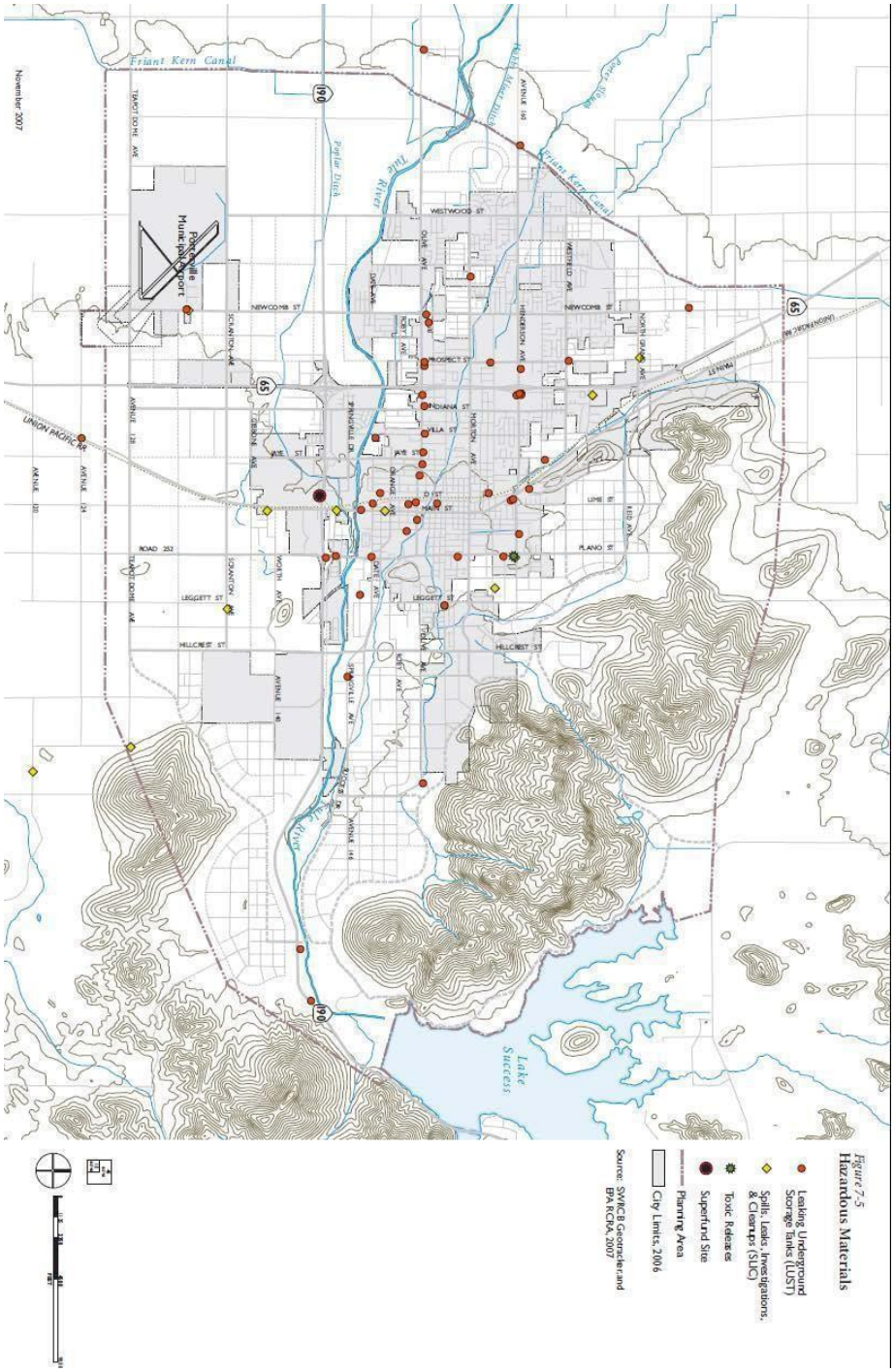

Figure 7-5 BACK

GUIDING POLICY

PHS-G-4 Protect soils, surface water, and groundwater from contamination from hazardous materials.

IMPLEMENTATION POLICIES

PHS-I-17 Require remediation and cleanup of sites contaminated with hazardous substances.

The level of remediation and cleanup will be determined based on the intended use and health risk to the public. At the minimum, remediation will be in compliance with federal and State standards. Clean up shall be required in conjunction with new development, reconstruction, property transfer of ownership, and/or continued operation after the discovery of contamination.

PHS-I-18 Adopt a Household Hazardous Waste Program and support the proper disposal of hazardous household waste and waste oil; encourage citizens and crime watch organizations to report unlawful dumping of hazardous materials.

The plan will promote the reduction, recycling, and safe disposal of household hazardous wastes through public education and awareness. Collection programs should be reviewed annually and expanded where appropriate. The County in cooperation with the City will also coordinate with hazardous waste recyclers to increase the frequency of hazardous waste collection events under this program.

PHS-I-19 Ensure that all specified hazardous facilities conform to the Tulare County Hazardous Waste Management Plan.

PHS-I-20 Prohibit specified hazardous waste residual repositories and onsite facilities utilizing incineration methods unless the facility demonstrates that it will produce insignificant levels of emissions.

PHS-I-21 Coordinate enforcement of the Hazardous Material Disclosure Law and the implementation of the Hazardous Material Emergency Response Plan with the Tulare County Health and Human Service Agency.

State and federal legislation requires every business that handles hazardous materials report their inventories to the local fire department. The program's primary function is to identify, monitor, and assist businesses using or storing hazardous materials and allow the County in cooperation with the City to handle emergency incidents more effectively. The City will maintain and share this information with the County, police, fire, and emergency services.

PHS-I-22 Coordinate with the Tulare County Department of Environmental Health, and other appropriate regulatory agencies during the review process of all proposals for the use of hazardous materials or those involving properties that may have toxic contamination, such as petroleum hydrocarbons, CAM 17 metals, asbestos, and lead.

PHS-I-23 Require applicants of projects in areas of known or suspected hazardous materials occurrences such as petroleum hydrocarbon contamination, CAM 17 metals, USTs, location of asbestos rocks and other such contamination to perform comprehensive soil and groundwater contamination assessments in accordance with regulatory agency testing standards, and if contamination exceeds regulatory action levels, require the project applicant to undertake remediation procedures prior to grading and development under the supervision of appropriate agencies, such as Tulare County Department of Environmental Heath, Department of Toxic Substances Control, or Regional Water Quality Control Board.

7.5 SAFETY SERVICES

POLICE SERVICES

City of Porterville Police Services

Law enforcement services in the Porterville area are provided by the County Sheriff and the City of Porterville Police Department. The City Department currently has 57 sworn peace officers and 22 civilian staff members. Every sworn officer is provided with the safety gear essential to their specific assignment including firearms, protective vests, and uniforms. Each officer is assigned a vehicle, either a marked police car, a marked police motorcycle, or an unmarked police car. Additionally, the Police Department has a SWAT specific vehicle, a DUI/Mobile Substation Trailer, and a Radar Display trailer. The Porterville Police Department's headquarters is located at 350 N. D Street.

Currently, the Police Department is operating at a ratio of almost 1.3 officers per 1,000 residents. Response times and the ability of the Police Department to provide acceptable levels of service are contingent on growing staffing levels, sworn and civilian, consistent with resident population and the population of visitors, merchants, schools, and shoppers with the service area of Porterville. According to the Porterville Police Department, a ratio of 1.2 police officers to 1,000 residents would support adequate law enforcement efforts at buildout. This would require a total of 129 (72 additional) sworn officers by 2030.

Even though the current police facility is nearing its capacity to support staffing levels, the Police Department will continue to maintain a central station. Due to the resources involved in providing police services to the community, a centralized station is more effective, efficient, and fiscally responsible. As the community grows and levels of service increase, satellite Community-based Policing Offices will be located with other public facilities, such as fire stations in shopping centers, community centers or high-crime areas in order to provide the required services.

Tulare County Sheriff

In 2007, the Tulare County Sheriff's Department had 448 sworn officers serving its unincorporated population (145,128) and generates a level of service ratio of 3.2 officers per 1,000 residents. The ratio is above the accepted standard of 2.0 officers per 1,000 residents set by the Federal Bureau of Investigation. The Sheriff's Department also has 186 non-sworn clerical and support staff amounting to total Sheriff's Department staff personnel of 633 employees.

The Tulare County Sheriff's Office has a Porterville substation at 379 N. Third Street. This substation has ten patrols for the currently unincorporated areas of the County. As Porterville grows, the Police Department will need to work closely with the Sheriff's Office.

Law enforcement portion for the unincorporated County is divided into 22 areas with four stations. The Porterville substation serves the largest number of areas with 10 patrols, followed by the headquarters in Visalia with six, and Cutler-Orosi and Pixley each with three areas.

The Tulare County Sheriff's Office has a Porterville substation at 270 N. Third Street. As Porterville grows, the Police Department will need to work close with the Sheriff's Office.

FIRE & LIFE SAFETY SERVICES

City of Porterville Fire Department

The City's Fire Department provides fire and life safety services for residents located within the city limits while the Tulare County Fire Department provides additional services for unincorporated areas within the Planning Area. City fire dispatch is handled by the Police Department.

In order to meet the service demand of greater population, four new fire stations are proposed by this Porterville Area Community Plan. The Fire Department has planned stations near the intersection of Jaye Street and Worth Avenue near the intersection of Morton Avenue and Crestview Street, 1 near the Porterville Airport, and near the intersection of Reid Avenue and Main Street. The locations of County, City- owned, and CDF stations are illustrated in Figure 7-6, along with 1.5 mile radii from fire stations demonstrating fire coverage for Porterville residents. Table 7 -4 summarizes fire station locations and facilities

The Plan will support expansion of existing public fire Safety and emergency life support services

Tulare County Fire Protection

The unincorporated communities are served primarily by the County Fire Department with City service in support. The City and the County have a mutual-aid agreement for fire protection services with 2 City fire stations and 2 County fire stations in the Porterville area. [26]

The (formerly titled) California Department of Forestry and Fire Protection/Tulare County Fire Department (now CalFire/TCFD) serve 145,128 of Tulare's population. The Tulare County Plan Background document) shows, dispatchers reported 14,022 responses in 2002, averaging 38.4 calls a day. Fire occurrence data generated by the Department indicate a direct relationship between high use areas of the County and fire occurrence. The population increase in the mountain areas have caused increased wildland urban interface problems as well. Structures are being built throughout wildland areas wherein vegetation fires can spread rapidly. Providing adequate fire protection to those structures has become a major undertaking. [26]

"..[T]he Tulare County Fire Department responded to 14,022 calls for service in 2002… [A] majority of the calls were for medical emergencies (52 percent) followed by fire calls (20 percent). The remaining calls ranged from dispatch incidents (8.1 percent) to assisting other agencies (7.3 percent) to public assistance (3.4 percent)."[3]

East Porterville Fire Protection

While Tulare County is the primary responder for the unincorporated communities, the County and the City have a mutual-aid agreement for fire protection services. The proximity of the nearest City or County fire stations varies significantly between the unincorporated communities. There are two City fire stations and two County fire stations in the Porterville area. (See Figure 7-6). County Fire Station #20 (Doyle Colony) is located on Success Dr. in the center of East Porterville. County Fire Station #19 (West Olive) is located within City limits on Olive Ave. (Avenue 152) to the south of Nanceville on the west edge of the City. (See Figure 7.6). The two City fire stations are located downtown on Cleveland Ave. (Station 1) and in west Porterville on Newcomb St. near Morton Ave. (Station 2)."[4]

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1 City of Porterville Fire Department, March 29, 2007.
2 Plan Background Report, page 7-73
3 Ibid. Page 7-74
4 City of Porterville Draft Municipal Service Review (MSR) September 2014

Table 7-4
Porterville Area Fire Station Locations and Facilities

No.	Location	Staffing	Facilities
1	40 W. Cleveland Ave.	Min of 4, Max of 6 per shift	3 heavy fire engines (type I), 1 75 ft. Quint Aerial Ladder Truck, 1 Rescue Unit, and 1 Light Unit (Patrol)
2	500 N. Newcomb	Min of 3, Max of 4 per shift	2 heavy fire engines (type I), 1 Light Unit (Patrol)
191	22315 Ave. 152	1 full time per shift and 17 paid on-call firefighters	1 heavy fire engine (type II), 1 light engine (type IV), 1 water tender (tractor, trailer)
201	1551 E. Success Drive	1 full time per shift and 17 paid on-call firefighters	1 heavy fire engine (type I), 1 light engine (type IV), 1 water tender (bobtail)
CDF	Worth Ave at Road		
*	Jaye St. at Worth Ave.		
*	Morton Ave. at Crestview St.		
*	Porterville Airport		
*	Reid Ave. at Main St.		

1. County –operated
* Proposed, conceptual locations for new City of Porterville Fire Stations.

Sources: Porterville Fire Department, 2007; Tulare County Fire Department, 2007

Table 7-5
Distance to Fire Station (miles to center of community)

Community	County	City
East Porterville	0	2.7
Roby Island	1.6	1.1
Nanceville	0.2	1.5
Tract 24/41	3.3	2.8
N.Main/Mulberry	4.0	1.4
South Porterville	2.8	2.1
Grandview Gardens	4.0	2.3

Community	County	City
Beverly-Grand	3.7	2.1
Tract 77	3.7	2.7
Tract 557	0.5	1.3
Chelsea Glen	3.8	2.1
A&A MHP	2.8	2.6
Tract 288/413	3.3	3.2

Figure 7-6: Emergency Services

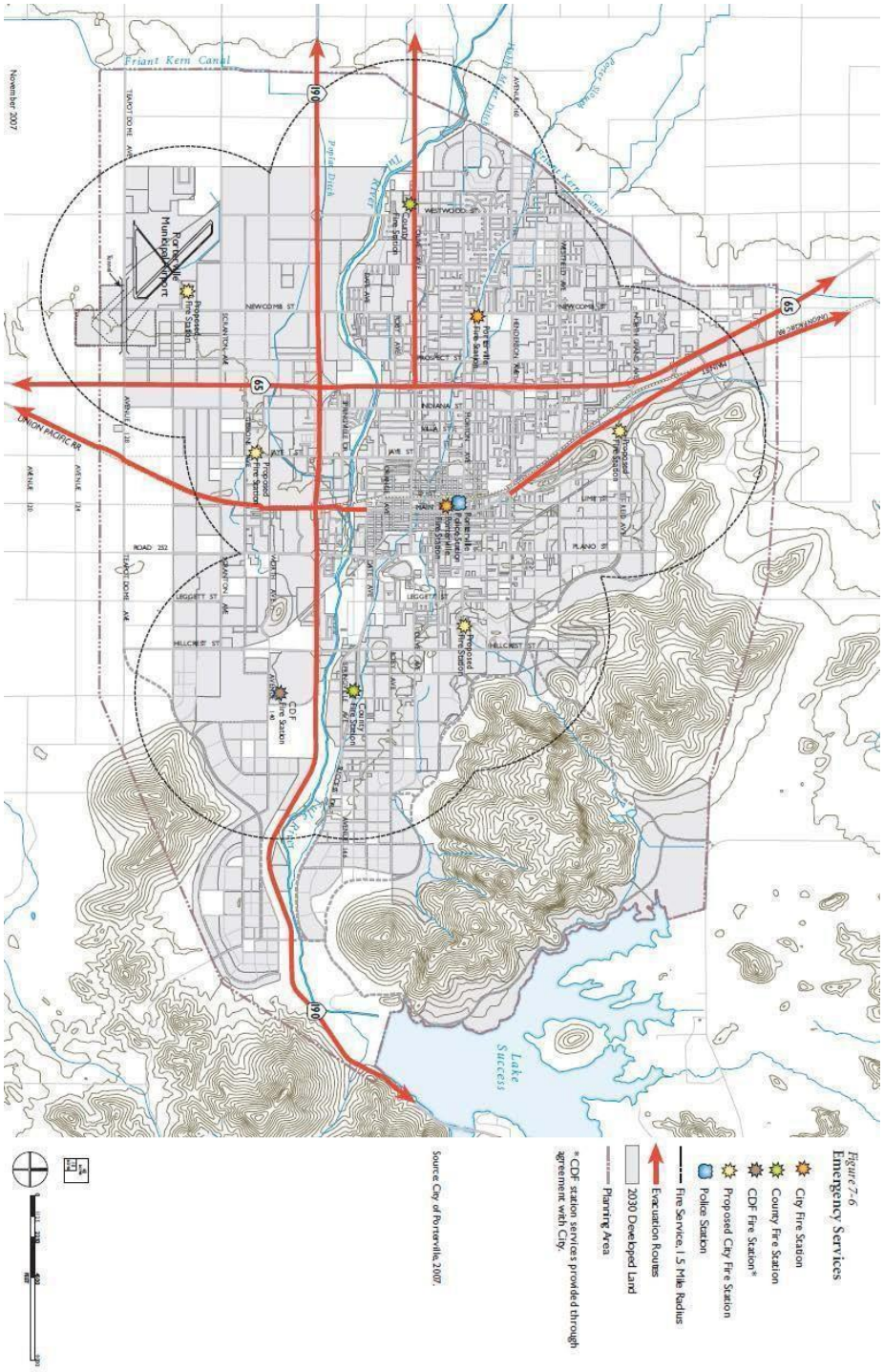

Figure 7-6 BACK

FIRE RESPONSE STANDARD & ISO RATING

The Insurance Service Office (ISO)—a private organization that surveys fire departments in cities and towns across the United States—awarded the Porterville Fire Department a Class 3 rating (1 being highest and 10 being lowest). This rating considers a community's fire defense capacity versus fire potential, and then uses the score to set property insurance premiums for homeowners and commercial property owners.

Currently, the Department responds to 60 percent of its calls within five minutes. The internal response time goal set by the Department is to provide service within five minutes of the 911 call being received, 80 percent of the time. The proposed two new stations will help the Department reach its goal.

Water Flow Rates & Pressure

In order to adequately protect life and property in Porterville, water flow rates and pressure standards defined by the Uniform Fire Code are maintained.

Policies in the Land Use Element will ensure that new development will finance public safety facilities needed to serve new development. Additional policies addressing airport hazards are also located in the Circulation Element.

GUIDING POLICY

PHS-G-5 Provide a comprehensive program of safety services including police, fire and medical response in all parts of Porterville.

IMPLEMENTATION POLICIES

PHS-I-24 Provide cost effective fire, police, and emergency medical service within the City to minimize potential injury, loss and/or destruction to persons or property.

To meet existing and future demand, the County in cooperation with the City will continue to plan for adequate law enforcement and fire-fighting services, and strive for staffing ratios and response time that meet or exceed national standards. The requirements for additional Police and Fire Stations will be assessed when the City prepares its Capital Improvement Programs and development fees.

PHS-I-25 Maintain the City's Class 3 ISO rating, or better, for fire protection. Promote a community-oriented approach to law enforcement.

PHS-I-26 Promote a community-oriented approach to law enforcement.

The County in cooperation with the City will support public educated programs involving crime prevention and safety issues. Currently, the Porterville Police Department has a number of outreach and training programs in place. These include a neighborhood crime- watch program, Police Explorers, Youth Services Foundation, and police volunteer program. Continue to cooperate with the California Highway Patrol and the nearby law enforcement agencies to provide back- up police assistance in emergency situations.

PHS-I-27 Continually assess the adequacy of current funding programs for police, fire and paramedic services and investigate new funding sources.

These could include a public safety impact fee.

PHS-I-28 Ensure that new development incorporates safety concerns into the site, circulation, building design and landscaping plans.

This will be done during the development review process.

7.6 EMERGENCY RESPONSE

EMERGENCY PLANNING

The California Emergency Services Act (Government Code Section 8550 -8668) requires each city to prepare and maintain an Emergency Plan for natural, manmade, or war-caused emergencies that result in conditions of disaster or in extreme peril to life. The Porterville Emergency Operations Plan was adopted in 2004. The Plan includes planning and response scenarios for seismic hazards, extreme weather conditions, landslides, dam failure and other flooding, wildland fires, hazardous materials incidents, transportation emergencies, civil disturbance, and terrorist attacks. It is meant to work in conjunction with the Tulare County Emergency Operations Plan and the State Emergency Plan. The Emergency Council of the Tulare County Operational Area meets for regional coordination purposes at least four times per year. In addition, the City Fire Department has specific procedures for hazardous materials emergency response.

EVACUATION ROUTES & POTENTIAL SHELTER SITES

The City has designated several evacuation routes through Porterville to be used in case of catastrophic emergencies. The extent and the severity of a disaster will determine which routes and which direction people must take in order to escape or avoid the afflicted areas. Sierra View District Hospital in Porterville provides emergency health care services.

In the event of a natural or man-made disaster, the City will coordinate with the Red Cross, Salvation Army, and State and federal agencies responsible for providing emergency shelter for displaced residents. The sites most commonly used are schools, senior centers, community centers, public buildings, and churches.

GUIDING POLICY

PHS-G-6 Provide comprehensive emergency response and evacuation routes for Porterville residents.

IMPLEMENTATION POLICIES

PHS-I-29 The City will Maintain and periodically update the City Emergency Management Plan. This plan will be updated as necessary in consultation with City departments, community leaders, the school districts, Sierra View District Hospital, PG&E, and relevant regional and State agencies.

This plan will be updated as necessary in consultation with the City Departments, community leaders, the school districts, Sierra view District Hospital, PG&E, and relevant regional and State Agencies.

PHS-I-30 Initiate periodic public information programs that explain the emergency preparedness programs and evacuation routes and encourage each household to be self-sufficient for 72 hours after a manmade or natural disaster.

PHS-I-31 Maintain multi-jurisdictional communication systems and cooperation for emergency training, planning and management.

PHS-I-32 Work with owners and operators of critical use facilities to ensure that they can provide alternate sources of electricity, water, and sewerage in the event that regular utilities are interrupted in a disaster.

Public utilities are lifeline services for Emergency Command Centers, police and fire departments, and hospitals. Keeping them open and operative is especially crucial in the 72 hours after a major disaster.

8
Public Utilities

The purpose of the Public Utilities element is to provide policies and programs to ensure that the public utilities the community relies on will have the capacity to serve new development under the Porterville Area Community Plan without degrading existing service levels.

The capacity and quality of the public utilities that serve a community significantly affect the quality of life enjoyed by those who live, work, and own property. Many of these services require a substantial investment in infrastructure that is a major factor in determining the amount, location, and type of growth that a community can anticipate. Service adequacy will also affect its ability to attract the kind of new development that Porterville residents and business owners would like to see in the future.

8.1 WATER SUPPLY & CONSERVATION

The City of Porterville's Public Works Department, Field Services Division provides sewer infrastructure, wastewater treatment, land use for reclamation purposes and storm drainage facilities. Public Works maintains the Water System Master Plan, Sewer Master Plan, and Storm Drainage Master Plan. Per the City's Infrastructure Master Plans there are current water, sewer and storm drainage lines. As the City is adopting these master plans, the Tulare County Board of Supervisors will independently review and exercise its discretion when considering any subsequent Porterville Development Standards and City Master Plan Updates proposed by the City of Porterville.

This section presents guiding and implementing policies to maintain and enhance sufficient water resources to sustain the Porterville Area's quality of life and support existing and future residential, commercial, and industrial development.

EXISTING WATER SUPPLY & DEMAND

The Porterville Area has historically relied on groundwater to supply municipal water to its residents. Even during drought years, there have been no water supply deficiencies. However, while the Tule Sub- basin is not presently adjudicated, it is considered to be in a state of overdraft 1 Groundwater levels have declined moderately--on average 0.75 feet/year over the last 20 years based on Department of Water Resources well hydrographs. Some City wells have seen severe yield declines in the last ten years, for example, from 1,500 gallons per minute (gpm) to 500 or 600 gpm. However, well rehabilitation may be able to restore these wells to their previous performance levels, since some of the declines are caused by encrustation. New wells typically have capacities of 500 gpm or less.

[1] City of Porterville. *Urban Water Management Plan* 2007.

In addition to groundwater, the City has purchased water rights for about 900 acre-feet annually from the Pioneer Ditch Company and Porter Slough Ditch Company. Some of this water is used for a small pond at Murry Park in Porterville, but historically most of this water has not been used by the City.

Distribution System

There are 34 active wells serving the Planning Area; see Figure 8-1. Water is distributed from wells through approximately 200 miles of pipeline maintained and operated by the Public Works Department. The City has approximately 14, 000 metered connections, of which 13,000 are residential meters.

Water storage is important to East Porterville.

The City's municipal wells are generally scattered west of Plano Avenue and south of Westfield Avenue. The area east of Plano Avenue is considered water deficient and water is pumped from the wells located in western and central Porterville. The City currently operates and maintains three hillside reservoirs: two with a capacity of 3,000,000 gallons and one with a capacity of 300,000 gallons. The City has purchased a site for a third.

"Small portions of East Porterville are connected to the City of Porterville's water system. Most of East Porterville is served by individual wells. Tulare County Health and Human Services has tested 24 private wells in East Porterville of which five were over the minimum for nitrate contamination (45 mg/l). Three of those five wells are located in Tract 42. The other two are on the eastern edge of the community to the east of Tract 98. Future extension of domestic water in East Porterville could be prioritized based on the areas with the worst water contamination. While three wells have tested above minimum levels for nitrate in Tract 42, due to the small sample size, more testing should be done if contamination is given a priority for future extension of City domestic water into East Porterville

Demand

In 2001, the City estimated per capita consumption at 250 gallons per day and total deliveries of almost 11,000 acre–feet per year. [1] This value includes all City water uses (residential, commercial, municipal, industrial, etc.). In 2005, water usage by customer type was roughly 62 percent for single family residential, 12 percent for multi-family residential, 19 percent for commercial/institutional, 4 percent for large landscape irrigation, and 5 percent for other uses.

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[1] City of Porterville. Water System Master Plan, 2001

Figure 8-1 Well Location

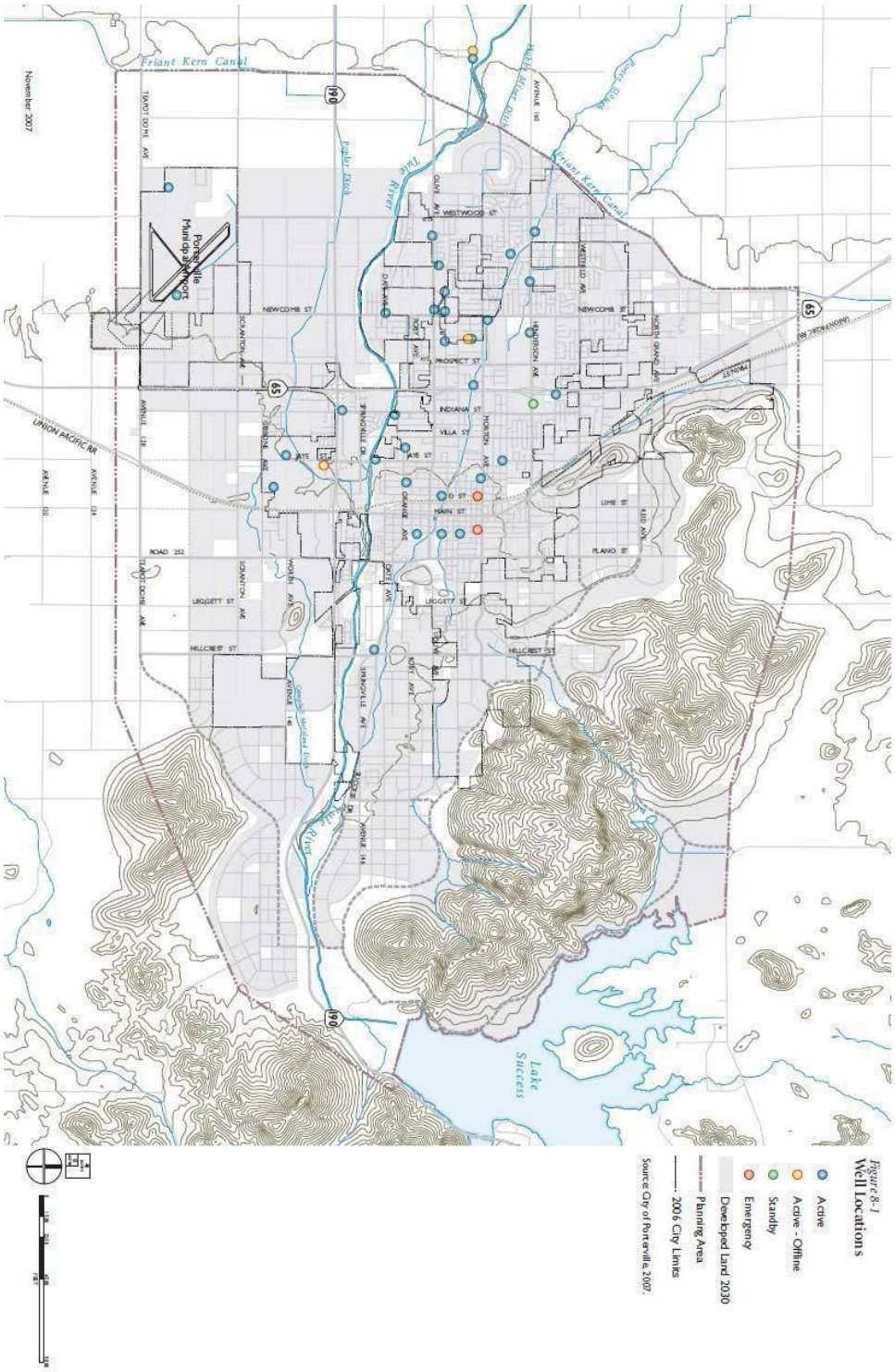

Figure 8-1 BACK

FUTURE WATER DEMAND & PLANNED SUPPLY

Porterville expects to update their Water System Master Plan in 2008-2009. This will include a water balance study as well as analysis of the distribution facilities needed to accommodate population growth, potential need for a surface water treatment plant, and the facilities needed to accept and recharge surface water. After completion of the Master Plan, a number of new projects will likely be identified to improve the distribution system and provide greater assurance that the City can meet peak water demands.

The City has established a goal of gradually reducing groundwater pumping to match the aquifer safe yield by 2020. In order to define a water budget, a complete water balance study will be required to accurately estimate the safe yield for the aquifer.1 The City anticipates purchasing surface water and implementing water conservation programs to meet remaining demand. The City has also established a goal of reducing per capita demand by 10 percent by 2030.

For purposes of projecting future water requirements, a citywide assumption of 250 gallons per capita per day (gpcd) was established by the 2001 Water System Master Plan. The Porterville Area Community Plan buildout population will be approximately 107,330 in the year 2030 and, therefore, the water demand will be approximately 30,000 acre–feet (AF) per year. Table 8-1 summarizes the water demand and planned supply over the planning horizon.

The 2010 Urban Water Management Plan must be adopted by July 1, 2011 and submitted to DWR by August 1, 2011. Usually, UWMPs are due on December 31 of years ending in 0 and 5, but a 6- month extension has been granted for submittal of the 2010 UWMPs to provide additional time for water suppliers to address the SB X7-7 requirements. The 2010 UWMP Guidebook to support water suppliers in UWMP preparation is available on the Guidebook and Files site.

The Urban Water Management Plan (UWMP) for the City of Porterville was recently updated and was adopted by the City Council in August 2014. This plan evaluates the City's water resources over a 21-year planning horizon from 2014 to 2035. This UWMP focuses on the City, but still addresses some areas outside of the City that are within the Planning Area as defined in the Plan update. The Planning Area covers about56.8 square miles. In 2005, approximately 27,800 acres (43.5 square miles) or about 75 percent of the Planning Area lied outside of the existing city limits within unincorporated Tulare County. The Planning Area encompasses land that is of interest for long-term planning, including hillsides and surrounding agricultural land. However, being included within the Planning Area does not necessarily mean that the City is considering annexation. The UWMP discusses the reliability of water supplies and their vulnerability to seasonal and climatic shortages. Seasonal deficiencies are based on precipitation patterns of individual watersheds. The City's design will take into account adverse impacts from climate change.

The City also has 10 million gallons of storage tank capacity, which helps with summer peaking demands. The water level in the City's 35 wells has dropped an average of 22 feet from the summer of 2012 to the summer of 2013. If the drought continues and water levels continue to drop, the City may experience pumping problems in the next few years. However, the drop in water level noted herein is not dissimilar in magnitude from what the city has experienced in past very dry periods. The city's aquifers have proven to be quite resilient and time and again have recovered satisfactorily during the wet years.

The City of Porterville is currently in Phase II of the City's Water Conservation Plan. Phase II applied during periods when there is a water supply shortage.

Groundwater

Due to the unreliable nature of surface water, well capacities will need to have sufficient capacity to meet almost 100 percent of City demands. The City has typically installed one new well each year with approximately 500 gpm capacity each in recent years. The City will continue to install new wells at a rate necessary to keep up with demands. By 2030, the City will need approximately 60 active wells. Planned groundwater recharge will help to ensure that municipal wells can provide the same yield in normal, single dry, and multiple dry years.

The City currently owns approximately 25 stormwater detention basins, which allow for incidental groundwater recharge. The City will consider additional water detention basins which can serve for both stormwater detention and groundwater recharge. Some of the best topsoils for groundwater recharge are located along the present or ancestral channels of the Tule River.

Table 8-1: Current and Planned Water Supplies (AF/Year)

Description	*2006*	*2010*	*2015*	*2020*	*2025*	*2030*
Population	45,200	52,220	62,530	74,860	89,620	107,300
Total City Demands[1]	12,700	14,600	17,500	21,100	25,100	30,000
Supplier Produced Groundwater[2]	12,700	13,000	15,100	16,580	19,900	23,660
Supplier Surface Diversions[3]	0	900	900	900	900	900
Surface Water Purchases[4]	0	700	1,500	3,520	4,300	5,440

1. Total demands based on assumed per capita use of 250 gallons/day from 2001 Porterville Water System Master Plan.
2. The aquifer safe yield is assumed to be 1.0 acre-feet/acre. This value is approximate and needs to be verified with a detailed water balance study.
3. Includes water rights on the Tule River with the Pioneer Ditch Company and Porter Slough Ditch Company.
4. Surface water sellers are likely to include Porterville Irrigation District and other local irrigation and water districts.

Source: City of Porterville, Urban Water Management Plan, November 2007.

WATER CONSERVATION & RECYCLING PROGRAMS

Water Conservation

The City has established a goal of reducing per capita water demands by 10 percent, to approximately 225 gallons per capita per day by 2030. This goal would be accomplished gradually through a variety of conservation measures. One of the most effective conservation programs is the installation of water meters. Currently, about 98 percent of the water used in the City is already metered, which creates an incentive to reduce consumption since customers are billed on a volumetric basis. All new users will be metered.

Other water conservation programs include: water surveys to customers in order to identify areas of high water use or water waste; water system audits; all new construction must use water efficient plumbing fixtures; free distribution of showerhead flow restrictors; an artificial turf demonstration project; recycled water system requirements for car washes; a water waste prohibition ordinance; and educational and public information programs. The City has a Water Conservation Plan (WCP) which outlines the stages of action during water shortages. Phase III of the WCP allows a 20 percent increase in water rates during extreme water shortages encourage further conservation.

Water Recycling

The City presently uses wastewater effluent (recycled water) for groundwater recharge and crop irrigation. Six ponds are used to percolate wastewater effluent. In the spring and summer the ponds are dry because the effluent is used to irrigate crops. The City plans to continue recycling all of its effluent. In order to use recycled water for other uses besides recharge and irrigation, the current water treatment plant would have to be upgraded to incorporate tertiary treatment or a new satellite plant would have to be built. Other potential uses for recycled water include landscape irrigation and industrial water supply. However, the use of gray water (recycled water) for residential non-potable use would only be possible if a dual distribution system is constructed and the water receives tertiary-level treatment.

GUIDING POLICIES

PU-G-1 Ensure an adequate supply of freshwater to serve existing and future needs of the Porterville Area.

PU-G-2 Promote the conservation of water within the Porterville Area.

IMPLEMENTATION POLICIES

PU-I-1 Adopt and maintain an Urban Water Management Plan consistent with the California Water Code.

PU-I-2 Update and implement a Water System Master Plan.

This will include an analysis of water demand, fire flows, capital improvements needed, and pumping mechanisms.

PU-I-3 Periodically review and update development impact fees, water connection charges, and monthly service charges to ensure that adequate funds are collected to operate and maintain existing facilities and to construct new facilities.

PU-I-4 Support efforts to expand surface water supply and storage that benefits the Porterville Area.

These efforts will include water banking and treatment.

PU-I-5 Require that necessary water supply infrastructure and storage facilities are in place coincident with new development, and approve development plans only when a dependable and adequate water supply to serve the development is assured.

A water assessment study may be require for individual projects.

PU-I-6 Cooperate with surrounding water management and irrigation districts in a comprehensive water management and recharge program with the long-term goal of stabilizing the groundwater basin.

The plan will promote, advance and actively participate in local and regional watershed management programs and strategies to achieve their goals.

PU-I-7 Continue to require water meters in all new development.

PU-I-8 Require that agricultural water rights be assigned to the City when agricultural land is annexed to the City for urban development, consistent with this Porterville Area Community Plan.

If a landowner with surface water rights requests annexation to the City, the City will require the landowner to assign those water rights to the City to help offset the water demands for the new development.

PU-I-9 Work cooperatively toward a program of conjunctive surface water use with local water purveyors and irrigation districts to retain surface water rights and supply following annexation and urban development so as to protect against aquifer overdrafts and water quality degradation.

PU-I-10 Encourage private sector use of alternative water sources to achieve a water balance, including reclaimed water for irrigation and landscaping purposes.

PU-I-11 Promote the continued use of surface water for agriculture to reduce groundwater table reductions.

PU-I-12 Establish a comprehensive program for water conservation.

The plan will develop a list of water conservation technologies, methods, and practices that maximizes the beneficial use of water resources and review and update the list periodically to eliminate practices that no longer prove beneficial and add new technologies that become available. The program initially may include, but would not be limited to:

- *Water conserving designs;*
- *Use of low water use/drought tolerant plants and/or xeriscaping;*
- *Reduction of high water using turf or plants;*
- *Incorporation of "green building" techniques, including on-site retention, minimizing hardscape, and recharge of stormwater;*
- *Appropriate irrigation methods and water efficient scheduling by plant type, site conditions and seasonal water needs.*
- *Additional recycling and reuse of wastewater;*
- *Audit irrigation of public landscaped areas, including parks and schools, and recommend water conservation measures; and*
- *A program to conduct water-use surveys and customer incentives for commercial, institutional, and industrial users.*

Undertake a program to retrofit public buildings with water conservation features.

PU-I-13 *This program will be coordinated with the energy use audits under Policy OSC-I-57.*

8.2 WASTEWATER COLLECTION & TREATMENT

EXISTING SEWER SERVICE & TREATMENT CAPACITY

According to the 2001 Sewer System Master Plan (SSMP), the sewer collection system within Porterville's Urban Development Boundary consists of approximately 150 miles of six inch through 36-inch diameter sewers. The majority of the trunklines are 12 -inch pipes. The system includes 18 sewage lift stations and associated force mains. In 1997, a population of over 35,000 and commercial and industrial users contributed to influent flows at the wastewater treatment facility (WWTF) averaging 4.82 million gallons per day (MGD)

The Wastewater Treatment and Reuse Facilities Report projected the volume of influent at the WWTF based on historic growth trends in influent flows, which have averaged 2 percent per year.[1] However, with planned housing and economic development, growth under the Porterville Area Community Plan may exceed 2 percent. Using the Plan's future population and an average per capita flow (117 gallons), the average influent flow that the City should plan for is 12.5 mgd in 2030. If the Porterville Area Community Plan's goal of 10 percent water conservation is met, then the average influent flow would be reduced proportionally, to approximately 11.3 mgd. In both cases, this future treatment need exceeds the existing WWTF capacity, so the City will need to increase the treatment plant capacity by 3.5 to 4.5 mgd.

According to the Standard Provisions and Reporting Requirements for Waste Discharges, the City should initiate planning and engineering for additional WWTF capacity when the volume of influent at existing facility has reached 80 percent of the plant capacity. Accordingly, when the influent flow reaches 6.4 mgd, the City will need to begin designing for additional plant capacity. If water conservation goals are achieved, planning for additional capacity would need to begin by 2014. Without water conservation measures, planning should begin by 2012

Porter Vista Public Utility District

To the east of the city limits, Porter Vista Public Utility District (PVPUD) owns and maintains sewer collection services for the Porter Vista development area, generally north of SR 190, south of Olive Avenue, and east of Main Street. PVPUD connects to the City sewer system. [1] In 1974, the State Water Quality Control Board placed a ban on any further septic tanks in the community. Due to the past election defeat and continued opposition from residents, rather than attempt another annexation to the City, the Porter Vista PUD was formed in 1977 to provide sewer collection service for the community of East Porterville (Case 535). The PUD's sewer lines feed into the City of Porterville's system and wastewater treatment facility. In 1995, the PUD and the City entered into an agreement for the joint use of the treatment facility and various responsibilities for the PUD system to be consistent with the City system.

There is currently some overlap of boundaries between the City and the PUD [Fig. 8-2]. The PUD is 1,734 acres in size. Of that, about 142 acres are within the City. In addition, a total of about 172 acres of the PUD qualify for the streamlined county island annexation process. These areas include Monte Vista Flat, Corona Tract, Tract 44 and Monache Tract. While the entire PUD is substantially surrounded by the City, it greatly exceeds the maximum acreage requirement (150 ac) for the streamlined county island annexation process.

The placement of East Porterville/Porter Vista PUD in the City's SOI is recognition that the community would be best served if it were annexed or merged into the City. The annexation of the area would mean that the PUD would be maintained as a subsidiary district to the City while a merger of the PUD into the City would result in the PUD being dissolved. However, a future annexation or merger is dependent on registered voter and landowner support.

[1] Tulare County Plan Background Report, revised November 2004.

[2] City of Porterville Sewer Master Plan, Page ES-1

In the unincorporated areas of the Planning Area, with limited exceptions, wastewater disposal is provided by on-site septic tank leach line systems. However, discharge of wastes from new and existing leaching and percolation systems is prohibited in the East Porterville area by the Regional Water Quality Control Board.

The Porterville Wastewater Treatment Facility (WWTF), located at the southwest corner of West Grand Avenue and North Prospect Street, has a plant capacity of eight million gallons per day (mgd), according to the 2001 Wastewater Treatment and Reuse Facilities Plan. In 2006, the WWTF average influent was 5.1 mgd or approximately 117 gallons per capita. Table 8-2 shows the historic influent flows at the WWTF since the year 2000. The facility includes percolation ponds which allow reclaimed water to recharge the aquifer. The WWTF manages more than 750 acres, mostly near the Porterville Municipal Airport, for reclamation purposes; however, only about 500 acres currently receive WWTF effluent. Up to 25 percent of the WWTF water is reclaimed to irrigate this reclamation land.

Table 8-2: Historic Influent Flows

Year	*Average Flow(mgd)*
2000	4.7
2001	4.6
2002	4.8
2003	5.0
2004	5.0
2005	5.2
2006	5.1

City of Porterville, Wastewater Treatment and Reuse Facilities Report, 2001.

BUILDOUT INFLUENT FLOWS

The 2001 Sewer System Master Plan addresses the City's sewage collection system capacity and operational needs, recommends a long-term capital improvement program, and sets the sewer connection fees required from developers to cover the cost of sewer infrastructure projects. This master plan will need to be updated following General Plan adoption to meet the long-term needs of planned development.

GUIDING POLICY

PU-G-3 Ensure wastewater collection and treatment services and reclamation area acreages are available to meet existing and future needs of the Porterville Area.

IMPLEMENTATION POLICIES

PU-I-14 Update and implement the Sewer System Master Plan.

This plan will include analysis of the treatment needs as well as collector systems and disposal measures and financial mechanisms.

PU-I-15 Acquire adequate land to be used for reclamation purposes.

PU-I-16 Periodically review and update development impact fees, wastewater connection charges, and monthly service charges to ensure that adequate funds are collected to operate and maintain existing facilities and to construct new facilities.

PU-I-17 In partnership with County, State and federal agencies, work to prevent illegal wastewater disposal or chemical disposal practices.

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[1] City of Porterville, Wastewater Treatment and Reuse Facilities Plan, 2001.

8.3 STORMWATER MANAGEMENT

In the Planning Area, storm and urban runoff drainage is provided by the natural rivers and watercourses, irrigation ditches, storage reservoirs, and discharge locations. The City generally maintains drainage facilities within the public right-of-way, on public easements and on property owned in fee by the City. Components of the drainage system on private property, or within private drainage easements, are maintained by the underlying property owner or other private party (City Code Chapter 19A). The City published a Storm Drain Master Plan Update in 1994 with a planning horizon of 2010. It will be updated in 2008. In the currently unincorporated areas, Tulare County Flood Control and Water Conservation District is responsible for storm drain maintenance.

The Tule River and Porter Slough are natural channels for stormwater discharge. Under normal conditions discharge in this River is regulated by Success Dam, located approximately five miles upstream of Porterville. Tule River flood stages at Porterville have been reduced significantly by Success Dam, which is operated for flood control by the U.S. Army Corps of Engineers. The main channel of the Tule River can pass flows of about 10,000 cubic feet per second (cfs) before extensive damage occurs. This capacity has been decreasing due to vegetation growth; the capacity was estimated at 15,000 in 1994. Damage to urban property would occur at flows of approximately 16,000 cfs.

Porter Slough has a designated capacity of 450 cfs and is an officially designated floodway of Tule River as determined by the State Reclamation Board. However, in practice the policy has been to prevent Tule River flood flows from entering Porter Slough in order to avoid potential flooding problems in central Porterville. Controlled flows have been released into Porter Slough for groundwater recharge.[1] In addition to delivering water for irrigation, the private irrigation ditches also provide extra capacity to carry peak flood flows and urban stormwater runoff.

The City owns approximately 25 stormwater basins, which are currently sized only to accept flood waters. These basins provide temporary storage of excess water and allow some of the runoff to evaporate or percolate into the aquifer. The City will consider developing additional detention basins that may serve groundwater recharge purposes as well as stormwater detention.

New development has the potential to cause erosion sediment and surface water run-off that will enter the City's storm drainage system. As the City expands, more area is made impervious, and urban runoff increases. In order to minimize these impacts, Plan policies focus on requiring future development projects to minimize runoff into the City's drainage system, and establish development fees from development projects in order to pay for the construction and maintenance of the drainage system.

GUIDING POLICY

PU-G-4 Provide a comprehensive storm drainage system to protect life and property.

[1] City of Porterville. *Draft Urban Water Management Plan*, October 2007.

IMPLEMENTATION POLICIES

PU-I-18 Update and implement the Storm Drain Master Plan.

This plan will include water quality protection for areas where runoff may enter river, slough or groundwater. It also will include:

- *Standards for limiting impervious surfaces to minimize runoff during storm event;*
- *Design and landscaping standards for stormwater storage basins;*
- *An analysis of the feasibility of multi-use water basins; and*
- *Financial mechanisms for construction and maintenance.*

PU-I-19 Require new development to provide storm drainage facilities and/or pay a storm drainage impact fee, consistent with the Storm Drain Master Plan.

8.4 SOLID WASTE MANAGEMENT & RECYCLING

SOLID WASTE COLLECTION & DISPOSAL

City of Porterville Solid Waste Services

The City of Porterville's Public Works Department provides commercial, residential, and industrial refuse collection to all locations within the City of Porterville. Private companies offer solid waste collection services in other unincorporated areas. Porterville has various programs to encourage recycling and waste reduction, such as curbside collection of residential and yard recyclables (green can), a recycling drop-off center, a commercial/industrial recycling program, school recycling programs, bi-annual special collection events, and public education/outreach activities.

Disposal services in Porterville are provided by the Tulare County Consolidated Waste Management Authority (CWMA). Porterville's solid waste is currently disposed at Teapot Dome landfill, located approximately five miles southwest of the city limits. Teapot Dome is a County-operated Class III landfill permitted to discharge up to 600 tons a day. As of 2004, the landfill was at 84.7 percent capacity with a remaining capacity of 998,468 cubic yards and an anticipated closure date of 2012. The Tulare County Recycling Complex accepts all the recyclables for CWMA. This processing and transfer facility is about 20 miles from the city limits. It is permitted for 1,200 tons per day. Most household hazardous wastes, including e- waste, must be taken to various sites in Visalia, except on the biannual clean-up days when CWMA sets up a drop-off site in Porterville.

The statewide mandated waste diversion goal—the percent of waste to be recycled or reused— was 50 percent by the year 2000, which was met by the Tulare County CWMA. However, since 2002, the Authority has fallen short of this goal and requested an extension in order to develop additional programs to encourage recycling and waste reduction.

County of Tulare Solid Waste Services

"Solid waste collection is provided by the County through licensed haulers. All of the communities are in Area H which is serviced by USA Waste (a subsidiary of Waste Management). Upon annexation, the existing license would continue for up to 5 years before the City could provide solid waste collection (PRC §49520).

Private companies offer solid waste collection services in other unincorporated areas. Porterville has various programs to encourage recycling and waste reduction, such as curbside collection of residential and yard recyclables (green can), a recycling drop-off center, a commercial and industrial recycling program, school recycling programs, bi-annual special collection events, and public education/outreach activities. Porterville's solid waste is currently disposed at Teapot Dome landfill, located approximately five miles southwest of the city limits. Teapot Dome is a County operated Class III landfill permitted to discharge up to 600 tons a day. As of 2004, the landfill was at 84.7 percent capacity with a remaining capacity of 998,468 cubic yards (cy). 16"

"Beyond Teapot Dome landfill's closure date of 2012, the County anticipates setting up a transfer facility to divert waste to either the Woodville or Visalia landfills. The Woodville Disposal Site, a County-operated Class III landfill permitted for 1,078 tpd, is located approximately 15 miles northwest of the City limits. As of 2008, the landfill was at 41.5 percent capacity with a remaining capacity of 4,928,139 cy and an anticipated closure data of 2026. The County plans to expand the Woodville landfill and is in the process of obtaining the necessary permits.7 The Visalia Disposal Site, located approximately 35 miles northwest of the City limits, is a County-operated Class III landfill permitted to discharge up to 2,000 tpd. This site was recently expanded. As of 2006, the landfill was at 13.3 percent capacity with a remaining capacity of 16,145,600 cy; its anticipated closure date is 2024"[17]

On August 28, 2012, the Tulare County Board of Supervisors approved the closure of the Earlimart, Balance Rock, Badger, and Kennedy Meadows Waste Transfer Stations. Although it was determined that there is sufficient capacity in the existing landfills, the closure of the uneconomically viable waster transfer stations in Tulare County is in the best interest of Tulare County residents.

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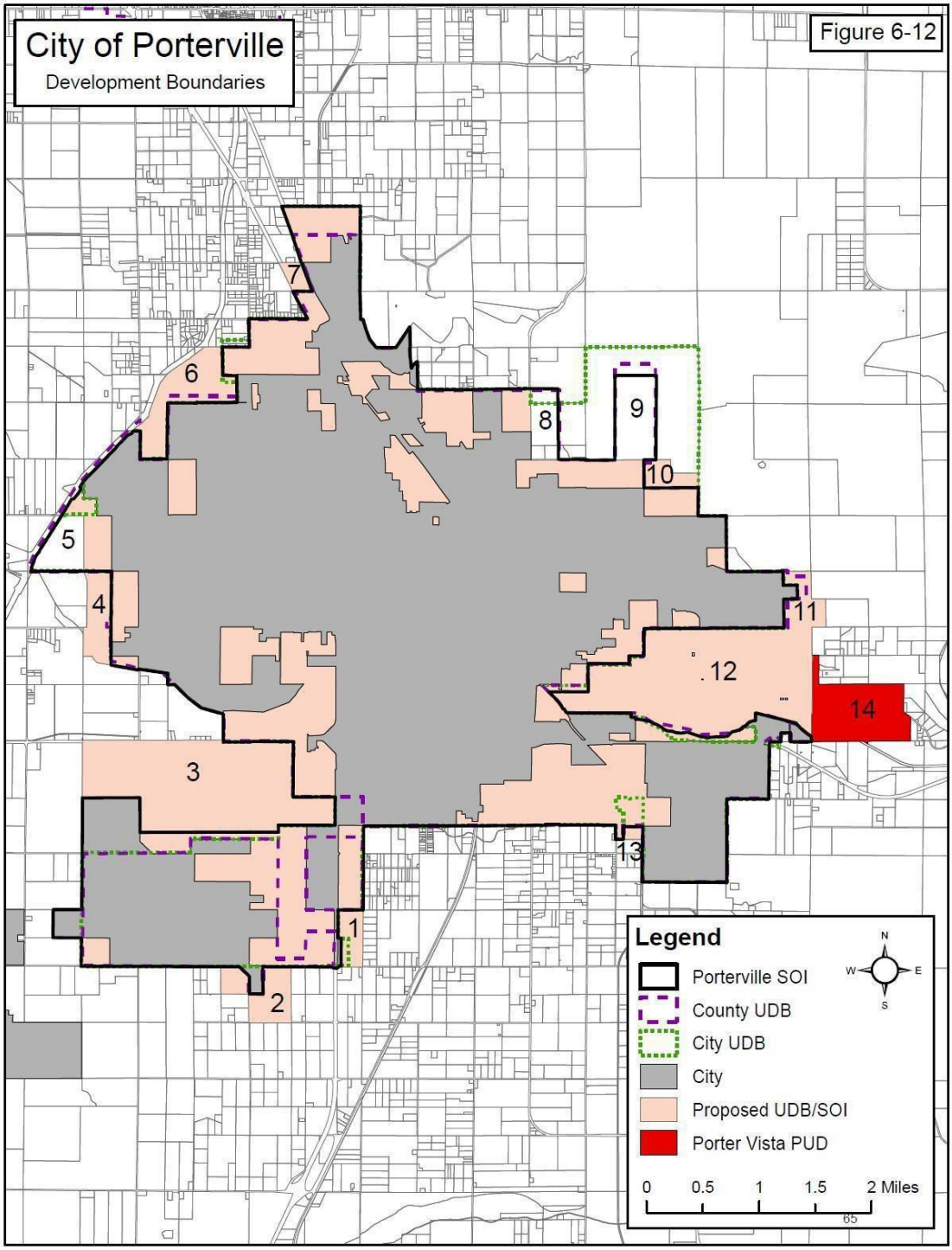
Table 8-3: CWMA Solid Waste Generation and Disposal Rates (1997-2005)[1]

Year	*Generation (tons)*	*Disposal (tons)*	*Recycling and Waste Reduction Rate*
1997	343,700	167,782	51%
1998	349,430	171,359	51%
1999	362,211	179,474	50%
2000	374,463	188,717	50%
2001	401,154	202,286	50%
2002	409,559	207,718	49%
2003[2]	414,846	234,099	44%
2004[2]	446,484	263,999	41%
2005[2]	517,564	296,697	43%

1. Porterville is part of the Tulare County's Consolidated Waste Management Authority.
2. Diversion rates calculated with preliminary data, subject to change during the Board review process or when a jurisdiction submits updated information.

Source: Consolidated Waste Management Authority, 2006.

Figure 8-2 City of Porterville Development Boundaries



14 City of Porterville Draft Municipal Service Review (MSR) September 2014 15 Public Works Master Plans Downloads Page:,
http://www.ci.porterville.ca.us/depts/PublicWorks/masterplans.cfm (March 13, 2013)

FUTURE DEMAND

If the generation rates remain constant at 2.0lbs per day per resident and 15.6 pounds per day per employee, Porterville would generate 532 tons of solid waste per day, or 194,200 tons per year. If the 50 percent diversion goal is met in the year 2030, then approximately 97,100 tons would need to be disposed at a landfill.

Tulare County has indicated that they will not expand the Teapot Dome landfill. When it reaches capacity, the County anticipates setting up a transfer facility which would divert waste to either the Woodville or Visalia landfills. Woodville Disposal Site, a County-operated Class III landfill permitted for 1,078 tons per day, is located approximately 15 miles to the northwest of the city limits. As of 2006, the landfill was at 41.5 percent capacity with a remaining capacity of 4,954,270 cubic yards and an anticipated closure data of 2026. Visalia Disposal Site, located approximately 35 miles northwest of the City limits, is a County- operated Class III landfill permitted to discharge up to 2,000 tons a day. This site was recently expanded. As of 2006, the landfill was at 13.3 percent capacity with a remaining capacity of 16,145,600 cubic yards and an anticipated closure data of 2024.

The estimated closure dates for the landfills are considered to be worst case scenarios, where diversion goals are not met. Therefore, the County anticipates that the available landfill capacity will be sufficient through the planning horizon of 2030.

GUIDING POLICY

PU-G-5 Achieve and maintain the State's solid waste management goals.

IMPLEMENTATION POLICIES

PU-I-20 Adopt programs to promote waste reduction and recycling and expand recycling programs in multi-family residential and commercial development.

The City collects all garbage and recycling and contracts for processing of recycling materials. As part of an expanded program, the City will publish information on the types of recyclable materials and drop-off locations on the City website as well as in a flyer at least once a year.

PU-I-21 Establish incentives for existing businesses to participate in recycling programs.

This could include providing waste analysis for local businesses to help them identify how they can reduce and recycle more waste.

PU-I-22 Continue participation as a member of Consolidated Waste Management Authority.

PU-I-23 Evaluate the feasibility of trash compactors in the Downtown area to eliminate multiple commercial t rash containers.

PU-I-24 Periodically survey residents and businesses to ensure that solid waste programs effectively address community needs and issues.

PU-I-25 The City will adopt an environmentally preferable purchasing program for all departments.

This program will include, but not be limited to:

- *Using post-consumer recycled paper and other recycled materials in all City operations;*
- *Giving priority to vendors who provide and use recycled products; and*
- *Evaluating using tire-derived products in public works projects.*

PU-I-26 Adopt a Construction and Demolition Diversion Ordinance.

8.5 PUBLIC UTILITIES

Utilities such as electricity, natural gas, and telecommunications including wireless communications, telephone, internet, and cable television are integral elements of contemporary life. It is necessary to ensure these services are available and adequate to meet the demands of all Porterville's residents and businesses. The Economic Development Element targets industries based on information technology (electronic communications), such as call centers, data processing, etc., and recommends preparing an Infrastructure Master Plan that would address the provision utilities including electricity, natural gas, and cable, and fiber optic and wireless communication systems. However, because above-ground utility wires and telecommunications equipment often has a negative visual impact on a community, such facilities should be located and designed to minimize these effects. City Ordinance No. 1700 regulates construction, operation and maintenance of wireless communications towers, and streamlines the development process to ensure fair access to services and high-quality design.

Southern California Edison provides electric service to Porterville residents. The electrical facilities network includes both overhead and underground lines, with new development required to install underground service lines. Natural gas service is primarily provided by the Southern California Gas Company. There are three major companies that provide communications services in Porterville: AT&T, Sprint, and Verizon. Charter Communications is the primary cable television and internet provider.

GUIDING POLICY

PU-G-6 Ensure the provision of adequate utilities and communication systems to serve existing and future residents and businesses.

IMPLEMENTATION POLICIES

PU-I-27 Work with Southern California Edison to improve the appearance of transmission line corridors and promote joint use of corridors to the extent feasible.

Joint use of corridors might consist of trails or bikeways that utilize the easement, landscaped greenways that provide aesthetic and air quality benefits, or even agricultural space for community gardens.

PU-I-28 Continue to require that new development install underground all on -site utility lines.

PU-I-29 Review proposals for new public utilities to ensure that the design and location of facilities will not have disproportionate adverse impacts on lower-income neighborhoods or residents.

County and City Related Infrastructure Policies

PFS-2.1 Water Supply
The County shall work with agencies providing water service to ensure that there is an adequate quantity and quality of water for all uses, including water for fire protection, by, at a minimum, requiring a demonstration by the agency providing water service of sufficient and reliable water supplies and water management measures for proposed urban development.

PFS-2.3 Well Testing
The County shall require new development that includes the use of water wells to be accompanied by evidence that the site can produce the required volume of water without impacting the ability of existing wells to meet their needs.

PFS-2.4 Water Connections
The County shall require all new development in UDBs, UABs, Community Plans, Hamlet Plans, Planned Communities, Corridor Areas, Area Plans, existing water district service areas, or zones of benefit, to connect to the community water system, where such system exists. The County may grant exceptions in extraordinary circumstances, but in these cases, the new development shall be required to connect to the water system when service becomes readily available.

PFS-2.5 New Systems or Individual Wells
Where connection to a community water system is not feasible per PFS-2.4: Water Connections, service by individual wells or new community systems may be allowed if the water source meets standards for quality and quantity.

PFS-3.1 Private Sewage Disposal Standards
The County shall maintain adequate standards for private sewage disposal systems (e.g., septic tanks) to protect water quality and public health.

PFS-3.2 Adequate Capacity
The County shall require development proposals to ensure the intensity and timing of growth is consistent with the availability of adequate wastewater treatment and disposal capacity.

PFS-3.4 Alternative Rural Wastewater Systems
The County shall consider alternative rural wastewater systems for areas outside of community UDBs and HDBs that do not have current systems or system capacity. For individual users, such systems include elevated leach fields, sand filtration systems, evapotranspiration beds, osmosis units, and holding tanks. For larger generators or groups of users, alternative systems, including communal septic tank/leach field systems, package treatment plants, lagoon systems, and land treatment, can be considered.

PFS-4.1 Stormwater Management Plans
The County shall oversee, as per Community Plan Content Table PF-2.1 and Specific Plan Content, Hamlet Plans Policy PF-3.3, and Table LU-4.3, the preparation and adoption of stormwater management plans for communities and hamlets to reduce flood risk, protect soils from erosion, control stormwater, and minimize impacts on existing drainage facilities, and develop funding mechanisms as a part of the Community Plan and Hamlet Plan process.

PFS-4.2 Site Improvements
The County shall ensure that new development in UDBs, UABs, Community Plans, Hamlet Plans, Planned Communities, Corridor Areas, and Area Plans includes adequate stormwater drainage systems. This includes adequate capture, transport, and detention/retention of stormwater.

PFS-4.3 Development Requirements
The County shall encourage project designs that minimize drainage concentrations and impervious coverage, avoid floodplain areas, and where feasible, provide a natural watercourse appearance.

PFS-4.4 Stormwater Retention Facilities
The County shall require on-site detention/retention facilities and velocity reducers when necessary to maintain existing (pre-development) storm flows and velocities in natural drainage systems. The County shall encourage the multi-purpose design of these facilities to aid in active groundwater recharge.

PFS-4.5 Detention/Retention Basins Design
The County shall require that stormwater detention/retention basins be visually unobtrusive and provide a secondary use, such as recreation, when feasible.

PFS-4.7 NPDES Enforcement
The County shall continue to monitor and enforce provisions to control non-point source water pollution contained in the U.S. Environmental Protection Agency National Pollution Discharge Elimination System (NPDES) program.

PFS-5.1 Land Use Compatibility with Solid Waste Facilities
The County shall ensure that solid waste facility sites (for example, landfills) are protected from the encroachment by sensitive and/or incompatible land uses.

PFS-5.3 Solid Waste Reduction
The County shall promote the maximum feasible use of solid waste reduction, recycling, and composting of waste, strive to reduce commercial and industrial waste on an annual basis, and pursue financing mechanisms for solid waste reduction programs.

PFS-5.4 County Usage of Recycled Materials and Products
The County shall encourage all industries and government agencies in the County to use recycled materials and products where economically feasible.

PFS-5.8 Hazardous Waste Disposal Capabilities
The County shall require the proper disposal and recycling of hazardous materials in accordance with the County's Hazardous Waste Management Plan.

PFS-5.9 Agricultural Waste
The County shall investigate waste disposal and reuse needs for agricultural wastes for energy and other beneficial uses and shall change County plans accordingly.

The Porterville General Plan has a number of policies that apply to projects within the City of Porterville.

LU-G-5
Ensure that new development pays for the public facilities and infrastructure improvements required to meet the demands resulting from that growth.

LU-I-8
Approve development projects only after making findings that one or more of the following conditions are met:

- No General Fund revenue will be used to replace developer funding that has or would been committed to any other public projects;
- The development project will fully fund all public facilities and infrastructure, including streets, water, sewer, and storm drainage systems, parks and public safety facilities and equipment, as necessary to directly mitigate the impact of the new development; and
- The development project will pay impact fees for public facilities and infrastructure improvements in proportion to the development's impact, as per the approved master plans.

9
Noise

The purpose of the Noise Element is to identify the noise sources that exist within the Porterville Area, and to establish policies and programs to mitigate their potential impacts through both preventative and responsive measures. The regulation of noise sources such as traffic, railroad operations and aircraft operations is overseen by State a n d federal agencies; therefore, this element has a direct correlation with the land use, circulation, and housing elements. It guides the location of industrial land uses and transportation facilities, since they are common sources of excessive noise levels. This element also guides the location of particularly noise–sensitive uses, such as residences, schools, churches, and hospitals, so that they may be less affected by noise.

9.1 NOISE CHARACTERISTICS & MEASUREMENT

Noise is commonly defined as undesirable or unwanted sound. Noises vary widely in their scope, source, and volume, ranging from individual occurrences such as leaf blowers, to the intermittent disturbances of overhead aircraft, to the fairly constant noise generated by traffic on freeways.

Three aspects of community noise are used in assessing the noise environment:

- Level (e.g., magnitude or loudness). Sound levels are measured and expressed in decibels (dB) with 10 dB roughly equal to the threshold of hearing. Figure 9-1 shows the decibel levels associated with different common sounds. Transient noise events may be described by their maximum A-weighted noise level (dBA).
- Frequency composition or spectrum. Frequency is a measure of the pressure fluctuations per second, measured in units of hertz (Hz). The characterization of sound level magnitude with respect to frequency is the sound spectrum, often described in octave bands, which divide the audible human frequency range (e.g., from 20 to 20,000 Hz) into 10 segments.

Variation in sound level with time, measured as noise exposure. Most community noise is produced by many distant noise sources that change gradually throughout the day and produce a relatively steady background noise having no identifiable source. Identifiable events of brief duration, such as aircraft flyovers, cause the community noise level to vary from instant to instant. A single number called the equivalent sound level or Leq describes the average noise exposure level over a period of time. Hourly Leq values are called Hourly Noise Levels.

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Figure 9-1: Typical Sound Levels

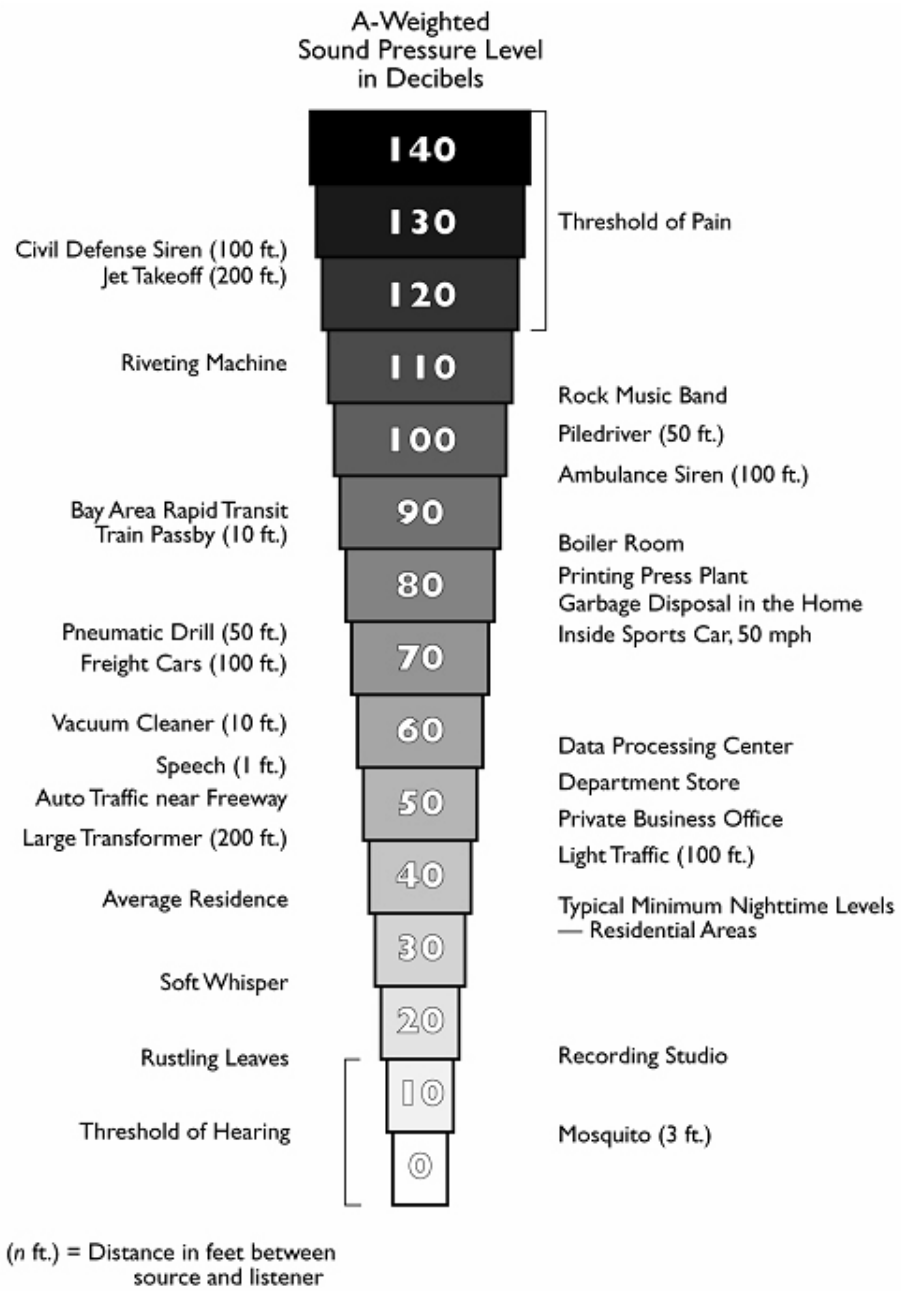


Figure 9-2: Existing Noise Contours

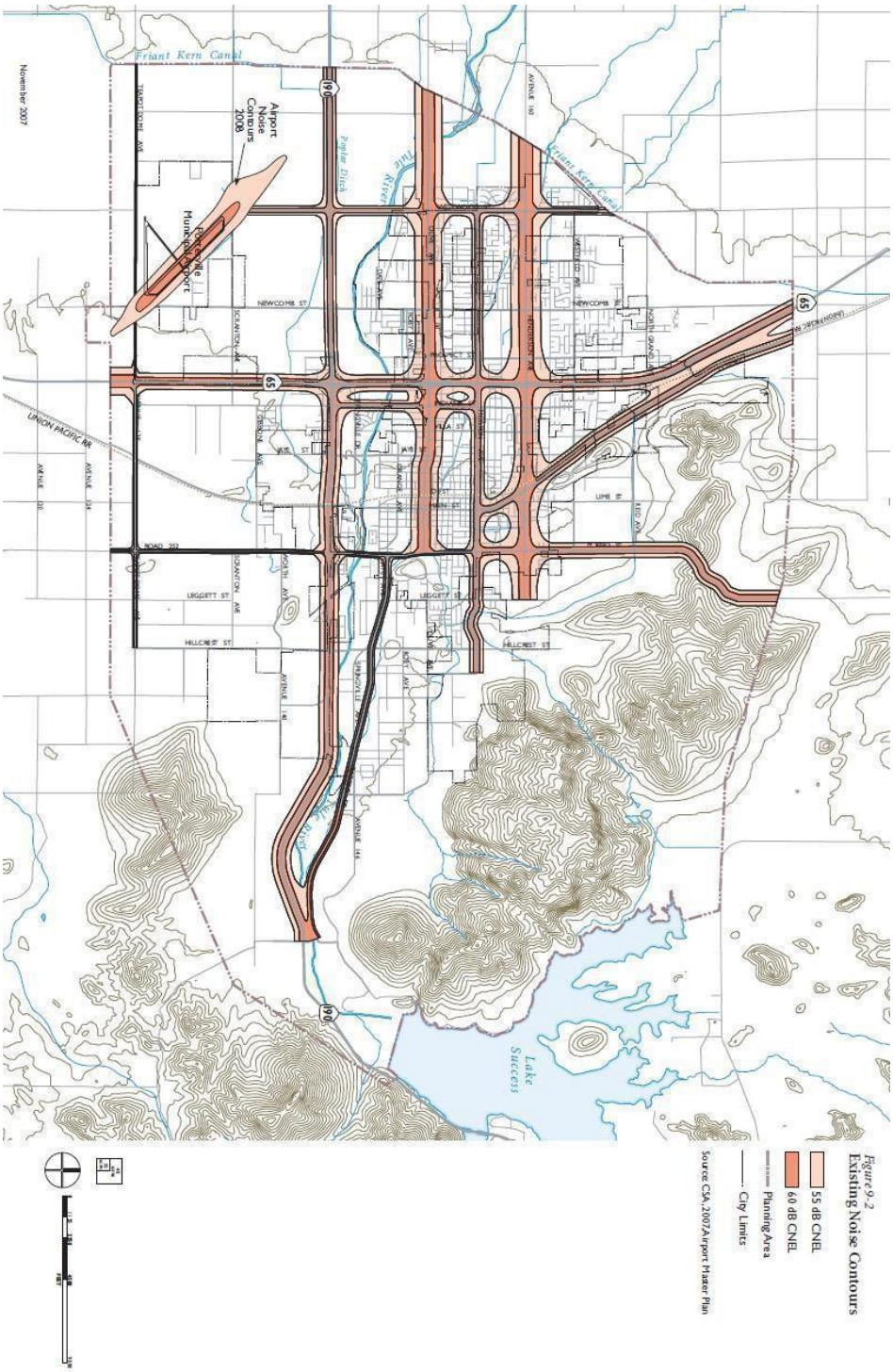


Figure 9-2
Existing Noise Contours

Figure 9-2 BACK

Figure 9-3: Future Noise Contours

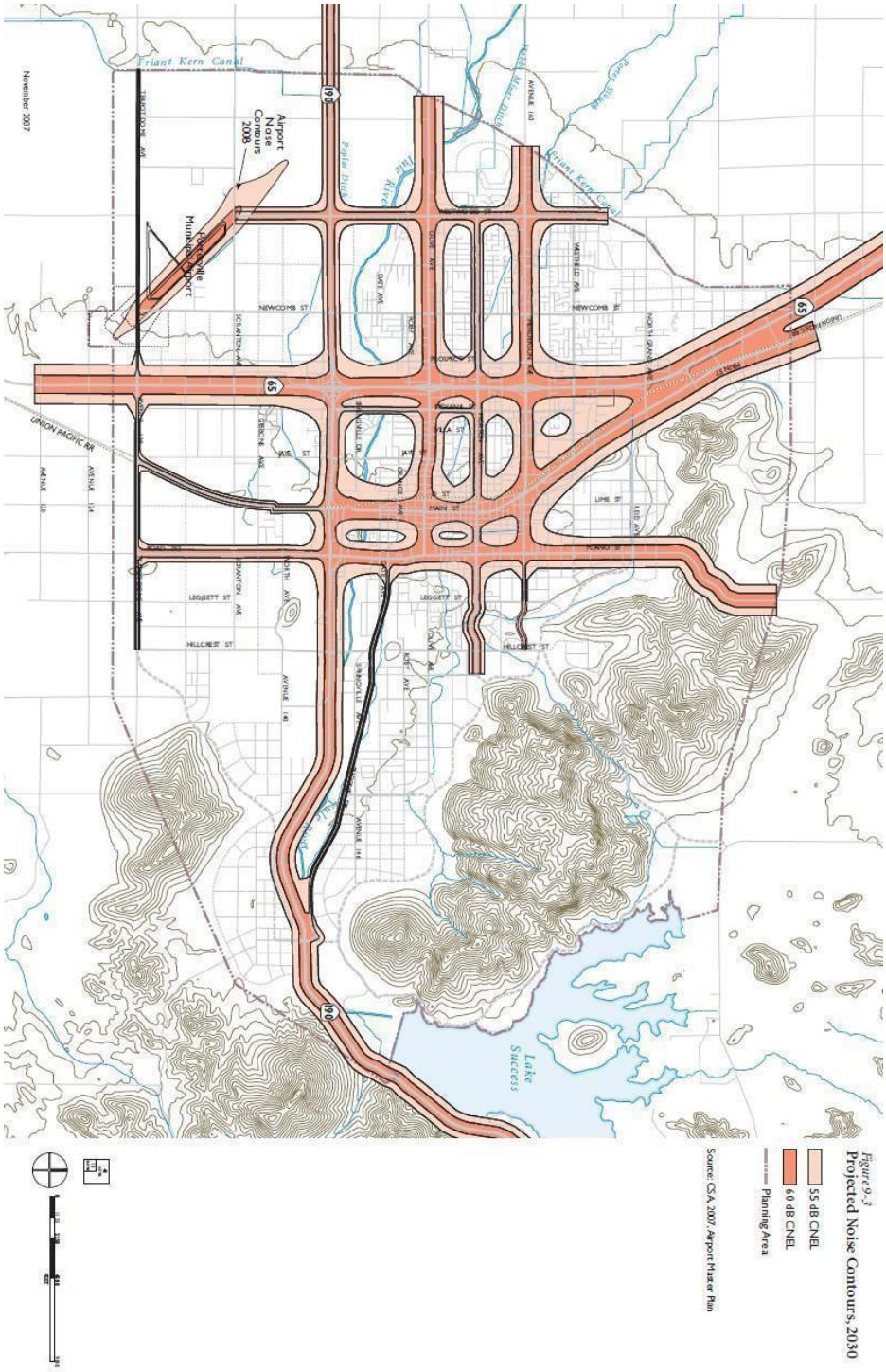


Figure 9-3 BACK

Reporting Noise Levels

Measuring and reporting noise levels involves accounting for variations in sensitivity to noise during the daytime versus nighttime hours. Noise descriptors used for analysis need to factor in human sensitivity to nighttime noise when background noise levels are generally lower than in the daytime and outside noise intrusions are more noticeable. Common descriptors include the Community Noise Equivalent Level (CNEL) and the Day-Night Average Level (Ldn). Both reflect noise exposure over an average day with weighting to reflect the increased sensitivity to noise during the evening and night. The two descriptors are roughly equivalent. The CNEL descriptor is used in relation to major continuous noise sources, such as aircraft or traffic, and is the reference level for the Noise Element under State planning law.

Knowledge of the following relationships is helpful in understanding how changes in noise and noise exposure are perceived:

- Except under special conditions, a change in sound level of 1 dB cannot be perceived;
- A 3 dB change is considered a just-noticeable difference;
- A 5 dB change is required before any noticeable change in community response would be expected. A 5 dB increase is often considered a significant impact; and
- A 10 dB increase is subjectively heard as an approximate doubling in loudness and almost always causes an adverse community response

9.2 NOISE GENERATION IN PORTERVILLE

The major noise sources in Porterville are related to roadways and vehicle traffic. Other noise sources include aircraft and rail transportation. Noise produced by industry has a negligible effect on the Porterville Area's residential noise environment. Figure 9-2 maps existing noise contours.

According to common practice, maximum noise levels of 60 dB are considered "normally acceptable" for unshielded residential development. Noise levels from 60 dB to 70 dB fall within the "conditionally unacceptable" range, and those in the 70 to 75 dB range are considered "normally unacceptable."

The Plan will improve streetscape character while continuing to reduce traffic noise levels in residential neighborhoods.

TRAFFIC NOISE

The level of highway traffic noise depends on three factors: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the number of trucks in the flow of traffic. Vehicle noise is a combination of the noises produced by the engine, exhaust, tires, and wind generated by taller vehicles. Other factors that affect the perception of traffic noise include: distance from the highway, terrain, vegetation, and natural and structural obstacles. While tire noise from autos is generally located at ground level, truck noise sources can be located as high as 10 to 15 feet above the roadbed due to tall exhaust stacks and higher engines.

Noise exposure contours for Porterville's major roadways were modeled by applying the Federal Highway Administration's noise modeling procedure. These noise contours are conservative, meaning that the contours are modeled with minimal noise attenuation by natural barriers, buildings, etc. The noise level measured at a specific location may be lower than what is shown on the noise contour map.

The existing noise conditions for the roadways were measured at 10 locations for 10 minutes between August 16 and 17, 2005. Three of these locations were monitored for 24 hours. In 2005, about 1,800 acres (5 percent) of the Planning Area were in areas with noise levels greater than 60 dB. Approximately 16 percent of single-family housing and 23 percent of multi-family housing is in areas with noise levels greater than 55 dB.

Future development within the Planning Area will result in increased traffic volumes, thus increasing noise levels somewhat in some areas. Future noise contours are illustrated in Figure 9-3. In 2030, approximately 3,600 acres (10 percent) will be within areas with noises levels greater than 60 dB. Approximately 11 percent of the single-family housing 45 percent of the multi-family housing, and 16 percent of the educational uses will be within the 60 dB contours. Approximately 15 percent of the single-family residential, 40 percent of the multi-family residential, and 23 percent of the educational uses will be within the 55 dB contours. Increases in traffic levels can be counteracted by the implementation of alternate forms of transportation and land use design that factor in noise concerns. Locating noise-sensitive uses away from high-noise areas (e.g., major transportation routes) and buffering noise levels through design and landscaping features will help minimize future noise-related land use conflicts. Policies in this element establish review criteria for certain land uses to ensure that future noise levels will not exceed acceptable levels near noise-sensitive land uses.

PORTERVILLE MUNICIPAL AIRPORT NOISE

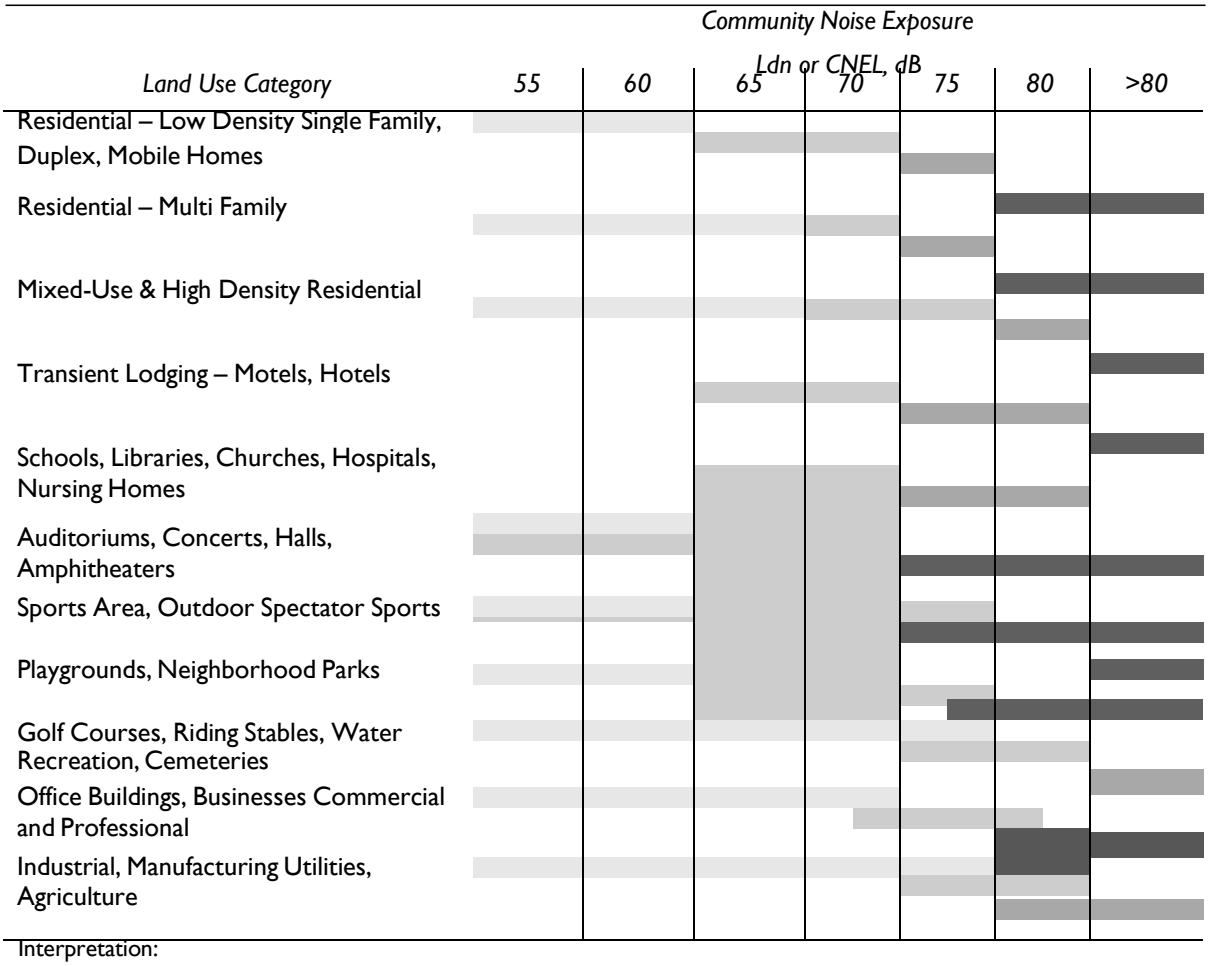
The City recognizes the importance of Porterville Municipal Airport to the community and region. The Tulare County Airport Land Use Commission (ALUC), the agency that has jurisdictional authority over the airport, assesses adjacent land use. The Tulare County Comprehensive Airport Land Use Plan (CALUP) guides the ALUC in determining appropriate compatible land uses with detailed findings and policies. This includes minimizing the effects of aircraft noise on communities adjacent to airports. In 2003, the Porterville Municipal Airport hosted approximately 51,200 total aircraft operations (140 flights per day).

By 2025, the 2006 Airport Layout Plan estimates the Porterville Municipal Airport will host approximately 93,900 total aircraft operations (257 flights per day). Currently the ALUC is working to update the Tulare County CALUP, which will include updated noise contours for the airport's proposed expansion.

RAILROAD OPERATIONS NOISE

At this time, no trains are operating on the rail right-of-way within Porterville. If the San Joaquin Valley Railroad service were to resume, one low-speed train would travel to and from Porterville twice weekly. No information is available on potential cumulative noise exposure, although the train could have significant short-term impacts near grade crossings.

Table 9-1: Land Use Compatibility For Community Noise Environments



Interpretation:

Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable	New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable	New construction or development should not be undertaken.

Source: City of Porterville, 2006.

GUIDING POLICIES

N-G-1 Minimize vehicular and stationary noise levels and noise from temporary activities.

N-G-2 Ensure that new development is compatible with the noise environment.

IMPLEMENTATION POLICIES

N-I-1 Use the community noise exposure level standards, shown in Table 9-1, as review criteria for new land uses and require a noise study and mitigation measures for all projects that have noise exposure greater than "normally acceptable" levels.

These measures will include, but are not limited to, the following actions:

- *Screen and control noise sources, such as parking and loading facilities, outdoor activities and mechanical equipment;*
- *Increase setbacks for noise sources from adjacent dwellings;*
- *Retain fences, walls, and landscaping that serve as noise buffers;*
- *Use sound proofing materials and double-glazed windows; and*
- *Control hours of operation, including deliveries and trash pickup, to minimize noise impacts.*

The need for mitigation of exterior noise exposure for other development will be evaluated on a case-by-case basis. Within urban residential neighborhoods where medium and high density residential development and mixed-use development is planned, the City will balance the need for noise mitigation with urban design considerations, and may not require exterior walls along streets where an attractive pedestrian-oriented environment with porches and front stoops is desired.

N-I-2 Require that all new residential development achieve interior noise level reductions through sound insulation and other measures to meet the land use compatibility standards by acoustical design and construction of the structure and building elements.

N-I-3 Establish standards for the basic elements of noise reduction design for a new dwelling unit exposed to DNL above 65 dB, including the following:

- All façades must be constructed with substantial weight and insulation;
- Sound-rated windows providing noise reduction performance similar to that of the façade must be included for habitable rooms;
- Sound-rated doors or stormdoors providing noise reduction performance similar to that of the façade must be included for all exterior entries;
- Acoustic baffling of vents is required for chimneys, fans and gable ends; and
- Installation of a mechanical ventilation system affording comfort under closed window conditions is required.

Alternative acoustical designs that achieve the prescribed noise level reduction in Policy N-I-3 may be approved if a Board-Certified Acoustical Engineer submits information demonstrating that the required reductions can be achieved and maintained.

N-I-4 Require sound walls or other attenuation measures designed to reduce noise by a minimum of 10 dB in residential areas adjacent to State highways when additional lanes are added or when new residential development or sensitive receptors would be exposed to noise above 65 dB.

N-I-5 Reduce noise intrusion generated by miscellaneous noise sources through conditions of approval to control noise-generating activities.

N-I-6 Require new noise sources to use best available control technology (BACT) to minimize noise emissions.

N-I-7 Require noise from existing mechanical equipment to be reduced by soundproofing materials and sound-deadening installation.

N-I-8 Work with the Tulare County Airport Land Use Commission (ALUC) to prepare an Airport Land Use Compatibility Plan and updated airport noise contours, consistent with the new airport layout plan.

N-I-9 Require the disclosure of the noise environment to prospective homebuyers where noise levels exceed “normally acceptable” standards.

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10
Implementation

The Plan provides specific policy guidance for the implementation of plan concepts in each of the Plan elements. This framework establishes a basis for coordinated action by the City, Tulare County, adjacent jurisdictions, and regional and State agencies. This chapter describes the process in general terms and the major actions to be undertaken by the County to implement the policies in the Plan provide details that will guide program development.

The major implementation process for land use proposals will be administration of the Zoning Ordinance through the Zoning Map. The Zoning Ordinance will need to be amended to be consistent with the Plan's policies. The Subdivision Ordinance may also be amended to add additional requirements for land dedication for schools and parks and reservation of sites for the community facilities, consistent with current State law.

In many areas, Plan implementation will depend on actions of other public agencies and of the private sector, which will fund most of the development expected to occur in the Planning Area. The Plan will serve a coordinating function for private sector decisions; it also provides a basis for action on individual development applications, found to be consistent with the Plan. The County will adopt procedures for making findings for Plan conformity decisions prior to adoption of new zoning regulations and a new Zoning Map. Individual projects must also be reviewed for consistency with the General Plan which will also ensure implementation of the General Plan. For example: see Gov. Code Sections 65359 and 65454 (Specific Plan consistency with the General Plan), Gov. Code Section 65860 (Zoning consistency with the General Plan), Gov. Code Sections 66473.5 and 66474 (Subdivision, Tentative Map, and Parcel Map consistency with the General Plan), and Gov. Code 65867.5 (Development Agreement consistency with the General Plan). Additionally, project level environmental review will occur under CEQA for future discretionary actions. All City standards for development and infrastructure, land use and zoning will be applied to all new subdivisions being approved in East Porterville, while any minor project including parcel maps will be required to conform with the setbacks associated with these standards but will not be required to apply the development or infrastructure standards, unless already required to do so by County Code.

10.1 COUNTY OF TULARE PLAN POLICIES

This section of the Plan prescribes the County General Plan policy framework which is applicable the development of the community over the term of the planning period (through the year 2030). It includes text which sets out explicit policy statements about the quality, character, and manner in which development in the community will take place.

The plan, although long range in scope, is to be used on a day to day basis to guide the decisions of County staff, the Planning Commission, and the Board of Supervisors as they affect community development. Further, it will provide residents and property owners in the community with direction and guidelines regarding the evolution and growth of their community and its resources. And importantly, this framework will aid other public agencies and entities, such as the school district and the water company, in their own long-range planning and capital expenditure programming. The Settlement Agreement between the County and City of Porterville details how the County will implement these policies within the Porterville CACUDB and UAB.

PF-4	To direct urban development within UDBs of existing incorporated cities and ensure that all development in unincorporated areas adjacent to incorporated cities is well planned and adequately served by necessary infrastructure and other public facilities and furthers countywide economic development goals.

PF-4.1 CACUABs for Cities

The County shall establish CACUABs which define the area where land uses are presumed to have an impact upon the adjacent incorporated city, and within which the cities' concerns may be given consideration as part of the land use review process. The lands within the UAB are considered to be the next logical area in which urban development may occur and the area within which UDBs may ultimately be expanded.

Although it is the policy of the County that this area will at some time become appropriate for urban development, generally no public purpose is served by permitting intensive development therein. As communities grow and expand, it is logical to assume the UDBs may be correspondingly expanded or established until they coincide with the ultimate UAB. The land lying between the Urban Development Boundary and the Urban Area Boundary will generally have an agricultural land use designation or rural residential land use designation in conformity with Land Use Policy LU 3.8: Rural Residential Interface.

PF-4.2 CACUDBs for Cities – Twenty Year Planning Area

The County shall establish CACUDBs which define the anticipated twenty-year planning areas around incorporated cities in which the County and cities may coordinate plans, policies, and standards relating to building construction, subdivision development, land use and zoning regulations, street and highway construction, public utility systems, environmental studies, water supply availability and sufficiency, and other closely related matters affecting the orderly development of areas adjacent to incorporated cities. It is recognized that these boundaries provide an official definition of the interface between future urban and agricultural land uses.

Within this boundary, the County may also establish planning areas representative of shorter time periods in order to assist in more precise implementation of plans and policies.

PF-4.3 Modification of CACUABs and CACUDBs

The County may consider modification of CACUABs and CACUDBs at such time as the land use plan for a city is revised to reflect changing needs and circumstances over an extended time frame. Preservation of productive agricultural lands and operations shall be one consideration when considering such modifications. Cities may examine existing CACUAB and CACUDB lines and recommend changes to the Board of Supervisors, as appropriate.

PF-4.4 Planning in CACUDBs

The County acknowledges that the cities have an interest in planning for growth within a CACUDBs and will in the future become ultimately responsible for urban development and the provision of urban services within those areas upon annexation.

PF-4.5 Spheres of Influence

CACUDBs and the SOI as administered by LAFCo may be consistent insofar as it is feasible and appropriate to do so.

PF-4.6 Orderly Expansion of City Boundaries

When the County is considering outward expansion of CACUDBs, the following criteria shall be encouraged:

1. The city has demonstrated a need for additional territory after documenting a good faith effort to implement programs for infill development and/or increased efficiency of development and minimize conversion of agricultural lands.
2. UDBs should not be expanded onto Prime Farmland if Farmland of Statewide Importance or of lesser quality is available and suitable for expansion.
3. Emphasis shall be placed upon reasonable expectations for the provision of urban services within the next twenty years as reflected in LAFCo's Municipal Service Reviews when determining the location of UDBs.

PF-4.7 Avoiding Isolating Unincorporated Areas

The County may oppose any annexation proposal that creates an island, peninsula, corridor, or irregular boundary. The County will also encourage the inclusion of unincorporated islands or peninsulas adjacent to proposed annexations.

PF-4.8 Updating Land Use Diagram in CACUDBs

Following city adoption of a Plan update or amendment that reflects the area within a CACUDB, the County shall update Part III (Community Plans, Kings River Plan, Mountain Sub-Area Plans, and CAC Plans), if applicable, to reflect the city's modified plan. Any unresolved conflicts between the County and city plans shall be identified for the Board of Supervisors. The County shall establish and maintain land use controls on unincorporated lands within the UDB consistent with the policies of the County Plan.

PF-4.9 Transition to Agricultural Use

The County shall encourage cities to adopt land use policies that minimize potential conflicts with agricultural operations and other agricultural activities at the urban edge through the provision of appropriate buffers or other measures.

PF-4.10 Urban Improvement Areas for Cities

All Urban Improvement Areas established in the 1974 Urban Boundaries Element for cities and adjacent cities in adjacent counties, are hereby converted to Urban Development Boundaries.

PF-4.11 Coordination with Cities in Adjacent Counties

The policies set forth in this Section (PF-4: Cities) shall also apply to planning and development within the UDBs of adjacent cities in adjacent counties (Corcoran, Delano, Kingsburg, Orange Cove, and Reedley), except Policy PF-4.4: Planning in UDBs.

PF-4A	To provide the means to further manage urban development within CACUDBs and CACUABs of existing incorporated cities while ensuring that the limitation on development is in the best interests of the County and its residents in both the incorporated and unincorporated areas and enhances the County's ability to provide adequate County facilities and countywide social, health, safety and welfare services impacted by development in the cities and County.

The following policies will become applicable upon mutually adopted agreement between the County and each city regarding the collection of public facilities impact fees in accordance with policies PF-4.12 and PF-4.27.

PF-4.12 Plan Designations Within City UDBs

On land that is within a CACUDB, but outside a city's incorporated limits, the County may maintain Plan land use designations that are compatible with the city's adopted Plan.

PF-4.13 City Design Standards (See Appendix D)

Where the Board of Supervisors finds that it is consistent with Plan objectives to approve development within the UDBs of incorporated cities, the County may require the project to substantiate sufficient water supply and meet the County adopted city development standards of the city in question.

PF-4.14 Compatible Project Design

The County may ensure proposed development within CACUABs is compatible with future sewer and water systems, and circulation networks as shown in city plans.

PF-4.15 Coordination with Cities on Development Proposals

The County shall ensure that urban development only take place in CACUDBs if one of the following has occurred:

1. The adjacent city does not consent to annex the property for development purposes (as evidenced through pre-zoning, development agreements, etc.); it shall be conclusively presumed that a city has not consented if it has not submitted an annexation proposal to LAFCo within six months from the date a request to annex is submitted to the city; or
2. Annexation is not possible under the provisions of State law, but it is determined by the County that development of the site does not constitute incompatible development.

PF-4.16 Revenue Sharing

As an incentive for directing urban growth into cities when applications are proposed within the CACUDBs, the County shall promote revenue sharing as an element of negotiation whenever:

1. A city updates its Plan and requests the County to update its CAC Plan.
2. When establishment or amendment to Spheres of Influence are proposed.
3. Annexations are proposed by cities, or joint development or successor agency projects are proposed by any city and the County.

As an additional incentive for directing urban growth into cities, any city proposing changes to a CAC Plan or other County land use regulations shall pay to the County its cost in considering and implementing such proposal.

PF-4.17 Cooperation with Individual Cities

The County may use the policies set forth under this goal (PF-4A: Cities: Continued) to work with individual cities to further manage development within that CACUDB or CACUAB to the extent that the financial needs of the County are met and the County's ability to provide facilities and County services used by all of the residents in the County and cities is enhanced. The County and Cities will establish a working committee to facilitate the policies identified in this section 4A.

PF-4.18 Future Land Use Entitlements in a CACUDB

The County may work with an individual city to limit any Plan amendments to change the land use designations of any parcel or any amendments to the County zoning ordinance to add uses to a current zoning classification or change the zoning district designation of any parcel within a CACUDB except as follows:

1. This policy will not apply to amendments or changes to a County unincorporated UDB, Hamlet Development Boundary (HDB), including where the boundary line may increase an outward expansion of the overlap area with a CACUDB area that is not coterminous to the city's Urban Development Boundary/Sphere of Influence (UDB or SOI), or to any Plan amendment adopting a new County unincorporated UDB, an HDB, or Planned Community, County Corridor development nodes will not be located inside a city's UDB or SOI unless mutually agreed by the City and County.
2. This policy will not apply where the Plan land use designation or the zoning district classification of a particular parcel is inconsistent with an existing special use permit, or legal non-conforming use.
3. As determined by the Rural Valley Lands Plan (RVLP) checklist, the County shall encourage beneficial reuse of existing or vacant agricultural support facilities for new businesses (including non- agricultural uses), and for which the city cannot or will not annex as per PF-4.24.
4. This policy will not apply where the effect of the amendments to the Plan land use designation or of the rezoning is to designate or zone the parcel to an agricultural designation or zone except where the effect of the amendment creates a less intensive agricultural designation or zone.
5. This policy will not apply where amendments to the Plan land use designations or the zoning classifications apply only to that portion of a CACUDB that is overlapped (where exterior UDB's are coterminous) by a County unincorporated UDB, Hamlet Development Boundary (HDB), or Corridor Plan area.
6. This policy will not apply where amendment to the Plan land use designation or the zoning classification is required to bring the County regulations into compliance with more restrictive State or Federal statutes or regulations.
7. This policy will not apply where amendments to the Zoning Ordinance are part of a comprehensive modernization or restructuring of the processes or procedures set out in the Zoning Ordinance or part of a comprehensive update to the text of the zoning classifications to bring the Zoning Ordinance procedures and text into consistency with the Plan update. [This comprehensive modernization, restructuring or update would not include any rezonings outside that allowed in this policy. However, revision of processes and procedures and simplification of existing ordinances may occur.]
8. This policy would not apply to a comprehensive update of a CAC Plan, including rezoning there under, in cooperation with the affected city.

9. This policy would not apply where the County has worked with the city to identify and structure a mutually acceptable alternative Plan land use designation or zoning classification.

PF-4.19 Future Land Use Entitlements in a CACUAB

As an exception to the County policies that the Rural Valley Lands Plan (RVLP) does not apply within CACUDBs and is only advisory within CACUABs, the County may work with an individual city to provide that no Plan amendments or rezonings will be considered to change the current land use designation or zoning classification of any parcel within a CACUAB unless appropriate under the requirements of the Rural Valley Lands Plan (RVLP) or similar checklist or unless the County has worked with the city to identify and structure an acceptable alternative Plan land use designation or zoning classification. This policy will not apply to amendments or changes to a County unincorporated UDB, Hamlet Development Boundary (HDB), or Corridor Plan area boundary line, including where the boundary line may increase an overlap area with a CACUDB area, or to any Plan amendment adopting a new UDB, an HDB, or Corridor Plan area that may fall within a CACUDB area. This policy shall not apply within a County unincorporated UDB, an HDB, or Corridor Plan area where that area overlaps a CACUAB area. Development of County corridor development nodes in an affected city's UAB would only occur after the County has provided written consultation and has allowed for a reasonable timed response from the affected city prior to decision making and before the adoption of the Corridor Plan. New development in a city's UAB would be subject to adopted plan lines and setback standards. Adopted facility plans and legally adopted Plans will be considered during the development review process. Small "stand alone," non urban projects which are defined as residential projects of four or fewer lots or non-residential projects smaller than two acres do not need city standards but shall respect city utility and street master plans for setbacks. Large urban-style projects include residential projects of five or more lots averaging less than one acre per lot and non-residential projects two acres or larger will use uniform urban development standards, financing mechanisms, consent to annexation, application of reciprocal development impact fees and city streets/utility setbacks/disclosure requirements unless the County and the city have identified and structured acceptable alternatives that will reasonably ensure that these projects should conform to city development standards upon future annexation.

PF-4.20 Application of the RVLP Checklist to Control Development in a CACUDB

As an exception to the County policies that the Rural Valley Lands Plan does not apply within CACUDBs, the County may work with an individual city to provide that the requirements of the RVLP or similar checklist will apply to applications for special use permits (including special use permits for the expansion of a non-conforming use), variances considered under Government Code § 65906, or to the extent allowed by law, divisions of land within a CACUDB except in those areas that overlap with a County unincorporated UDB, an HDB, or Corridor Plan area. Such a special use permit, variance, or division of land will be reviewed in light of impacts on such regional concerns as water and sewage disposal availability and preservation of transportation and utility corridors as well as compliance with any County adopted urban or city development standards and with the city's Plan policies as reflected in the CAC Plan.

PF-4.21 Application of the RVLP Checklist to Control Development in a CACUAB

As an exception to the County policies that the Rural Valley Lands Plan is only advisory within CACUABs, the County may work with an individual city to provide that the requirements of the RVLP will apply to

applications for special use permits (including special use permits for the expansion of a non-conforming use), variances considered under Government Code § 65906, or to the extent allowed by law, divisions of land within a CACUAB except in those areas that overlap with a County unincorporated UDB, an HDB, or Corridor Plan area. Such a special use permit, variance, or division of land will be reviewed in light of impacts on such regional concerns as water and sewage disposal availability and preservation of transportation and utility corridors.

- *Also see Part II-Policy RVLP-1.4: Determination of Agriculture Land and Section 1.3: Rural Valley Lands Plan Criteria and Evaluation Matrix.*

PF-4.22 Reuse of Abandoned Improvements in a CACUDB

In accordance with other policies in this Plan, the County may work with a city to provide that any alternative land uses within a CACUDB not otherwise allowed under a particular zoning classification but which are allowed by County policies due to the existence of abandoned structures or improvements with no other available, viable economic uses on the parcel will be reviewed in light of impacts on such regional concerns as water and sewage disposal availability and preservation of transportation and utility corridors. For agricultural related uses, reoccupation and/or expansion is limited not to exceed 20% of the site and/or building square footage subject to special use permit with city consultation. Conversion to non- agricultural uses requiring a zone change is limited not to exceed 20% of the site and/or building square footage or as mutually agreed upon by the city and County. Any expansions are subject to a special use permit.

PF-4.23 Reuse of Abandoned Improvements in a CACUAB

In accordance with other policies in this Plan, the County may work with a city to provide that any alternative uses within a CACUAB not otherwise allowed under a particular zoning classification but which are allowed by County policies due to the existence of abandoned structures or improvements with no other available, viable economic uses on the parcel will be reviewed in light of impacts on such regional concerns as water and sewage disposal availability and preservation of transportation and utility corridors expansion or re- occupation will require irrevocable consents to annex, and accommodation for setbacks and other standards for future streets and utilities. The RVLP will be used to determine if non- agricultural use is appropriate.

PF-4.24 Annexations to a City within the CACUDB

In addition to the County's current policies on development within a CACUDB, the County may work with a city to provide that urban development projects within a city's Sphere of Influence (SOI) as set by the Tulare County Local Agency Formation Commission will be referred to the affected city for consideration of annexation in accordance with, but not limited to, the following concepts:

1. Urban development projects, to which the referral policy applies, would be those projects for which a discretionary permit is required. Any urban development project not subject to special use permit requirements would still comply with County adopted city development standards, CAC Plans and zoning and any County adopted city long-range infrastructure plan.
2. The referral would, at least, be subject to the requirement that the city inform the County within three (3) months that it is or is not able and willing to commence annexation proceedings to accommodate the project; or the city is willing and able to commence annexation proceedings, the County would not take action to approve the project unless the applicant has submitted a completed application for annexation and city fails to take action on such application within six months;

3. If the affected city is not willing or able to commence annexation proceedings, approval by the County of the project would be conditioned on conformance with County adopted city development standards, County Adopted City Plans and zoning and any County adopted city long-range infrastructure plan adopted.
4. The County may, as part of this policy, require a consent to future annexation be recorded concurrent with approval of the project special use permit for development within the County.

PF-4.25 Sphere of Influence Criteria

In addition to the County current policies on annexations and city growth lines, the County may work with one or more cities to propose criteria to the Tulare County Local Agency Formation Commission (LAFCo) for use in the adoption of city Sphere of Influence (SOI) lines consistent with the concept that the SOI is a twenty year city growth boundary including the city's "communities of interest" as defined by LAFCo, and that an affected city should seek approval of amendment by LAFCo of its current SOI lines to reflect such criteria. Communities of interest not included within the SOI may be considered and included in a fifty year growth boundary. If such a criteria is adopted, the County, as a city SOI is brought into compliance with such criteria, may consider amendment of it plan to make the CACUDB identified in the County plan, to the extent appropriate, consistent or conterminous with the LAFCo adopted SOI.

PF-4.26 City 50 Year Growth Boundaries

In addition to the County current policies on city boundary lines, the County may work with one or more of the cities to propose that LAFCo consider the adoption of a fifty year growth boundary for each city and to propose criteria to LAFCo for adoption of that boundary. If LAFCo adopts fifty year growth boundaries consistent with such criteria, the County may consider amendments to its plan to make the CACUAB, to the extent appropriate, consistent or conterminous with the city's LAFCo adopted fifty year growth boundary.

PF-4.27 Impacts of Development within the County on City Facilities and County Facilities

The County may work with a city to consider the adoption, imposition and collection for payment to the city pursuant to agreement Development Impact Fees within the CACUDB, as may be proposed by the city from time to time to offset the impacts of development in the County on city facilities. Reciprocally and under the same conditions, the city will consider the collection of Development Impact Fees within the city to offset the impact of development within the city on County facilities.

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10.2 PLAN & REGULATORY SYSTEM

The County will use a variety of regulatory mechanisms and administrative procedures to implement the Plan. Overall responsibility for plan implementation is vested in the Tulare County Board of Supervisors. The plan will maintain consistency with the County Ordinance code. In fact, the consistency requirement is the keystone of Plan implementation.

Without a consistency requirement, there is no assurance that Plan policies will be implemented and that environmental resources earmarked for protection in the Plan will be preserved. Other regulatory mechanisms, including subdivision approvals, building and housing codes, capital improvement programs, and environmental review procedures also will be used to implement Plan policies. All project approvals should be found consistent with the Porterville Area Community Plan. The County's work with the Adjacent City, Porterville, also includes provisions in the Settlement Agreement.

The City of Porterville's Development Standards and City Master Plans for the unincorporated area around the City of Porterville, Porterville Area County Adopted City Urban Development Boundary (CACUDB) attached as Appendix D are not part of the Porterville Area Community Plan but have been adopted separately by the County and are included for reference in Appendix D.

The Tulare County Board of Supervisors will independently review and exercise its discretion when considering the adoption of any subsequent Porterville Development Standards and City Master Plans.

ZONING REGULATIONS

The County's Zoning Ordinance will translate Plan policies into specific use regulations, development standards and performance criteria that will govern development on individual properties. The Plan establishes the policy framework, while the Zoning Ordinance prescribes standards, rules and procedures for development. The Zoning Map will provide more detail than the Porterville Area Community Plan Land Use Diagram.

The Plan calls for several new zoning districts. Regulations for these districts will be established as part of the comprehensive zoning update being undertaken following adoption of the General Plan. The use regulations and development standards for existing zoning districts will need to be amended to conform to Plan policies. Density and intensity limits, consistent with the Plan's land use classifications, also should be established. For purposes of evaluating General Plan consistency, the density of proposed projects will be rounded up or down to the nearest whole number, as appropriate.

The County will bring both the Zoning Ordinance and the Zoning Map into conformance with the Plan within a reasonable period of time. When the Plan is subsequently amended, the Zoning Ordinance and Zoning Map also may need to be amended to maintain consistency between the Plan and the zoning ordinance.

During the transition period while new zoning is being developed, the County will use "Plan Conformity Findings" to provide criteria for determining whether a proposed project is consistent with the General Plan. Factors that will be evaluated to make Plan Conformity determinations include: site suitability for the proposed use, compatibility with adjacent uses, neighborhood economic vitality and the need for the proposed use; and the proposed density and intensity of development.

SUBDIVISION REGULATIONS

No subdivision of land may be approved under California law and the County's subdivision regulations unless its design and proposed improvements are found to be consistent with the Porterville Area Community Plan. Dedication of land for park facilities is required for subdivisions above certain size, consistent with the policies and Standards prescribed by the General Plan.

The precise threshold will be established on a case-by-case basis and depends on whether there are neighborhood parks in the vicinity which can serve new residents. The subdivision regulations also can require dedication of land for elementary schools, riparian habitat and reservation of land for fire stations, libraries, bikepaths, transit facilities, and other public facilities.

After adoption of the Porterville Area Community Plan, the County's subdivision regulations will need to be amended to conform to Plan policies and explicitly require findings of consistency with the Plan as a condition of approving parcel maps and tentative maps. Reservation requirements for bus turnout facilities and bike and pedestrian facilities also will need to be added to carry out Plan policies. The subdivision ordinance should require connection between new streets and existing streets, wherever possible, and allow for reduced, right-of-way dimensions to maintain neighborhood character. Consideration of passive solar energy techniques in street and lot layout and landscaping will also be required and the ordinance may require solar access easements in new subdivisions.

BUILDING AND HOUSING CODES

No building permit may be issued under California law (Government Code Section 65567) unless the proposed development is consistent with the open space plan and conforms to the policies of the Parks, Schools & Community Facilities, and the Open Space & Conservation Element.

To provide an administrative mechanism to ensure consistency with the Porterville Area Community Plan, the County may establish a requirement for zoning permits or other forms of zoning clearance before building and grading permits are issued.

10.3 FUTURE FUNDING & PROGRAMMING

CalTrans Active Transportation Program (ATP):
On September 26, 2013, Governor Brown signed legislation creating the Active Transportation Program (ATP) in the Department of Transportation (Senate Bill 99, Chapter 359 and Assembly Bill 101, Chapter 354). The ATP consolidates existing federal and state transportation programs, including the Transportation Alternatives Program (TAP), Bicycle Transportation Account (BTA), and State Safe Routes to School (SR2S), into a single program with a focus to make California a national leader in active transportation.

Tulare County Measure R
On November 7, 2006, the voters of Tulare County approved Measure R, imposing a 1/2 cent sales tax for transportation within the incorporated and unincorporated area of Tulare County for the next 30 years. The transportation measure will generate slightly more than $652 million over 30 years to Tulare County's transportation needs.

Local Projects (35% of Measure R Funding)
The Measure R Expenditure Plan allocated 35% of revenues to local programs. Each city and the county will receive funding based on a formula using population, maintained miles, and vehicles miles traveled. The funding will help cities and the county to meet scheduled maintenance needs and to rehabilitate their aging transportation systems.

Regional Projects (50% of Measure R Funding)
The Regional Projects Program comprises 50% of Measure R and includes specific funding for: interchange improvements, regional bridges, regional railroad crossings, regional signals, regional widening projects, and signal synchronization projects. These projects provide for the movement of goods, services, and people throughout Tulare County. Major highlights of this program include the funding of regional projects throughout the county.

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Bike /Transit /Environmental Projects (14% of Measure R Funding)
The Goals of Measure R include air quality improvement efforts that will be addressed in the Measure R Expenditure Plan through the Transit/Bike/Environmental Program, which includes funding for transit, bike, and pedestrian environmental projects. The goal of this program is to expand or enhance public transit programs that address the transit dependent population, improve mobility through the construction of bike lanes, and have a demonstrated ability to get people out of their cars and improve air quality and the environment.

San Joaquin Valley Air Pollution Control District (SJAPCD) Bike Path Grants
The District has a grants program for the construction of bicycle infrastructure projects, including Class I (Bicycle Path Construction) or Class II (Bicycle Lane Striping) projects. These grants provide funding to assist with the development or expansion of a comprehensive bicycle-transportation network.

Strategic Growth Council Grants (SGC)
Affordable Housing - Sustainable Communities
The SGC will allocate 50% of its Cap and Trade funding toward disadvantaged communities and 50% for affordable housing. Projects will include: affordable housing that supports infill and compact development, transit capital and programs that support transit ridership, active transportation projects (infrastructure, and non-infrastructure), TOD projects, capital projects that implement complete streets, projects that reduce CHG emissions by reducing auto trips and VMT, acquisition of easements or other approaches to protect agricultural lands under threat of development, planning to support SCS (sustainable communities scope) implementation, including local plans, must be in draft or adopted SCS, subject to SGC guidelines.

CMAQ (TCAG Funds)
Congestion Mitigation Air Quality (CMAQ) funds are allocated through the Tulare County Association of Governments (TCAG). The CMAQ program funds transportation projects or programs that will contribute to improved air quality standards. Projects include: transportation activities, transportation control measures, public-private partnerships, alternative fuel programs, traffic flow improvements, transit, bicycle/pedestrian projects, rideshare activities, telecommuting, planning, experimental pilot projects, intermodal freight, and public outreach.

DOT: TIGER
TIGER is a multimodal, merit-based discretionary grant program that funds surface transportation capital projects, including transit and rail. Open to state, tribal, local agencies, and subdivisions.

CDBG (Business Assistance)
The Community Development Block Grant (CDBG) Economic Development grant provides assistance to local businesses and low-income microenterprise owners to create or preserve jobs for low-income workers in rural communities. Funding includes planning and evaluation studies related to any activity eligible for these allocations, business lending, and public infrastructure.

Choice Neighborhoods
Choice Neighborhoods Planning Grants support the development of comprehensive neighborhood revitalization plans which focused on directing resources to address three core goals: Housing, People and Neighborhoods. To achieve these core goals, communities must develop and implement a comprehensive neighborhood revitalization strategy, or Transformation Plan. The Transformation Plan will become the guiding document for the revitalization of the public and/or assisted housing units while simultaneously directing the transformation of the surrounding neighborhood and positive outcomes for families. Choice Neighborhoods Implementation Grants support those communities that have undergone a comprehensive local planning process and are ready to implement their “Transformation Plan” to redevelop the neighborhood.

California Department of Water Resources Prop 50 (Contaminant Removal)
Funds are available to disadvantage communities for developing UV or Ozone systems to disinfect drinking water or to set up pilot/demonstration sites.

Drought Response Funding (SWRCB)
The Governor and Legislature have directed the Department of Water Resources (DWR) to expedite the solicitation and award of $200 million (of the $472.5 million) in Integrated Regional Water Management Plan (IRWM) funding to support projects and programs that provide immediate regional drought preparedness, increase local water supply reliability and the delivery of safe drinking water, assist water suppliers and regions to implement conservation programs and measures that are not locally cost- effective, and/or reduce water quality conflicts or ecosystem conflicts created by the drought.

DWR: Water-Energy Grant Program
The 2014 Water-Energy grant supports the implementation of residential, commercial, and institutional water efficiency programs or projects that reduce Green House Gas emissions and also reduce water and energy use. Funding will go toward urban water management, groundwater management, and surface water diversion.

CDPH Clean Water SRF
The Safe Drinking Water State Revolving Fund (SDWSRF) provides funding to correct public water system deficiencies based upon a prioritized funding approach that addresses the systems' problems that pose public health risks, systems with needs for funding to comply with requirements of the Safe Drinking Water Act, and systems most in need on a per household affordability basis.

iBank (Infrastructure State Revolving Fund Program and Economic Development Bank)
iBank provides low cost, long term financing for local governments to fund a variety of public infrastructure projects. (Although this is not a grant, loan rates are largely determined by level of distress within a disadvantaged community).

10.4 COUNTY-CITY COOPERATIVE PROCESS

The City and the County have agreed to the establishment of a working committee to meet and develop procedures to ensure cooperation, consultation, and coordination consisting of City and County representatives with delegated authority to act on-behalf of their entity. The following is the cooperation, consultation, and coordination process agreed upon by the City and County. (References to Attachments A-F as indicated below are located in Tulare County Agreement 26543)

1. **Establishment of Coordination Committee**. The City and County hereby form a working committee to be called the Porterville Area Coordination Committee ("Committee") comprised of the Community Development Director and Community Development Manager of the City of Porterville and the RMA Director and Assistant Director Planning Branch of Tulare County, or their designees. Because the Committee members will receive mailed or e-mailed materials and to ensure every member gets these materials, any changes in designees may be made only by letter or e-mail copied to all Committee members.

2. **Projects/Actions Subject to Cooperative Process**. This cooperative process will apply to the City and County when considering approval of projects within or policy amendments that affect land within the County-Adopted City Urban Development Boundary ("CACUDB") for Porterville or County-Adopted City Urban Area Boundary ("CACUAB") for Porterville as may be amended from time to time. The Committee may develop a list of proposal types or categories that do not need to go through the cooperative process.

3. **Coordination - Preliminary Meeting.** Upon receipt of a preliminary development project and/or proposed policy amendment subject to this process, the City and/or the County shall provide preliminary project information to all Committee members and shall notify the Committee members of such proposal. The Committee members shall be invited to attend the project review meeting and shall be provided an opportunity to participate in the project review and discussion, including, if appropriate, any discussion of development criteria.

4. **Coordination - Initiation of Cooperative Process.** Within ten (10) working days of the City or County receiving a development application or other request for approval of a project/action subject to the cooperative process, the City or County will send via e-mail to each member of the Committee information about the proposed project/action on a form similar to the City of Porterville's Consultation Process or County RMA's Project Review Consultation Notice as appropriate. This information will include the project description, project plans and/or exhibits, other supporting documents as may be appropriate, and any proposed policy language amendments.

5. **Coordination - Committee Meeting.** Within ten (10) working days or as mutually agreed by the County or City initiating the cooperative process, the Committee shall meet to discuss any concerns the City or County may have with the proposed project/action. The Committee meeting may be waived upon mutual agreement of both parties.

6. **Written Comments.** If any member of the Committee has comments on or concerns about the proposed project/action's impacts on the City or County, he or she shall provide these comments/concerns in writing to the other members of the Committee within five (5) working days following the Committee meeting. The County and/or the City agrees to fairly consider in good faith the comments of the Committee members in deciding whether to recommend approval, conditional approval, or disapproval of the project.

7. **Complex Projects/Actions**. If a majority of Committee members agree, the Committee may extend for a reasonable time period, the cooperative process for individual projects/actions, e.g., large scale and/or more complex projects/actions.

8. **Adjusting Cooperative Process**. The cooperative process may be adjusted upon mutual agreement of the City and County. Any such adjustment shall be confirmed via email or other written format by both parties and may include additional meetings, discussions, and negotiations. This process does not replace the public notification process for discretionary permits, nor the CEQA notification process when applicable.

9. **Dispute Resolution.** If the City Community Development Director or the RMA Director believe that the Committee is or will be unable to resolve any concerns or issues on any specific project arising during this cooperative process, the Director will involve the City Manager or County Administrative Officer respectively who will then contact their counterpart in an effort to informally resolve any concerns or issues.

Where the City or County is unable to resolve the concerns raised by the other entity, the City Manager and County Administrative Officer must discuss and attempt to resolve the issues of concern prior to the public hearing process on any specific proposal or project. If this informal process does not resolve the concerns, the City or County may raise its concerns or issues on any specific project during the public hearing process before the County or City.

Glossary

100-Year Flood. That flood event that has a one-percent chance of occurrence in any one year.

500-Year Flood. The magnitude of a flood expected to occur on the average every 500 years, based on historical data. The 500-year flood has a 1/500, or 0.2 percent, chance of occurring in any given year**.**

Acre, Gross Developable. Area of a site, including proposed public streets and other proposed rights-of-way but excluding areas subject to physical or environmental constraints, which include ridgelines and steep hillside slopes, creek corridors and floodways, and areas to be dedicated for greenways or habitat protection.

Acre, Gross. Area of a site calculated to the centerline of bounding streets and other public rights-of-way.

Acre, Net. Area of a site excluding land to de dedicated for required easements for vehicles and rights of way, either public or private; land dedicated to be hazardous and unfit for building; and land to be dedicated for schools and parks or other facilities dedicated for public use.

Affordable Housing. Housing capable of being purchased or rented by a household with very low, low, or moderate income, based on a household's ability to make monthly payments necessary to obtain housing. Housing is considered affordable when a household pays less than 30 percent of its gross monthly income (GMI) for housing, including utilities.

Aquifer. A natural underground formation that is saturated with water, and from which water can be withdrawn.

Attainment Area. An area determined to have met federal or State air quality standards, as defined in the federal Clean Air Act or the California Clean Air Act. An area may be an attainment area for one pollutant and a non-attainment area for others.

Average Daily Traffic (ADT). ADT volume is based upon traffic counts that record the number of vehicles (cars and trucks) that travel on the roadway on a typical weekday (Tuesday, Wednesday, or Thursday). These counts are typically conducted by using "hose" or "tube" counts, but can also be collected utilizing more advanced sensor devices. Both of these methods have the ability to collect heavy-duty vehicle classification counts and directional information. In this report, the total ADT is used for the LOS analysis. It should be noted that in the transportation industry ADT is an acronym that is interchangeable with AADT, or the annual average daily traffic.

Best Management Practices (BMP). The combination of conservation measures, structure, or management practices that reduces or avoids adverse impacts of development on adjoining site's land, water, or waterways, and waterbodies.

Bike Facilities. These include bike paths, bike lanes, and bike routes, following a classification system established in the City's Trails Master Plan.

Buildout. That level of development characterized by full occupancy of all developable sites in accordance with the General Plan; the maximum probable level of development envisioned by the General Plan under specified assumptions about densities and intensities. Buildout does not necessarily assume parcels are developed at maximum allowable intensities.

Capital Improvement Program (CIP). The multi-year scheduling of public physical improvements based on studies of fiscal resources available and the choice of specific improvements to be constructed.

Carbon Monoxide (CO). A colorless, odorless gas formed by the incomplete combustion of fuels, which is toxic because of its tendency to reduce the oxygen-carrying capacity of the blood.

CNEL (Community Noise Equivalent Level). The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five decibels to sound levels in the evening from 7 p.m. to 10 p.m. and after addition of 10 decibels to sound levels in the night from 10 p.m. to 7 a.m.

Compatible. Capable of existing together without conflict or ill effects.

Community (Unincorporated Community) - is a closely settled, named, unincorporated place that generally contains a mixture of residential, commercial, and industrial areas similar to those found in incorporated places of similar sizes.

Conservation. The management of natural resources to prevent waste, destruction, or neglect.

County Adopted City Urban Area Boundary for Porterville ("CACUAB for Porterville") - a County officially adopted and mapped line around the City. It establishes areas (the area between the CACUDB for Porterville and CACUAB for Porterville) in which the County and the City may

coordinate plans and policies relating to street and highway construction, public utility systems, and future right of way preservation, affecting the orderly development of urban fringe areas.

County Adopted City Urban Development Boundary for Porterville ("CACUDB for Porterville") - a County officially adopted and mapped line around the City. It delineates the area expected for urban growth over a 20-year period. This line may be coterminous to the Local Agency Formation Commission Sphere of Influence.

County Community UDB - a County adopted line surrounding a **Community (Unincorporated Community)** dividing land to be developed from land to be protected for agricultural, natural, open space, or rural uses. It serves as the official area for communities over a 20-year period.

County Corridor Plan - shall have the same definition as provided in Part II, Section 2.1 of the County Plan. The "County Corridor development nodes" identified in County Plan Policies PF-4.18 and PF-4.19, which are set forth in Attachment A, will be the areas covered by these County Corridor plans, if or when such plans are adopted.

Creek. Those areas where surface water flows sufficiently to produce a defined channel or bed. The channel or bed need not contain water year-round.

Cultural Facilities. Premises operated to accommodate cultural pursuits such as visual or performing arts, lectures, or exhibitions.

Curb Cut. The opening along the curb line at which point vehicles or other wheeled forms of transportation may enter or leave the roadway. Curb cuts are essential at street corners for wheelchair users.

dBA. The “A-weighted” scale for measuring sound in decibels; weights or reduces the effects of low and high frequencies in order to stimulate human hearing. Every increase of 10 dBA doubles the perceived loudness though the noise is actually 10 times more intense.

Decibel (dB). A unit of measurement used to express the relative intensity of sound as heard by the human ear describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).

Dedication, In lieu of. Cash payments which may be required of an owner or developer as a substitute for a dedication of land, usually calculated in dollars per lot, and referred to as in lieu fees or in lieu contributions.

Dedication. The commitment by an owner or developer of private land for public use, and the acceptance of land for such use by the governmental agency having jurisdiction over the public function for which it will be used. Dedications for roads, parks, school sites, or other public uses often are required by the city as conditions of approval on a development.

Density Bonus. The allocation of development rights that allow a parcel to accommodate additional square footage or additional residential units beyond the maximum for which the parcel is zoned, usually in exchange for the provision or preservation of an amenity at the same site or at another location.

Density. The number of residential dwelling units per acre of land. Densities specified in the General Plan are expressed in units per gross developable acre. (See "Acres, Gross," and "Acres, Gross Developable.")

Developer. An individual who, or business which, prepares raw land for the construction of buildings or builds or causes to be built physical building space for use primarily by others, and in which the preparation of the land or the creation of the building space is in itself a business and is not incidental to another business or activity.

Development. The physical extension and/or construction of urban land uses. Development activities include but are not limited to: subdivision of land; construction or alteration of structures, roads, utilities, and other facilities; installation of septic systems; grading; deposit of refuse, debris, or fill materials; and clearing of natural vegetation cover (with the exception of agricultural activities). Routine repair and maintenance activities are not considered as "development."

Easement. A right given by the owner of land to another party for specific limited use of that land. An easement may be acquired by a government through dedication when the purchase of an entire interest in the property may be too expensive or unnecessary.

Endangered Species, California. A native species or sub-species of a bird, mammal, fish, amphibian, reptile, or plant, which is in serious danger of becoming extinct throughout all or a significant portion of its range, due to one or more factors, including loss in habitat, change in habitat, over-exploitation, predation, competition, or disease. The status is determined by the State Department of Fish and Game together with the State Fish and Game Commission.

Endangered Species, federal. A species which is in danger of extinction throughout all or a significant portion of its range, other than the species of the Class Insect determined to constitute a pest whose protection under the provisions of the 1973 Endangered Species Act, as amended, would present an overwhelming and overriding risk to humans. The status is determined by the U.S. Fish and Wildlife Service and the Department of the Interior.

Environmental Impact Report (EIR). A document used to evaluate the potential environmental impacts of a project, evaluate reasonable alternatives to the project, and identify mitigation measures necessary to minimize the impacts. The California Environmental Quality Act (CEQA) requires that the agency with primary responsibility over the approval of a project (the lead agency) evaluate the project's potential impacts in an Environmental Impact Report (EIR).

Environmental Justice. Formalized policies of the federal and State governments that require agencies to identify and avoid disproportionately high adverse effects on minority and low-income populations when implementing programs, policies, and activities that affect human health or the environment.

Equivalent Noise Level (Leq). A single-number representation of the fluctuating sound level in decibels over a specified period of time. It is a sound-energy average of the fluctuating level.

Erosion. The process by which material is removed from the Earth's surface (including weathering, dissolution, abrasion, and transportation), most commonly by wind or water.

Expansive Soils. Soils which swell when they absorb water and shrink as they dry.

Fault. A fracture in the Earth's crust forming a boundary between rock masses that have shifted. An active fault is a fault that has moved recently and which is likely to again. An inactive fault is a fault which shows no evidence of movement in recent geologic time and little potential for movement.

Feeder Trails. Local trails, on streets with low traffic volume when that option is available, and are intended to link parks, open space areas, and neighborhoods to collector and regional trails.

Flood Zone. The relatively level land area on either side of the banks of a stream that is subject to flooding under a 100-year or a 500-year flood.

Floodplain. An area adjacent to a lake, stream, ocean or other body of water lying outside the ordinary banks of the water body and periodically inundated by flood flows. Often referred to as the area likely to be inundated by the 100-year flood.

Floodway. The river channel and the adjacent land area needed to carry the 100-year flood without an increase to the water surface elevations of the river more than one foot at any one point.

Floor Area Ratio (FAR). The ratio between gross floor area of structures on a site and gross site area. Thus, a building with a floor area of 100,000 square feet on a 50,000 square-foot lot will have a FAR of 2.0.

Floor Area, Gross. The total horizontal area in square feet of all floors within the exterior walls of a building, but not including the area of unroofed inner courts or shaft enclosures.

Frequency composition or spectrum of the sound. Frequency is a measure of the pressure fluctuations per second, measured in units of hertz (Hz). The characterization of sound level magnitude with respect to frequency is the sound spectrum, often described in octave bands, which divide the audible human frequency range (e.g., from 20 to 20,000 Hz) into 10 segments.

Groundwater Recharge. The natural process of infiltration and percolation of rainwater from land areas or streams through permeable soils into water-holding rocks that provide underground storage (i.e., aquifers).

Groundwater. Water under the Earth's surface, often confined to aquifers capable of supplying wells and springs.

Growth Management. The use by a community of a wide range of techniques that direct the amount, type, rate, and location of development desired by the community. Growth management policies can be implemented through growth rates, zoning, capital improvement programs, public facilities ordinances, urban limit lines, standards for levels of service, and other programs.

Habitat. The natural environmental of a plant or animal.

Hamlet Development Boundary - an officially adopted and mapped County line around a hamlet that divides lands suitable for development from lands to be protected for agricultural, natural, or rural uses.

Hazardous Material. A material or form of energy that could cause injury or illness to persons, livestock, or the natural environment.

Hazardous Waste. Waste which requires special handling to avoid illness or injury to persons or damage to property. Includes, but is not limited to, inorganic mineral acids of sulfur, fluorine, chlorine, nitrogen, chromium, phosphorous, selenium and arsenic and their common salts; lead, nickel, and mercury and their inorganic salts or metallo-organic derivatives; coal, tar acids such as phenol and cresols and their salts; and all radioactive materials.

Historic Resource. A historic building or site that is noteworthy for its significance in local, state, national, its architecture or design, or its works of art, memorabilia, or artifacts.

Historic Structure. A structure deemed to be historically significant based on its visual quality, design, history, association, context, and/or integrity.

Hourly Noise Levels. Transient noise events may be described by their maximum A weighted noise level (dBA).

Household. An occupied housing unit.

Impervious Surface. Any material which reduces or prevents absorption of water into land.

Implementation. Actions, procedures, programs, or techniques that carry out policies.

Infill. The development of new housing or other buildings on scattered vacant lots in a built-up area or on new building parcels created by permitted lot splits.

Infiltration. The introduction of underground water, such as groundwater, into wastewater collection systems. Infiltration results in increased wastewater flow levels.

Infrastructure. Permanent utility installations, including roads, water supply lines, sewage collection pipes, and power and communications lines.

Insurance Service Office (ISO). A private organization that surveys fire departments in cities and towns across the United States.

Intersection Capacity. The maximum number of vehicles that has a reasonable expectation of passing through an intersection in one direction during a given time period under prevailing roadway and traffic conditions.

Intrusive Noise. That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, time of occurrence, and tonal or information content as well as the prevailing noise level.

Jobs-Employed Residents Ratio. Total jobs divided by total employed residents (i.e. people who live in the area, but may work anywhere). A ratio of 1.0 typically indicates a balance. A ratio greater than 1.0 indicates a net in-commute; less than 1.0 indicates a net out-commute.

K Factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

L_{10}. A statistical descriptor indicating the sound level exceeded 10 percent of the time. It is a commonly used descriptor of community noise, and has been used in Federal Highway Administration standards and the standards of some cities.

L_{dn} (Day-Night Average Sound Level). The A-weighted average sound level for a given area (measured in decibels) during a 24-hour period with a 10 dB weighting applied to nighttime sound levels (after 10 p.m. and before 7 a.m.). The L_{dn} is approximately numerically equal to the CNEL for most environmental settings.

L_{eq} (Equivalent energy level). The sound level corresponding to a steady sound level containing the same total energy as a time varying signal over a given sample period. L_{eq} is typically computed over 1, 2, and 8-hour sample periods. The L_{eq} is a "dosage" type measure and is the basis for the descriptions used in current standards, such as the 24-hour CNEL used by the State of California.

Level (e.g., magnitude or loudness) of sound. Sound levels are measured and expressed in decibels (dB) with 10 dB roughly equal to the threshold of hearing.

Level of Service, LOS (traffic). A qualitative measure describing operational conditions within a traffic stream and the perception of motorists and/or passengers regarding these conditions. A level of service definition generally describes these conditions in terms of such factors as traffic volumes, speed and travel time, delays at traffic signals, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Liquefaction. A sudden large decrease in the shearing resistance of a cohesion-less soil, caused by a collapse of the structure by shock or strain, and associated with a sudden but temporary increase of the pore fluid pressure.

Minerals. Any naturally occurring chemical element or compound, or groups of elements and compounds, formed from inorganic processes and organic substances, including, but not limited to, coal, peat, and bituminous rock, but excluding geothermal resources, natural gas, and petroleum (Public Resources Code Section 2005).

Mitigation Measures. Action taken to avoid, minimize, or eliminate environmental impacts. Mitigation includes: avoiding the impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance during the life of the action; and compensating for the impact by repairing or providing substitute resources or environments.

Mitigation. A specific action taken to reduce environmental impacts. Mitigation measures are required as a component of an environmental impact report (EIR) if significant measures are identified.

Mixed-Use. Describes a development project which includes two or more categories of land use such as residential and commercial. When capitalized (Mixed Use) it refers to a zoning or land use category.

Nitrogen Oxides (NOx). Chemical compounds containing nitrogen and oxygen; reacts with volatile organic compounds, in the presence of heat and sunlight to form ozone. It is also a major precursor to acid rain.

Noise Attenuation. Reduction of the level of a noise source using a substance, material, or surface.

Noise Contours. Lines drawn about a noise source indicating equal levels of noise exposure. CNEL and L_{dn} are the metrics utilized herein to describe annoyance due to noise and to establish land use planning criteria for noise.

Open Space. Any parcel or area of land or water that is essentially unimproved. The General Plan designates privately-owned rural/grazing lands, and devoted open space areas as defined by California planning law.

Ozone. A compound consisting of three oxygen atoms that is the primary constituent of smog. It is formed through chemical reactions in the atmosphere involving volatile organic compounds, nitrogen oxides, and sunlight. Ozone can initiate damage to the lungs as well as damage to trees, crops, and materials. There is a natural layer of ozone in the upper atmosphere, which shields the Earth from harmful ultraviolet radiation.

Peak Hour. The busiest one-hour period for traffic during a 24-hour period. The PM peak hour is the busiest one hour period of traffic during the evening commute period. The AM peak hour is the busiest one hour period during the morning commute.

Pedestrian-Oriented Development. Development designed with an emphasis on the street sidewalk and on pedestrian access to the building, rather than an auto access and parking areas.

Performance Standards. A statement representing a commitment by a public agency to attain a specified level or quality of performance through its programs and policies.

Planning Area. The land area addressed by a General Plan, including land within the city limits and land outside the city limits that bears a relation to the city's planning.

PM_{10}. The current standard for measuring the amount of solid or liquid matter suspended in the atmosphere ("particulate matter including dust"). Refers to the amount of particulate matter over 10 micrometers in diameter. The smaller PM_{10} particles penetrate to the deeper portions of the lung, affecting sensitive population groups such as children and people with respiratory diseases.

Rare or Endangered Species. A species of animal or plant listed in Sections 670.2 or 670.5, Title 14, California Administrative Code; or Title 50, Code of Federal Regulations, Section 17.11 or Section 17.2, pursuant to the Federal Endangered Species Act designating species as rare, threatened, or endangered.

Recycle. The process of extraction and reuse of materials from waste products.

Retention Area. A pond, pool, lagoon, or basin used for the storage of water runoff.

Right-of-Way. A continuous strip of land reserved for or actually occupied by a road, crosswalk, railroad, electric transmission lines, oil or gas pipeline, water line, sanitary storm sewer or other similar use.

Riparian Corridor. Riparian areas are transitional between terrestrial and aquatic ecosystems and are distinguished by gradients in biophysical conditions, ecological processes, and biota. They are areas through which surface and subsurface hydrology connect water bodies with their adjacent uplands. They include those portions of terrestrial ecosystems that significantly influence exchanges of energy

and matter with aquatic ecosystems (i.e. a zone of influence). Riparian areas are adjacent to perennial, intermittent and ephemeral streams, lakes, and estuarine-marine shorelines.

Riparian Habitat. The land and plants bordering a watercourse or lake.

Safe Yield. Safe yield is defined as the amount of groundwater that can be continuously withdrawn from a basin without adverse impact.

San Joaquin Valley Air Basin (SJVAB). California is divided geographically into air basins for the purpose of managing the air resources of the State on a regional basis. An air basin generally has similar meteorological and geographic conditions throughout. The San Joaquin Valley Air Basin includes the following counties San Joaquin, Merced, Fresno, Kings, Stanislaus, Madera, Tulare, and Kern.

Sedimentation. Process by which material suspended in water is deposited in a body of water.

Sensitive Receptors. Persons or land users that are most sensitive to negative effects of air pollutants. Persons who are sensitive receptors include children, the elderly, the acutely ill, and the chronically ill. The term "sensitive receptors" can also refer to the land use categories where these people live or spend a significant amount of time. Such areas include residences, schools, playgrounds, child-care centers, hospitals, retirement homes, and convalescent homes.

Significant Effect. A beneficial or detrimental impact on the environment. May include, but is not limited to, significant changes in an area's air, water, and land resources.

Siltation. The process of silt deposition. Silt is a loose sedimentary material composed of finely divided particles of soil or rock, often carried in cloudy suspension in water.

Solid Waste. General category that includes organic wastes, paper products, metals, glass, plastics, cloth, brick, rock, soil, leather, rubber, yard wastes, and wood.

Specific Plan. A plan that provides detailed design and implementation tools for a specific portion of the area covered by a general plan. A specific plan may include all regulations, conditions, programs, and/or proposed legislation which may be necessary or convenient for the systematic implementation of any general plan element(s).

Sphere of Influence (SOI). The ultimate service area of an incorporated city, as established by Tulare County LAFCO and shall have the meaning set forth in Government Code Section 56076.

Stationary Source. A source of air pollution that is not mobile, such as a heating plant or an exhaust stack from a laboratory.

Storm Runoff. Surplus surface water generated by rainfall that does not seep into the earth but flows overland to a watercourse.

Threatened Species, California. A species of animal or plant is endangered when its survival and reproduction in the wild are in immediate jeopardy form one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease, or other factors; or when although not presently threatened with extinction, the species is existing in such small numbers that it may become endangered if its environment worsens. A species of animal or plant shall be presumed to be rare or endangered as it is listed in Sections 670.2 or 670.5, Title 14, California Code of Regulations, or

Title 50, Code of Federal Regulations Sections 17.11 or 17.12 pursuant to the Federal Endangered Species Act as rare, threatened, or endangered.

Threatened Species, Federal. A species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Total Dissolved Solids (TDS). Total dissolved solids comprise inorganic salts and small amounts of organic matter that are dissolved in water. The principal constituents are usually calcium, magnesium, sodium and potassium and the anions carbonate, bicarbonate, chloride, sulfate and, particularly in groundwater and nitrate (from agricultural use).

Transient Noise Events. These may be described by their maximum A-weighted noise level (dBA) Hourly Leq values are called Hourly Noise Levels.

Trip Generation. The number of vehicle trip ends associated with (i.e., produced by) a particular land use or traffic study site. A trip end is defined as a single vehicle movement. Roundtrips consist of two trip ends.

Urban Development Boundary (UDB). A boundary, defined by the County LAFCO, beyond which urban levels of development are not intended to occur.

UDB, City - the City's officially adopted Urban Development Boundary, beyond which urban development is not allowed during the time period for which it is effective.

Use. The purpose for which a lot or structure is or may be leased, occupied, maintained, arranged, designed, intended, constructed, erected, moved, altered, and/or enlarged as per the City's Zoning Ordinance and General Plan land use designation.

Variation in sound level with time, measured as noise exposure. Most community noise is produced by many distant noise sources that change gradually throughout the day and produce a relatively steady background noise having no identifiable source. Identifiable events of brief duration, such as aircraft flyovers, cause the community noise level to vary from instant to instant. A single number called the equivalent sound level or Le describes the average noise exposure level over a period of time.

Vehicle Miles Traveled (VMT). A measure of both the volume and extent of motor vehicle operation; the total number of vehicle miles traveled within a specified geographical area (whether the entire country or a smaller area) over a given period of time.

View Corridor. The line-of-sight (identified as to height, width, and distance) of an observer looking toward an object of significance to the community (e.g., ridgeline, river, historic building, etc.).

Viewshed. The geographic area visible from a fixed point.

Walking distance. Typically a distance of a quarter mile or less.

Watercourse. Natural or once natural flowing (perennially or intermittently) water including rivers, streams, and creeks. Includes natural waterways that have been channelized, but does not include constructed channels, ditches, and underground drainage and sewage systems.

Watershed. The total area above a given point on a watercourse which contributes water to the flow of the watercourse; the entire region drained by a watercourse.

Wetlands. Areas that are permanently wet or periodically covered with shallow water, such as saltwater and freshwater marshes, open or closed brackish marshes, swamps, mud flats, and fens.

Wildlife Corridors. A natural corridor, such as an undeveloped ravine, that is frequently used by wildlife to travel from one area to another.

Zoning Ordinance. A city ordinance that divides incorporated city land into districts and establishes regulations governing the use, placement, spacing, and size of buildings, open spaces, and other facilities.

List of Acronyms

□g/m3. micrograms per cubic meter

ADMMF: Average daily maximum month flow

ADT: Average daily traffic

af/y: acre foot/year

ALP: Airport Layout Plan

ALUC: Airport Land Use Commission

AST: Aboveground Storage Tank

BACT: Best Available Control Technology

BMP: Best Management Practice

CALTRANS: California Department of Transportation

CACUAB: County Adopted City Urban Area Boundary for Porterville

CACUDB: County Adopted City Urban Development Boundary for Porterville

CALUP: Comprehensive Airport Land Use Plan

CARB: California Air Resources Board

CDFG (DFG): California Department of Fish and Game

CEQA: California Environmental Quality Act

cfs: Cubic feet per second

CGS: California Geologic Survey

CIP: Capital Improvement Program

CIWMB: California Integrated Waste Management Board

CMP: Congestion Management Program

CNDDB: California Natural Diversity Data Base, Department of Fish and Game

CNEL: Community Noise Equivalent Level

CO: Carbon monoxide

CUBC (UBC): California Uniform Building Code

CWMA: Tulare County Consolidated Waste Management Authority

dB: Decibel

dBA: Decibel A-Weighted

DDS: California Department of Development Services

DNL: Day-Night Average Noise Level

DOF: United States Department of Finance

DOT: United States Department of Transportation

DU: Dwelling Unit

DUI: Driving Under the Influence

DWR: Department of Water Resources

EDC: Economic Development Corporation

EIR: Environmental Impact Report (CEQA)

EPA: Environmental Protection Agency

FAR: Floor Area Ratio

FEMA: Federal Emergency Management Act

GMP: Growth Management Program

gpcd (g/p/d): Gallons per capita per day

gpm: Gallons per minute

HCP: Habitat Conservation Plan

HHW: Households Hazardous Waste

HVAC: Heating, Ventilation and Air Conditioning Systems

Hz: hertz

ISO: Insurance Service Office

LAFCO: Local Agency Formation Commission

L_{dn} (DNL): Day-Night Average Sound Level

L_{eq}: Equivalent Sound Level

LHMP: Local Hazards Mitigation Plan

LOS: Level of Service

LUST: Leaking Underground Storage Tanks

mgd: Million gallons per day

NCCP: Natural Communities Conservation Plan

NFIP: National Flood Insurance Program

NO2: Nitrogen dioxide

NOx: Nitrogen Oxide

NPDES: National Pollutant Discharge Elimination System

NWI: National Wetland Inventory

O3: Ozone

OSHA: Occupational Safety & Health Administration

Pb: Lead

PCE: Percloroethylene

PD: Planned Development Plan

PM-10 and PM-2.5: Suspended particulate matter

ppb: Parts per billion

ppm: Parts per million (106) by volume or weight

PVPUD: Porter Vista Public Utility District

ROG: Reactive Organic Gases

RWQCB: Central Valley Regional Water Quality Control Board

SBDC: Small Business Development Center

SJQVAB: San Joaquin Valley Air Basin

SJVAPCD: San Joaquin Valley Air Pollution Control District

SJVR: San Joaquin Valley Railroad

SMARA: Surface Mining and Reclamation Act

SO_2: Sulfur dioxide

SOI: Sphere of Influence

SPCC: United States Soil Prevention, Control and Countermeasure Plan

Sq. Ft. (SF): Square Feet

SR: State Route

SSMP: Sewer System Master Plan

SWAT: Special Weapons and Tactics

TAC: Toxic Air Contaminant

TAZ: Traffic Analysis Zone

TCAG: Tulare County Association of Governments

TCEHD: Tulare County Environmental Health Division

TCM: Transportation Control Measure

TDM: Transportation Demand Management

TDS: Total Dissolved Solids

TPM: Transportation Performance Monitoring

UDB: Urban Development Boundary

USACE: U.S. Army Corps of Engineers

USFWS: United States Fish and Wildlife Service

USGS: United States Geologic Survey

UST: Underground Storage Tank

UWMP: Urban Water Management Plans

V/C: Volume to Capacity Ratio

VMT: Vehicle Miles Traveled

VPD: Vehicles per Day

WIB: Workforce Investment Board

WWTP: Wastewater Treatment Plant

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Appendix A
Planning Commission Resolution
Plan Adoption

BEFORE THE PLANNING COMMISSION

COUNTY OF TULARE, STATE OF CALIFORNIA

IN THE MATTER OF AMENDMENT TO THE LAND USE, TRANSPORTATION AND CIRCULATION, PLANNING FRAMEWORK, AND OPEN SPACE ELEMENTS AND THE FOOTHILL GROWTH MANAGEMENT PLAN OF THE TULARE COUNTY GENERAL PLAN, PORTERVILLE AREA COMMUNITY PLAN UPDATE, GPA 14-008	)	RESOLUTION NO. 9028

Resolution of the Planning Commission of the County of Tulare approving a Board of Supervisors initiated action to recommend adoption of the proposed Porterville Area Community Plan, which amends the Land Use, Transportation and Circulation, Planning Framework, and Open Space Elements and the Foothill Growth Management Element of the Tulare County General Plan.

WHEREAS, the Tulare County Board of Supervisors, by Resolution No. 2014-0599, initiated action to amend the Tulare County General Plan pursuant to title 7, Chapter 3, Articles 5 and 6 of the Government Code of the State of California, and

WHEREAS, the Planning Commission has given notice of the proposed amendment to the General Plan as provided in Sections 65353 and 65090 of the Government Code of the State of California, and

WHEREAS, staff has made such investigation of fact bearing upon the proposed amendment to assure action consistent with the procedures and purposes set forth in the California Government Code, the State General Plan Guidelines, and other elements of the Tulare County General Plan, and

WHEREAS, a public notice was printed in the Visalia Times Delta on October 10, 2014 ten days prior to a public hearing and that hearing was held at which public testimony was received at a regular meeting of the Planning Commission on October 22, 2014, November 12, 2014, and December 10, 2014; and

WHEREAS, a public hearing was held and an opportunity for public testimony was provided at a regular meeting of the Planning Commission on October 22, 2014, November 12, 2014, and December 10, 2014; and

WHEREAS, at that meeting of the Planning Commission all public testimony was received and considered including testimony from Jenni Byers, Interim Community Development Director for the City of Porterville Ms. Byers indicated the city staff is still reviewing the document, and

WHEREAS, Commissioner Dias made the motion to continue the public hearing to time, date and location certain on November 12, 2014, at 9:00, at the Tulare County Planning Commission

Hearing Room, and leave the public comment open; which motion was approved and carried unanimously, and

WHEREAS, at that meeting of the Planning Commission an opportunity for public testimony was provided, and

WHEREAS, staff recommended and Commissioner Dias made the motion that the hearing be continued to time, date and location certain on December 10, 2014, at 9:00 at the Tulare County Planning Commission Hearing Room, and

WHEREAS, at that meeting of the Planning Commission all public testimony was received and considered including testimony from Jenni Byers, Interim Community Development Director for the City of Porterville.

NOW, THEREFORE, BE IT RESOLVED as follows:

A. This Planning Commission hereby determines that it is necessary and appropriate to adopt a comprehensive community Plan for the unincorporated area around the City of Porterville in order to update and consolidate the several existing land use and circulation plans for the area. The policies of the County's Planning Framework Element call for the preparation of comprehensive community plans for the unincorporated area around each city.

B. This Planning Commission hereby certifies that it has reviewed and considered the information contained in the Porterville Area Community Plan and Finding of Consistency prepared for the City of Porterville 2030 General Plan EIR for compliance with the CEQA and the State Guidelines for the Implementation of the California Environmental Quality Act, prior to taking action on the proposed amendment to the, Land Use, Transportation and Circulation, Planning Framework, and Open Space elements and the Foothill Growth Management Element of the Tulare County General Plan for the Porterville area.

C. This Planning Commission, after considering all of the evidence presented, hereby determines the following findings to be relevant in evaluating the proposed general plan amendment:

1. Planning Framework Element (Urban Boundaries). The Planning Framework Element of the Tulare County General Plan revises the County Adopted City Urban Development Boundary and County Adopted City Urban Area Boundary for Porterville Part 1, Figure 2.4-6 of the Tulare County General Plan. This Element is amended to revise the Urban Development Boundary and Urban Area Boundary for the City of Porterville. This Plan also maintains, without revision, an Urban Development Boundary for the East Porterville area; to amend the County Adopted City UDB and UAB for Porterville for

the Porterville Area. The intent is that the County's UDB is coterminous with the Sphere of Influence (SOI) adopted by Tulare County Local Agency Formation Commission (LAFCO) on October 1, 2014 (via Resolution No. 14-041);

2. Open Space Element. The Environmental Resources Management Element is amended to revise the "Urban Expansion Area" designation on the Open Space Map to reflect the area within the revised Urban Area Boundary.

3. Land Use, Transportation and Circulation Elements. The Porterville Area Community Plan incorporates The City's General Plan land use designations and; and circulation element diagrams reflecting anticipated future streets for adoption (collectively, "City's Standards and Designations").

4. Plan. Specifically, this Plan consolidates and supersedes the following land use and circulation plans for the Porterville area:

   i. GPA 87-06 Porterville Area Community Plan
   ii. GPA 93-06 Porterville Urban Boundary and Land Use
   iii. GPA 97-04 Porterville Land Use
   iv. GPA 99-03 Porterville Urban Boundary and Land Use
   v. GPA 07-08 Porterville Urban Boundary and Land Use
   vi. This Plan consolidates and supersedes GPA 82-04, the East Porterville Land Use and Circulation Plan,
   vii. This Plan consolidates and supersedes the following land use and circulation plans for the East Porterville area:
   viii. GPA 88-02 East Porterville Land Use
   ix. GPA 90-04 Land Use Element East Porterville Area
   x. GPA 99-04 East Porterville Land Use Plan
   xi. GPA 01-002 East Porterville Land Use Plan
   xii. This Plan also maintains, without revision, an Urban Development Boundary for the East Porterville area.

5. Foothill Growth Management Plan. This Plan amends the Foothill Growth Management Plan to remove that portion of the area within the proposed County Adopted City Urban Area Boundary which currently falls within the planning area of the Foothill Growth Management Plan, and places it within the jurisdiction of the Porterville Area Community Plan and places it within the jurisdiction of the Porterville Area Community Plan Figures Part II Figure 3-1 and 3-4 of the Tulare County General Plan.

6. Included in the Area Plan are the development policies; master plans for sewer, water, and storm drain facilities. The Tulare County Board of Supervisors will independently review and exercise its discretion when considering the adoption of Porterville Development Standards and City Master Plans. Revisions to City Development Standards and Master Plans will be considered by the County under separate action by resolution. Such standards and plans are included for illustration purposes only in Appendix D and are not deemed a part of this Community Plan. State law requires that the County General Plan shall be internally consistent. The proposed amendments are consistent with the Planning Framework, Land Use, and Transportation and Circulation, Open Space Elements, and the Foothill Growth Management Element of the Tulare County General Plan.

7. The Environmental Assessment Officer approved the Finding of Consistency prepared for the City of Porterville 2030 General Plan EIR prepared for the project.

8. This Planning Commission hereby finds, based on substantial evidence that the analysis presented in the Finding of Consistency for GPA 14-008 has been completed in compliance with the California Environmental Quality Act and the State Guidelines for the Implementation of the California Environmental Quality Act of 1970.

AND, BE IT FURTHER RESOLVED as follows:

A. This Planning Commission hereby recommends that the Tulare County Board of Supervisors certify the adequacy of the Initial Study and Finding of Consistency prepared for GPA 14-008 and find:

1. This Plan also maintains, without revision, an Urban Development Boundary for the East Porterville area.

2. The environmental factors checked in the Initial Study were evaluated, consistent with CEQA Guidelines § 15168 (c) to determine whether an additional CEQA document need be prepared. The Planning Commission hereby finds pursuant to §15162, that no new effects could occur or no new mitigation measures would be required, therefore, the Planning Commission recommends that the Board of Supervisors approve the Porterville Area Community Plan as being consistent within the scope of the City of Porterville's 2030 General Plan Program EIR.

3. The Planning Commission hereby finds that CEQA does not require a supplemental environmental impact report because the City of Porterville 2030 General Plan Program EIR already analyzes the potential impacts of the Porterville Area Community Plan and no new information or change in circumstances results in any new or substantially more severe environmental impacts than analyzed in the City's EIR.

4. The County hereby finds The Porterville Area Community Plan will result in implementation of the Porterville 2030 General Plan within those portions of the County and within Porterville's planning area. Therefore, consistent with the findings of the City of Porterville 2030 General Plan EIR, the proposed Project will have a significant, unavoidable effect on agricultural resources noise, biology and air quality, but these impacts will not be greater than identified in the City's EIR.

5. A Statement of Overriding Considerations was adopted by the Porterville City Council on March 4, 2008. The Porterville City Council found and declared that the significant and adverse environmental effects relating to agricultural resources, noise, biology and air quality (Finding Number 17) cannot be mitigated fully or substantially lessened; and those specific economic, legal, social, technological or other considerations make infeasible certain mitigation measures or project alternatives discussed in the Final EIR. However, despite these mitigation measures, there are still significant and unavoidably adverse environmental effects from this project [that is, the Porterville 2030 General Plan]. Accordingly, after balancing these interests, the City Council adopted a Statement of Overriding Consideration when they stated "A RESOLUTION OF THE CITY COUNCIL CERTIFYING THE FINAL ENVIRONMENTAL IMPACT REPORT (EIR) AS BEING IN COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT; ADOPTING FINDINGS OF FACT; AND ADOPTING A STATEMENT OF OVERRIDING CONSIDERATIONS; FOR THE PORTERVILLE 2030 GENERAL PLAN." This was based on substantial evidence, which is set forth in Porterville City Council Resolution 21-2008, and which was incorporated therein by reference.

6. The Planning Commission recommends that consistent with the City of Porterville, that the Board of Supervisors similarly finds that the Porterville Area Plan may have significant and adverse environmental effects related to agricultural resources, noise, biology, and air quality that cannot be mitigated fully or substantially lessened, and that those specific economic, legal, social,

technological or other considerations make infeasible certain mitigations measures. Therefore, the Board despite these mitigation measures finds that there are still significant and unavoidably adverse environmental effects from this Area Plan. Accordingly, after balancing the public benefits and interests in providing a new Area Plan and land use and other policies consistent with the City of Porterville General Plan therein, the Board of Supervisors hereby adopts a Statement of Overriding Consideration for the Porterville Community Plan Area.

7. The environmental impacts associated with the Porterville Community Plan Area would be within the envelope of impacts analyzed in the City of Porterville 2030 General Plan EIR and/or do not constitute a new or greater significant impact.

8. On the basis of substantial evidence in the light of the whole record, the County has determined that no further CEQA documentation is required for adoption of the Porterville Area Community Plan.

9. That the County's environmental assessment reflects the agency's independent judgment and analysis.

B. This Planning Commission hereby recommends that the Tulare County Board of Supervisors approve the CEQA Finding of Consistency, Adopt a Statement of Overriding Considerations as adopted by the City of Porterville and described above and Adopt the General Plan Amendments found within the Porterville Area Community Plan including:

1. Planning Framework Element (Urban Boundaries). The Planning Framework Element of the Tulare County General Plan revises the County Adopted City Urban Development Boundary and County Adopted City Urban Area Boundary for Porterville Part 1, Figure 2.4-6 of the Tulare County General Plan. This Element is amended to revise the Urban Development Boundary and Urban Area Boundary for the City of Porterville. This Plan also maintains, without revision, an Urban Development Boundary for the East Porterville area. The intent is that the County's UDB is coterminous with the Sphere of Influence (SOI) adopted by Tulare County Local Agency Formation Commission (LAFCO) on October 1, 2014 (via Resolution No. 14-041;

2. Open Space Element. The Environmental Resources Management Element is amended to revise the "Urban Expansion Area" designation on the Open Space Map Part 1, Figure 8-1 of the Tulare County General Plan to reflect the area within the revised Urban Area Boundary;

3. Land Use, Transportation and Circulation Elements. The Porterville Area Community Plan incorporates The City's General Plan land use designations and development policies; master plans for sewer, water, and storm drain facilities; and circulation element diagrams reflecting anticipated future streets for adoption (collectively, "City's Standards and Designations"). Specifically, this Plan and supersedes the following land use and circulation plans for the Porterville area:

   i. GPA 87-06 Porterville Area Community Plan

   ii. GPA 93-06 Porterville Urban Boundary and Land Use

   iii. GPA 97-04 Porterville Land Use

   iv. GPA 99-03 Porterville Urban Boundary and Land Use

   v. GPA 07-08 Porterville Urban Boundary and Land Use

   vi. This Plan supersedes GPA 82-04, the East Porterville Land Use and Circulation Plan, Land Use and Circulation Elements.

   vii. This Plan supersedes the following land use and circulation plans for the East Porterville area:

   viii. GPA 88-02 East Porterville Land Use

   ix. GPA 90-04 Land Use Element East Porterville Area

   x. GPA 99-04 East Porterville Land Use Plan

   xi. GPA 01-002 East Porterville Land Use Plan

   xii. This Plan also maintains, without revision, an Urban Development Boundary for the East Porterville area.

4. Foothill Growth Management Plan. This Plan amends the Foothill Growth Management Plan to remove that portion of the area within the County Adopted City Urban Area Boundary which currently falls within the planning area of the Foothill Growth Management Plan, and places it within the jurisdiction of the Porterville Area Community Plan Figures Part II Figure 3-1 and 3-4 of the Tulare County General Plan.

5. Development Policies and Master Plan Studies. Included in the Area Plan are the development policies and master plans for sewer, water, and storm drain facilities. The Tulare County Board of Supervisors will independently review and exercise its discretion when considering the adoption of Porterville Development Standards and City Master Plans. Revisions to City Development Standards and Master Plans will be considered by the County under separate action by resolution. Such standards and plans are included for illustration purposes only in Appendix D and are not deemed a part of this Community Plan. State law requires that the County General Plan shall be Internally consistent. The proposed amendments are consistent with the Planning Framework, Land Use, and Transportation and Circulation, Open Space Elements, and the Foothill Growth Management Element of the Tulare County General Plan.

The foregoing resolution was adopted upon motion of Commissioner Millies, seconded by Commissioner Pitigliano, at a regular meeting of the Planning Commission on the 10th day of December, 2014, by the following roll call vote:

AYES: Aguilar, Dias, Elliott, Millies, Whitlatch, Pitigliano

NOES: None

ABSTAIN: None

ABSENT: Gong

TULARE COUNTY PLANNING COMMISSION

Michael Washam, Secretary

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Appendix B
Planning Commission Resolution Development Standards and City Master Plans Adoption

BEFORE THE PLANNING COMMISSION

COUNTY OF TULARE, STATE OF CALIFORNIA

IN THE MATTER OF APPROVAL OF DEVELOPMENT)
STANDARDS, PORTERVILLE AREA CACUDB) RESOLUTION NO. 9029

Resolution of the Planning Commission of the County of Tulare approving a Board of Supervisors initiated action to recommend adoption of Development Standards for the unincorporated area around the City of Porterville, Porterville Area County Adopted City Urban Development Boundary (CACUDB).

WHEREAS, the Planning Commission has given notice of the proposed Development Standards consistent with the Government Code of the State of California, and

WHEREAS, staff has made such investigation of fact bearing upon the proposed Development Standards to assure action consistent with the procedures and purposes set forth in the California Government Code, and

WHEREAS, a public notice was printed in the Visalia Times Delta on October 10, 2014 ten days prior to a public hearing and that hearing was held at which public testimony was received at a regular meeting of the Planning Commission on October 22, 2014, November 12, 2014, and December 10, 2014; and

WHEREAS, a public hearing was held and an opportunity for public testimony was provided at a regular meeting of the Planning Commission on October 22, 2014, November 12, 2014, and December 10, 2014 and

WHEREAS, at that meeting of the Planning Commission all public testimony was received and considered including testimony from Jenni Byers, Interim Community Development Director for the City of Porterville Ms. Byers, and

WHEREAS, Commissioner Dias made the motion to continue the public hearing to time, date and location certain on November 12, 2014, at 9:00, at the Tulare County Planning Commission Hearing Room, and leave the public comment open; which motion was approved and carried unanimously, and

WHEREAS, at that meeting of the Planning Commission an opportunity for public testimony was provided, and

WHEREAS, staff recommended and Commissioner Dias made the motion that the hearing be continued to time, date and location certain on December 10, 2014, at 9:00 at the Tulare County Planning Commission Hearing Room, and

WHEREAS, at that meeting of the Planning Commission all public testimony was received and considered including testimony from Jenni Byers, Interim Community Development Director for the City of Porterville.

NOW, THEREFORE, BE IT RESOLVED as follows:

A. This Planning Commission hereby determines that it is necessary and appropriate to adopt Development Standards for the unincorporated area around the City of Porterville (CACUDB).

B. This Planning Commission hereby certifies that it has reviewed and considered the information contained in the Porterville Area Community Plan, Finding of Consistency, and Development Standards prepared for the City of Porterville 2030 General Plan EIR for compliance with the CEQA and the State Guidelines for the Implementation of the California Environmental Quality Act, prior to taking action on the proposed Development Standards for the Porterville area.

C. This Planning Commission, after considering all of the evidence presented, hereby determines the following findings to be relevant in evaluating the proposed general plan amendment:

1. The Environmental Assessment Officer approved the Finding of Consistency prepared for the City of Porterville 2030 General Plan EIR prepared for the project.

2. This Planning Commission hereby finds, based on substantial evidence that the analysis presented in the Finding of Consistency for GPA 14-008 has been completed in compliance with the California Environmental Quality Act and the State Guidelines for the Implementation of the California Environmental Quality Act of 1970.

AND, BE IT FURTHER RESOLVED as follows:

A. This Planning Commission hereby recommends that the Tulare County Board of Supervisors certify the adequacy of the Initial Study and Finding of Consistency prepared for GPA 14-008 including the proposed Development Standards and find:

1. The environmental factors checked in the Initial Study were evaluated, consistent with CEQA Guidelines § 15168 (c) to determine whether an additional CEQA document need be prepared. The Planning Commission hereby finds pursuant to §15162, that no new effects could occur or no new mitigation measures would be required, therefore, the Planning Commission recommends that the Board of Supervisors approve the Porterville Area Development Standards.

2. The Planning Commission hereby finds that CEQA does not require a supplemental environmental impact report because the City of Porterville 2030 General Plan Program EIR already analyzes the potential impacts of the Porterville Area Community Plan and no new information or change in circumstances results in any new or substantially more severe environmental impacts than analyzed in the City's EIR.

3. The County hereby finds The Development Standards will result in implementation of the Porterville 2030 General Plan within those portions of the County and within Porterville's planning area. Therefore, consistent with the findings of the City of Porterville 2030 General Plan EIR, the proposed Project will have a significant, unavoidable effect on agricultural resources noise, biology and air quality, but these impacts will not be greater than identified in the City's EIR.

4. A Statement of Overriding Considerations was adopted by the Porterville City Council on March 4, 2008. The Porterville City Council found and declared that the significant and adverse environmental effects relating to agricultural resources, noise, biology and air quality (Finding Number 17) cannot be mitigated fully or substantially lessened; and those specific economic, legal, social, technological or other considerations make infeasible certain mitigation measures or project alternatives discussed in the Final EIR. However, despite these mitigation measures, there are still significant and unavoidably adverse environmental effects from this project [that is, the Porterville 2030 General Plan]. Accordingly, after balancing these interests, the City Council adopted a Statement of Overriding Consideration when they stated "A RESOLUTION OF THE CITY COUNCIL CERTIFYING THE FINAL ENVIRONMENTAL IMPACT REPORT (EIR) AS BEING IN COMPLIANCE WITH THE CALIFORNIA ENVIRONMENTAL QUALITY ACT; ADOPTING FINDINGS OF FACT; AND ADOPTING A STATEMENT OF OVERRIDING CONSIDERATIONS; FOR THE PORTERVILLE 2030 GENERAL PLAN." This was based on substantial evidence, which is set forth in Porterville City Council Resolution 21-2008, and which was incorporated therein by reference.

5. The Planning Commission recommends that consistent with the City of Porterville, that the Board of Supervisors similarly finds that the Porterville Area Development Standards may have significant and adverse environmental effects related to agricultural resources, noise, biology, and air quality that cannot be mitigated fully or substantially lessened, and that those specific economic, legal, social, technological or other considerations make infeasible certain mitigations measures.

Therefore, the Commission despite these mitigation measures finds that there are still significant and unavoidably adverse environmental effects from these Development Standards. Accordingly, after balancing the public benefits and interests in providing new Development Standards consistent with the City of Porterville General Plan therein, the Board of Supervisors hereby adopts a Statement of Overriding Consideration for the Porterville Community Plan Area.

6. The environmental impacts associated with the Porterville Area Development Standards would be within the envelope of impacts analyzed in the City of Porterville 2030 General Plan EIR and/or do not constitute a new or greater significant impact.

7. On the basis of substantial evidence in the light of the whole record, the County has determined that no further CEQA documentation is required for adoption of the Porterville Area Development Standards.

8. That the County's environmental assessment reflects the agency's independent judgment and analysis.

9. The Tulare County Board of Supervisors will independently review and exercise its discretion when considering the adoption of Porterville Development Standards and City Master Plans. Revisions to City Development Standards and Master Plans will be considered by the County under separate action by resolution. Such standards and plans are included for illustration purposes only in Appendix D and are not deemed a part of this Community Plan.

B. This Planning Commission hereby recommends that the Tulare County Board of Supervisors approve the CEQA Finding of Consistency, Adopt a Statement of Overriding Considerations as adopted by the City of Porterville and described above and Adopt the Porterville Area Development Standards.

The foregoing resolution was adopted upon motion of Commissioner Aguilar, seconded by Commissioner Whitlatch, at a regular meeting of the Planning Commission on the 10th day of December, 2014, by the following roll call vote:

AYES: Aguilar, Dias, Elliott, Millies, Whitlatch, Pitigliano

NOES: None

ABSTAIN: None

ABSENT: Gong

TULARE COUNTY PLANNING COMMISSION

Michael Washam, Secretary

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Appendix C
Board of Supervisors Resolution
Plan, Development Standards, and
City Master Plans Adoption

BEFORE THE BOARD OF SUPERVISORS
COUNTY OF TULARE, STATE OF CALIFORNIA

IN THE MATTER OF AN AMENDMENT TO THE TULARE COUNTY GENERAL PLAN GPA 14-008, PORTERVILLE AREA COMMUNITY PLAN 2015 UPDATE, DEVELOPMENT STANDARDS AND MASTER PLANS	))))))	**RESOLUTION NO. 2015-0136**

UPON MOTION OF SUPERVISOR ENNIS, SECONDED BY SUPERVISOR COX, THE FOLLOWING WAS ADOPTED BY THE BOARD OF SUPERVISORS, AT AN OFFICIAL MEETING HELD FEBRUARY 24, 2015, BY THE FOLLOWING VOTE:

AYES: SUPERVISORS ISHIDA, VANDER POEL, COX, WORTHLEY AND ENNIS
NOES: NONE
ABSTAIN: NONE
ABSENT: NONE

ATTEST: JEAN M. ROUSSEAU
ADMINISTRATIVE OFFICER
CLERK, BOARD OF SUPERVISORS

BY: Denise A. Ybarra
Deputy Clerk

That the Board of Supervisors:

1. Held the Continued Public Hearing at 9:30 a.m. or shortly thereafter.

2. Found based on substantial evidence in the record that the analysis presented in the Finding of Consistency for the Porterville Area Community Plan 2015 Update inclusive of GPA 14-008, City of Porterville Development Standards and Master Plans for sewer, water and storm drain facilities has been completed in compliance with the California Environmental Quality Act and the State Guidelines for the Implementation of the California Environmental Quality Act of 1970 for the reasons discussed in Planning Commission Resolution No. 9028, incorporated as if set forth in full by this reference.

3. Adopted the Finding of Consistency for the Project with the adopted/certified City of Porterville 2030 General Plan EIR (State Clearinghouse Number 2006011033) and Statement of Overriding Considerations, as set forth as Attachments F and G as specified in Section 15168(c)(2) of the State CEQA Guidelines set forth as recommended in the Planning Commission in Resolution 9028.

4. Directed the Environmental Assessment Officer of the Tulare Resource Management Agency to file a Notice of Determination with the Tulare County Clerk.

5. Adopted a General Plan Amendment (GPA 14-008) to the Porterville Area Community Plan, consisting of amendments to the Land Use, Planning Framework (Urban Boundaries), Transportation and Circulation, and Environmental Resources Management Elements (Part I); The Foothill Growth Management Plan (Part II), and the Porterville Plan of Part III (Porterville Area Community Plan), as set forth in the Planning Commission Resolution 9028.

6. Adopted the City of Porterville Development Standards for the unincorporated area around the City of Porterville, Porterville Area County Adopted City Urban Development Boundary (CACUDB) as set forth in Attachment E, Appendix D in the Porterville Area Community Plan 2015 Update, as an exception to the County Improvement Standards as recommended in the Planning Commission in Resolution 9029 and incorporated as if set forth in full by this reference.

7. Adopted the City of Porterville's Master Plans for sewer, water, and storm drain facilities, as set forth in Attachment E, Appendix D in the Porterville Area Community Plan 2015 Update and incorporated as if set forth in full by this reference.

8. Determined that the Tulare County Board of Supervisors will independently review and exercise its discretion when considering any subsequent Porterville Development Standards and City Master Plans Updates proposed by the City of Porterville.

RMA

DAY
2/24/15

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Appendix D
Development Standards and City Master Plans

Note:

The City of Porterville's Development Standards and City Master Plans for the unincorporated area around the City of Porterville, Porterville Area County Adopted City Urban Development Boundary (CACUDB) attached as Appendix D are not part of the Porterville Area Community Plan but have been adopted separately by the County and are included for reference in Appendix D

The Tulare County Board of Supervisors will independently review and exercise its discretion when considering the adoption of any subsequent Porterville Development Standards and City Master Plans

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Appendix D1
City of Porterville
Development Standards

Appendix D2:
City of Porterville
Urban Water Management Plan

Appendix D3
City of Porterville
Sewer System Master Plan

Appendix D4
City of Porterville
Storm Water Management Program

Appendix F-3

City of Porterville 2020 Urban Water Management Plan

City of Porterville

2020 URBAN WATER MANAGEMENT PLAN

DRAFT FINAL | January 2022

City of Porterville

2020 URBAN WATER MANAGEMENT PLAN

DRAFT FINAL | January 2022

This document is released for the purpose of information exchange review and planning only under the authority of
Anthony M. Cemo,
January 26, 2022,
State of California, PE 87929.

Contents

Chapter 1 - Introduction and Lay Description 1-1

1.1 Lay Description 1-1

1.2 Background and Purpose 1-1

1.2.1 Previous Urban Water Management Plan 1-2

1.3 Urban Water Management Planning and the California Water Code 1-2

1.3.1 Urban Water Management Planning Act 1-2

1.3.2 New Requirements to the Water Code since the 2015 UWMPs 1-3

1.3.3 Water Conservation Act of 2009 (SB X7-7) 1-4

1.4 Report Organization 1-4

Chapter 2 - Plan Preparation 2-1

2.1 Basis for Plan Preparation 2-1

2.1.1 Public Water Systems 2-1

2.2 Individual Planning and Compilance 2-1

2.3 Calendar Year and Units of Measure 2-2

2.4 Coordination and Outreach 2-2

2.4.1 Wholesale and Retail Coordination 2-2

2.4.2 Coordination with Other Agencies and the Community 2-3

2.4.3 Notice to Cities and Counties 2-4

Chapter 3 - System Description 3-1

3.1 General Description 3-1

3.1.1 Description of Transmission, Treatment, and Distribution Facilities 3-2

3.2 Service Area Climate 3-2

3.3 Climate Change 3-7

3.4 Service Area Population and Demographics 3-8

3.4.1 Service Area Population 3-8

3.4.2 Other Social, Economic, and Demographic Factors 3-9

3.5 Land Uses within Service Area 3-13

3.5.1 Land Use and Existing Service Area 3-13

Chapter 4 - Customer Water Use 4-1
4.1 Non-Potable Versus Potable Water Use 4-1
4.2 Past, Current, and Projected Water Use By Sector 4-1
4.3 Distribution System Water Losses 4-3
4.4 Estimating Future Water Savings 4-4
4.5 Water Use for Lower Income Households 4-4
4.6 Climate Change Considerations 4-5
Chapter 5 - Conservation Target Compliance 5-1
5.1 2015 UWMP Baseline and Targets 5-1
5.2 Service Area Population 5-1
5.3 Gross Water Use 5-2
5.4 Baseline Daily Per Capita Water Use 5-2
5.5 Baselines and Targets Summary 5-2
5.5.1 Target Methods and Target Confirmation 5-3
5.6 2020 Compliance Daily Per Capita Water Use 5-4
Chapter 6 - System Supplies 6-1
6.1 Water Supply Overview 6-1
6.2 Purchased or Imported Water 6-1
6.3 Groundwater 6-2
6.3.1 Basin Description 6-2
6.3.2 Groundwater Management 6-3
6.3.3 Overdraft Conditions 6-3
6.3.4 Historical Groundwater Pumping 6-4
6.4 Surface Water 6-5
6.5 Stormwater 6-5
6.6 Wastewater and Recycled Water 6-5
6.6.1 Recycled Water Coordination 6-5
6.6.2 Wastewater Collection, Treatment Systems, and Disposal 6-6
6.6.3 Wastewater Treatment and Discharge within Service Area 6-7
6.6.4 Recycled Water System Description 6-9
6.6.5 Potential, Current, and Planned Uses of Recycled Water 6-10
6.6.6 Actions to Encourage and Optimize Future Recycled Water Use 6-12

6.7 Desalinated Water Opportunities 6-13
6.8 Exchanges or Transfers 6-13
6.8.1 Exchanges or Transfers 6-13
6.8.2 Emergency Interties 6-13
6.9 Future Water Projects 6-13
6.10 Summary of Existing and Planned Sources of Water 6-16
6.10.1 Description of Supplies 6-16
6.10.2 Quantification of Supplies 6-16
6.11 Special Conditions 6-18
6.11.1 Climate Change Effects 6-18
6.11.2 Regulatory Conditions and Project Development 6-19
Chapter 7 - Water System Reliability and Drought Risk Assessment 7-1
7.1 Constraints of Water Sources 7-1
7.1.1 Water Supply Quality 7-1
7.1.2 Climate 7-2
7.1.3 Potential Alternative Sources 7-2
7.2 Water Supply Reliability by Type of Year 7-2
7.2.1 Methodology 7-2
7.2.2 Basis of Water Year Data 7-3
7.3 Water Service Reliability Assessment 7-4
7.3.1 Water Service Reliability - Normal Year 7-5
7.3.2 Water Service Reliability - Single-Dry Year 7-5
7.3.3 Water Service Reliability – Five-Consecutive-Year Drought 7-6
7.3.4 Description of Management Tools and Options 7-6
7.3.5 Seismic Risk Assessment and Mitigation Plan 7-7
7.4 Drought Risk Assessment 7-9
7.5 Regional Supply Reliability 7-11
Chapter 8 - Water Shortage Contingency Plan 8-1
8.1 Water Supply Reliability and Drought Risk Assessment 8-1
8.2 Annual Water Supply and Demand Assessment Procedures 8-2
8.2.1 Decision-Making Process 8-2
8.2.2 Data Inputs and Water Supply Reliability Assessment Methodology 8-3

8.2.3 Description and Quantification of Each Water Supply Source 8-3
8.3 Six Standard Water Shortage Levels 8-4
8.4 Shortage Response Actions 8-6
8.4.1 Eastern Tule Groundwater Sustainability Plan (GSP) 8-15
8.4.2 Water Conservation Plan (WCP) 8-15
8.4.3 Emergency Response Plan 8-15
8.4.4 Seismic Risk Assessment and Mitigation Plan 8-16
8.5 Communication Protocols 8-16
8.6 Compliance and Enforcement 8-18
8.7 Legal Authorities 8-20
8.8 Financial Consequences of WSCP Activation 8-20
8.9 Monitoring and Reporting 8-21
8.10 WSCP Refinement Procedures 8-22
8.11 Special Water Feature Distinction 8-22
8.12 Plan Adoption, Submittal, and Availability 8-22
8.13 Resources and References 8-23
Chapter 9 - Demand Management Measures 9-1
9.1 Water Waste Prevention Ordinances 9-1
9.2 Metering 9-2
9.3 Conservation Pricing 9-2
9.4 Public Education and Outreach 9-3
9.5 Programs to Assess and Mange Distribution System Real Loss 9-3
9.6 Water Conservation Program Coordination and Staffing Support 9-4
9.7 Other Demand Management Measures 9-4
9.8 Planned Implementation to Achieve Water Use Targets 9-5
Chapter 10 - Plan Adoption, Submittal, and Implementation 10-1
10.1 Inclusion of All 2020 Date 10-1
10.2 Notice of Public Hearing 10-1
10.2.1 Notice to Cities, Agencies, Organizations, and Counties 10-1
10.2.2 Notice to the Public 10-1
10.3 Public Hearing and Adoption 10-2
10.3.1 Adoption 10-2

10.4 Plan Submittal 10-2
10.4.1 Submission to DWR 10-2
10.4.2 Electronic Data Submission 10-2
10.4.3 Submission to the California State Library 10-3
10.4.4 Submission to Cities and Counties 10-3
10.5 Public Availability 10-3
10.6 Amending and Adopted UWMP 10-3

Appendices

Appendix A Completed Urban Water Management Checklist
Appendix B 2020 Urban Water Management Plan Adoption Resolution
Appendix C 2015 Urban Water Management Plan and Data Sources
Appendix D Public Notifications
Appendix E AWWA Water Audit Documents
Appendix F SBX7-7 Verification Forms
Appendix G Eastern Tule GSA Groundwater Sustainability Plan
Appendix H 2020 Water Quality CCR
Appendix I Water Conservation Plan
Appendix J Drought Risk Assessment
Appendix K Population Tool Modification Printout
Appendix L Tulare County Mult-Jurisdictional Local Hazard Mitigation Plan

Tables

Table 1.1 Applicable Changes to the Water Codes Since 2015 UWMPs 1-3
Table 2.1 Retail Only: Public Water Systems 2-1
Table 2.2 Plan Identification 2-2
Table 2.3 Supplier Identification 2-2
Table 2.4 Retail: Water Supplier Information Exchange 2-3
Table 2.5 Coordination with Appropriate Agencies 2-3
Table 3.1 Climate Characteristics 3-2
Table 3.2 Retail: Population – Current and Projected 3-9
Table 3.3 Water Service Area Land Use(1)(2) 3-14
Table 4.1 Retail: Demands for Potable and Non-Potable Water – Actual 4-2

Table 4.2	Retail: Use for Potable and Non-Potable Water – Projected	4-3
Table 4.3	Retail: Total Gross Water Use (Potable and Non-Potable)	4-3
Table 4.4	Retail: 12 Month Water Loss Audit Reporting	4-4
Table 4.5	Retail Only: Inclusion in Water Use Projections	4-4
Table 4.6	Retail Only: Inclusion in Water Use Projections	4-5
Table 5.1	Baselines and Targets Summary	5-2
Table 5.2	2020 Compliance	5-4
Table 6.1	Retail: Groundwater Volume Pumped	6-4
Table 6.2	Retail: Groundwater Volume Pumped	6-6
Table 6.3	Retail: Wastewater Treatment and Discharge within Service Area in 2020	6-8
Table 6.4	Retail: Recycled Water Direct Beneficial Uses within Service Area	6-11
Table 6.5	2015 UWMP Recycled Water Use Projection Compared to 2020 Actual	6-12
Table 6.6	Retail: Methods to Expand Future Recycled Water Use	6-12
Table 6.7	Retail: Expected Future Water Supply Projects or Programs	6-15
Table 6.8	Retail: Water Supplies — Actual	6-17
Table 6.9	Retail: Water Supplies — Projected	6-17
Table 6.10	Cal-Adapt Hydrologic Parameter Projections	6-19
Table 7.1	Retail: Basis of Water Year Data (Reliability Assessment)	7-3
Table 7.2	Retail: Normal Year Supply and Demand Comparison – Potable and Non-Potable	7-5
Table 7.3	Retail: Single Dry Year Supply and Demand Comparison	7-5
Table 7.4	Retail: Multiple Dry Years Supply and Demand Comparison	7-6
Table 7.5	County-Specific Mitigation Strategies for Earthquake Hazards	7-8
Table 7.6	Five-Year Drought Risk Assessment Tables to Address CWC Section 10635(b)	7-10
Table 8.1	Retail: Groundwater Volume Pumped (MG)	8-3
Table 8.2	WSCP Water Shortage Levels, Shortage Response Actions, and Estimated Magnitude of Benefit	8-7
Table 8.3	Communications Protocols	8-17
Table 8.4	Compliance and Enforcement Actions	8-19

Figures

Figure 3.1	City of Porterville Regional Map	3-3
Figure 3.2	City of Porterville Water Distribution System	3-5
Figure 3-3	Historical and Projected Water Service Population	3-9
Figure 3.4	Disadvantage Community Identification	3-11
Figure 3.5	General Plan Land Use	3-15
Figure 6.1	Purchased Surface Water Volume, MG (2010 – 2020)	6-2
Figure 6.2	Average Treated Wastewater Effluent Discharged	6-9
Figure 7.1	Average Demand from 2015 to 2020	7-4
Figure 8.1	Crosswalk between WCP Phases and Standard WSCP Levels	8-5

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Abbreviations

°F	degrees Fahrenheit
AB	State Assembly Bill
ac-ft	acre-feet
ADMMF	average day maximum month flow
AFY	acre-feet per year
AWIA	America's Water Infrastructure Act of 2018
AWWA	American Water Works Association
BMP	Best Management Practices
Carollo	Carollo Engineers, Inc.
CCR	Annual Consumer Confidence Report
CD	compact disc
CII	commercial, industrial, and institutional
CIMIS	California Irrigation Management Information System
CIP	Capital Improvement Plan
City	City of Porterville
CUWCC	California Urban Water Conservation Council
CV	Central Valley
CVP	Central Valley Project
CWC	California Water Code
DAC	disadvantage communities
DAFT	dissolved air flotation thickeners
DMM	demand management measures
DPR	direct potable reuse
DRA	Drought Risk Assessment
DWR	California Department of Water Resources
ERP	Emergency Response Plan
ETGSP	Eastern Tule Groundwater Sustainability Plan
ETo	evapotranspiration
FKC	Friant-Kern Canal
gpcd	gallons per capita day
GSA	Eastern Tule Groundwater Sustainability Agency
IMP	Integrated Master Plan
in	inch
MCL	maximum contaminant level
MDD	maximum day demand
MFR	multi-family residential

MG	million gallons
mg/L	milligrams per liter
mgd	million gallons per day
MHI	median household income
MJLHMP	Multi-Jurisdictional Local Hazard Mitigation Plan
MOU	Memorandum of Understanding
PID	Porterville Irrigation District
PVPUD	Porter Vista Public Utilities District
RRA	risk and resilience assessment
RUWMP	Regional Urban Water Management Plan
RWFS	Recycled Water Feasibility Study
SB	Senate Bill
SCC	DWR Success Lake
SFR	single-family residential
SGMA	Sustainable Groundwater Management Act
SID	Saucelito Irrigation District
TPDID	Tea Pot Dome Irrigation District
UDB	urban development boundary
USBR	United States Bureau of Reclamation
USGS	United States Geological Survey
UWMP	Urban Water Management Plan
UWMPA	Urban Water Management Planning Act
WSCP	water shortage contingency plan
WUE	Water Use and Efficiency
WWTF	wastewater treatment facility

Chapter 1

INTRODUCTION AND LAY DESCRIPTION

1.1 Lay Description

The City of Porterville (City) 2020 Urban Water Management Plan (UWMP) provides the City with a reliable water supply management plan to describe their past, present, and future water system supply, and demand performance. The 2020 UWMP presents a thorough understanding of the City's existing system demand and supply sources and includes baseline supply and demand conditions to better prepare the City to strategically manage future environmental challenges. These challenges can include, but certainly are not limited to climate change, decrease in water supplies, natural hazards, and water quality variability. This plan also considers future planning preparation for changes in land-use, population growth, infrastructure developments, and government regulations. This document serves to be a general synopsis of the City's water system and supply sources and to consider its system characteristics given both environmental variability and the ever-changing dynamic of the City.

1.2 Background and Purpose

The California Water Code (CWC) requires urban water suppliers within the state to prepare and adopt UWMPs for submission to the California Department of Water Resources (DWR). The UWMP, which must be filed every five years, must satisfy the requirements of the Urban Water Management Planning Act (UWMPA) of 1983, including amendments that have been made to the Act. The UWMPA requires urban water suppliers servicing 3,000 or more connections, or supplying more than 3,000 acre-feet (ac-ft) of water annually, to prepare a UWMP.

The purpose of the UWMP is to maintain efficient use of urban water supplies, continue to promote conservation programs and policies, ensure that sufficient water supplies are available for future beneficial use, and provide a mechanism for response during water drought conditions. This document, which was prepared in compliance with the CWC, and as set forth in the 2020 Urban Water Management Plan Guidebook for Urban Water Suppliers (March 2021) established by the DWR, constitutes the City 2020 UWMP.

This 2020 UWMP was prepared in compliance with the UWMPA (CWC §10610 et seq.) and the Water Conservation Bill of 2009 (Senate Bill [SB] X7-7) by Carollo Engineers, Inc. (Carollo). Contact information for the City and Carollo Engineers is included in the Contact Sheet provided at the beginning of this document.

The City recognizes the importance of maintaining a high-quality reliable water supply. Although water is a renewable resource, it is limited. A long-term reliable supply of water is essential to protect the local and state economy. The main focus for the City is to provide high quality water, maximize the efficient use of water, and promote conservation.

1.2.1 Previous Urban Water Management Plan

The City previously prepared an UWMP in 2015, which was approved and adopted on February 20, 2018. Following adoption, the 2015 UWMP was submitted to and formally approved by the DWR. The 2020 UWMP report serves as an update to the 2015 UWMP and pulls extensively from that report. References used in the writing of this report as well as the 2015 UWMP can be found in Appendix C.

1.3 Urban Water Management Planning and the California Water Code

The CWC sections applicable to UWMPs are summarized in the sections below.

1.3.1 Urban Water Management Planning Act

In 1983, State Assembly Bill (AB) 797 modified the CWC Division 6 by creating the UWMPA. Several amendments to the original UWMPA, which were introduced since 1983, have increased the data requirements and planning elements to be included in the UWMPs.

Initial amendments to the UWMPA required that total projected water use be compared to water supply sources over the next 20 years, in 5-year increments. DWR guidelines also suggest projecting through a 25-year planning horizon to maintain a 20-year timeframe until the next UWMP update has been completed.

Other amendments require that UWMPs include provisions for recycled water use, demand management measures (DMMs), and a water shortage contingency plan (WSCP). The UWMPA requires a WSCP which meets the specifications set forth therein. Recycled water was added in the reporting requirements for water usage and figures prominently in the requirements for evaluation of alternative water supplies when future projections predict the need for additional water supplies. Each urban water purveyor must coordinate the preparation of the WSCP with other urban water purveyors in the area, to the extent practicable. Water suppliers must also describe their water DMMs that are being implemented or are scheduled for implementation.

In addition to the UWMPA and its amendments, there are several other regulations that are related to the content of the UWMP. In summary, the key relevant regulations are:

- AB 1420: Requires implementation of DMMs/Best Management Practices (BMP) and meeting the 20-by-2020 targets to qualify for water management grants or loans.
- AB 1420: Requires a plan to quantify and report on distribution system water loss.
- AB 1420: Provides for water use projections to display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans, when that information is available and applicable to an urban water supplier.
- AB 1465: Requires water suppliers to describe opportunities related to recycled water use and stormwater recapture to offset potable water use.
- Amendments SB 610 (Costa, 2001) and AB 901 (Daucher, 2001): Require counties and cities to consider information relating to the availability of water to supply new large developments by mandating the preparation of further water supply planning (Daucher) and Water Supply Assessments (Costa).
- SB 1087: Requires water suppliers to report single-family residential (SFR) and multi-family residential (MFR) projected water use for lower income areas separately.

- Amendment SB 318 (Alpert, 2004): Requires the UWMP to describe the opportunities for development of desalinated water, including but not limited to, ocean water, brackish water, and groundwater, as long-term supply.
- AB 105 (Wiggins, 2004): Requires urban water suppliers to submit their UWMPs to the California State Library.
- SB X7-7: Requires development and use of new methodologies for reporting population growth estimates, base per capita use, and water conservation. An agency can choose from four methods to establish their interim (2015) and year 2020 water conservation targets.
- AB 2067: Requires water suppliers to provide narratives of water DMMs.
- SB 1036: Provides for an urban water supplier to include certain energy-related information, including, but not limited to, and estimate of the amount of energy used to extract or divert water supplies.
- AB 2409: Requires urban water suppliers to analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains separately from swimming pools and spas.

1.3.2 New Requirements to the Water Code since the 2015 UWMPs

The major new requirements to the CWC since 2015 UWMPs are summarized in Table 1-1.

Table 1.1 Applicable Changes to the Water Codes Since 2015 UWMPs

Topic	Summary
Five Consecutive Dry-Year Water Reliability Assessment	The Legislature modified the dry-year water reliability planning from a "multiyear" time period to a "drought lasting five consecutive water years" designation.
Drought Risk Assessment	The Drought Risk Assessment (DRA) requires a Supplier to assess water supply reliability over a five-year period from 2021 to 2025 that examines water supplies, water uses, and the resulting water supply reliability under a reasonable prediction for five consecutive dry years.
Seismic Risk	Requires Suppliers to specifically address seismic risk to various water system facilities and to have a mitigation plan.
Water Shortage Contingency Plan	Supplier must provide a standalone document that provides an action plan for a drought or catastrophic water supply shortage. The WSCP includes requirements that are more prescriptive than previous UWMPs.
Groundwater Supplies Coordination	Water Code now requires Suppliers' 2020 UWMPs to be consistent with Groundwater Sustainability Plans, in areas where those plans have been completed by Groundwater Sustainability Agencies.
Lay Description	Suppliers to include a lay description of the fundamental determinations of the UWMP, especially regarding water service reliability, challenges ahead, and strategies for managing reliability risks. This section of the UWMP could be viewed as a go-to synopsis for new staff, new governing members, customers, and the media, and it can ensure a consistent representation of the Supplier's detailed analysis.

1.3.3 Water Conservation Act of 2009 (SB X7-7)

Beginning in 2016, retail water suppliers are required to comply with the Water Conservation Act of 2009 requirements in SB X7-7 in order to be eligible for State water grants or loans. Refer to Chapter 5 for detailed information on SB X7-7.

1.4 Report Organization

This UWMP contains ten chapters, followed by appendices that provide supporting documentation for the information presented in the report. The chapters are briefly described below:

- Chapter 1 – Introduction and Lay Description. This chapter presents a lay description and the purpose of this UWMP stressing the importance and extent of the water management planning efforts.
- Chapter 2 – Plan Preparation. This chapter provides information on the process for developing the UWMP as well as coordination efforts with appropriate local agencies and discusses the measures used to solicit public participation during the development of the UWMP.
- Chapter 3 – System Description. This chapter presents a description of the water purveyor's service area and its characteristics including climate, population, and other demographic factors.
- Chapter 4 – Customer Water Use. This chapter presents a description of the water purveyor's current and projected water uses within the service area in five-year increments.
- Chapter 5 – Conservation Target Compliance. This chapter presents information on the water purveyor's compliance with the 2020 per-capita water conservation mandate. Demonstrate that the 2020 target adopted in the 2015 UWMP was met in 2020. This chapter provides analyses and calculations associated with the water conservation target pursuant to SB X7-7.
- Chapter 6 – System Supplies. This chapter presents a description of the water purveyor's current and projected potable and non-potable water supply sources including information on the usage groundwater and an overview of usage of recycled water. This chapter includes information on the water purveyor's future considerations of a recycled water system.
- Chapter 7 – Water System Reliability. This chapter presents the reliability of the water purveyor's water system. This includes a discussion on future water reliability. In addition, there is an analysis of supply availability in a normal, single dry year and in five consecutive dry years. This chapter also includes the DRA.
- Chapter 8 – Water Shortage Contingency Planning. This chapter includes an urban water shortage contingency analysis that includes stages of action to be undertaken in the event of water supply shortages; prohibitions consumption reduction methods and penalties; actions to be taken during a catastrophic interruption of service; and a mechanism for measuring water use reduction.
- Chapter 9 – Demand Management Measures. This chapter communicates the water purveyor's efforts to promote conservation and to reduce demand. The chapter includes narratives on each DMM.
- Chapter 10 – Plan Adoption, Submittal, and Implementation. This chapter describes the steps taken to adopt, submit, and implement the UWMP and make it publicly available.

Chapter 2

PLAN PREPARATION

This section includes specific information on how the UWMP was developed, including efforts in coordination and outreach.

2.1 Basis for Plan Preparation

CWC 10617 requires that urban water suppliers with 3,000 or more service connections or supplying 3,000 or more ac-ft of water per year prepare an UWMP every five years.

> *10617 "Urban water supplier" means a supplier, either publicly, or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems...*

2.1.1 Public Water Systems

> *California Health and Safety Code 116275 (h) "Public Water System" means a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.*

To demonstrate the basis of reporting, the Public Water Systems services by the City are listed in Table 2.1. As listed in Table 2.1, the City of Porterville served 1 public water system with a total of 17,063 connections and supplied a total of 3,647 million gallon (MG) (11,192 acre-feet per year [AFY]) in year 2020.

Table 2.1 Retail Only: Public Water Systems

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020
5410010	City of Porterville	17,063	3,647
	Total	**17,063**	**3,647**

2.2 Individual Planning and Compilance

This UWMP reports solely on the City's service area, as shown in Table 2.2. The City has notified and coordinated with appropriate regional agencies and constituents as identified in Table 2.5

Table 2.2 Plan Identification

Select Only One	Type of Plan		Name of RUWMP or Regional Alliance, *if applicable*
☒	Individual UWMP		
	☐	Water Supplier is also a member of RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	Regional Urban Water Management Plan (RUWMP)		

2.3 Calendar Year and Units of Measure

> *CWC 1608.20 (a) (1) Urban retail water suppliers…may determine the targets on a fiscal year or calendar year basis.*

The City is reporting on a calendar year basis and therefore, 2020 data includes the months of January to December 2020. Table 2.3 indicates the City type of reporting year, and the units of measure for reporting water volumes throughout the 2020 UWMP.

Table 2.3 Supplier Identification

Type of Supplier (select one or both)	
☐	Supplier is a wholesaler
☒	Supplier is a retailer
Fiscal or Calendar Year (select one)	
☒	UWMP tables are in calendar years
☐	UWMP tables are in fiscal years
Units of Measure Used in UWMP (select from drop down)	
Unit	MG

2.4 Coordination and Outreach

The UWMPA requires that the UWMP identify the water agency's coordination with appropriate nearby agencies. The City coordinated its efforts with relevant agencies and parties to ensure that the data and issues discussed in the plan are presented accurately. These agencies are listed in Table 2.5.

2.4.1 Wholesale and Retail Coordination

Retail agencies that receive a water supply from one or more wholesalers are required to provide wholesalers with projected water demand from that source, in five-year increments for 20 years. The City does not purchase or receive potable water from a wholesaler. Therefore, Table 2.4 is Not applicable.

Table 2.4 Retail: Water Supplier Information Exchange

The retail Supplier has informed the following wholesale supplier(s) of projected water use in accordance with Water Code Section 10631.
Wholesale Water Supplier Name (Add additional rows as needed)
Not Applicable

2.4.2 Coordination with Other Agencies and the Community

> *10620 (d)(2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.*
>
> *10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan…*

The City solicited participation from other agencies, organizations, and the community for the preparation of the 2020 UWMP. Table 2.5 summarizes how the UWMP preparation was coordinated.

Table 2.5 Coordination with Appropriate Agencies

Coordinating Agencies	Notified of UWMP Update	Commented on the Draft	Attended Public Meetings	Was Contacted for Assistance	Was Sent a Copy of the Draft Plan	Was Sent a Notice of Intention to Adopt	Not Involved No Information
Porterville ID	X				X		X
Terra Bella ID	X				X		X
Saucelito ID	X				X		X
Lower Tule ID	X				X		X
Vandalia ID	X				X		X
Porter Vista Public Utilities District	X				X		X
Tea Pot Dome ID	X				X		X
Tulare County	X				X		X
Tule River Association	X				X		X
Eastern Tule GSA	X				X		X

2.4.3 Notice to Cities and Counties

CWC 10621 (b) requires that agencies notify cities and counties to which they serve water that the City's UWMP is being updated and reviewed.

> *10621(b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days before the public hearing on the plan required by Section 10642, notify a city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.*

The City of Porterville only provides water within their urban development boundary (UDB). Even though the City does not provide water supply to other cities, counties, or districts, outside the water service area the City has provided formal written notification to the list of agencies in Table 2.5 that the City's UWMP was being updated. In accordance with the UWMPA, this notification was provided at least 60 days prior to the public hearing of the plan. Electronic copies of the final UWMP will be provided to the parties notified no later than 30 days after its submission to DWR. Appendix D contains copies of outreach documents.

Notices were published informing interested parties that the draft 2020 UWMP was available for review. Pursuant to California Code Section 6066, a notification of the time and place of the public hearing was published in the local newspaper on February 1st, 2022 and February 8th, 2022. A notice was also posted on City's website. Copies of these notifications are included in Appendix D.

The Final Draft 2020 UWMP was presented to the Porterville City Council as a discussion item on February 15th, 2022 for a public hearing followed by adoption by resolution. This hearing provided an opportunity for the City's customers, residents, and employees to learn and ask questions about the current and future water supply of Porterville. A copy of the associated documentation is included in Appendix B.

Chapter 3

SYSTEM DESCRIPTION

The UWMPA requires that the UWMP include a thorough description of the water system, service area, and various aspects of the area served including climate, population, and other demographic factors.

> *10631. (a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.*

3.1 General Description

The City of Porterville is located in central California on the east side of the San Joaquin Valley. The City is adjacent to the Sequoia National Forest and the Sierra Nevada Foothills in Tulare County. Porterville is approximately 70 miles southeast of the City of Fresno and 50 miles north of the City of Bakersfield. Figure 3-1 depicts the City of Porterville's Regional Location Map. The City is bisected by the Tule River which is sourced by precipitation from the Sierra Nevada Mountains. Operation of the Tule River is regulated by the U.S. Army Corps of Engineers Success Dam located approximately five miles east of the City. During wet years, floodwaters are controlled by Success Dam. The Central Valley Project's (CVP) Friant Kern Canal conveyance facility passes the City on its western boundary. This canal is sourced from the San Joaquin River Watershed and is managed by the Friant Water Authority. The City does not receive surface water from the Canal. The City limits encompass the Porterville Municipal Airport, the Sports Complex, and various agricultural land for treated wastewater management to the southwest of the City proper. The city uses recycled water as a means of treated wastewater effluent disposal for unrestricted agricultural irrigation to select parcels near the airport, see section 6.6 in Chapter 6. This area is also served by the City water system. Additionally, the Porterville Developmental Center or also known as the State Hospital directly east of the City is included in the City limits, however, receives its water supply from on-site wells. The Developmental Center receives sewer service from the City.

The City is a part of the Eastern Tule Groundwater Sustainability Agency (GSA) which also includes, Porterville Irrigation District, Saucelito Irrigation District, Teapot Dome Water District, Vandalia Water District, Terra Bella Irrigation District, Kern-Tulare Water District, and Tulare County.

East Porterville is an unincorporated section of the City that historically has only partly been serviced by the City's public water distributions system. Recent drought conditions have led to an emergency water shortage for East Porterville residents resulting in reduced groundwater elevation causing wells to run dry. The City and DWR have implemented a program to connect parts of East Porterville residents to the City's water distribution system over the span of a few years. The City began this program in 2016 and connected approximately 725 connections

between 2016 and 2020. East Porterville is currently within the City's 2030 General Plan UDB and Sanitary Sewer Service is still managed by the Porter Vista Public Utilities District, but is treated at the City's waste water treatment facility.

3.1.1 Description of Transmission, Treatment, and Distribution Facilities

The City of Porterville drinking water supply is solely from groundwater wells. As mentioned, the City does not receive any surface water from the Tule River or the Friant Kern Canal. The City does not participate in any surface drinking water exchanges with the local water agencies included in the Eastern Tule GSA. The City's groundwater supply is extracted using 36 active wells scattered throughout the water service area that pump directly into the water distribution system, however a few of these wells are on standby for high demands. Extracted groundwater is chlorinated at the wellheads to provide disinfectant residual in the distribution system. In total, Porterville's water service area encompasses 11,904 acres, or approximately 18.6 square miles. The City has approximately 276 miles of water distribution pipeline ranging from sizes 4- to 16-inches in diameter. Figure 3.2 shows the City's water service area, wells, and water transmission main layout.

3.2 Service Area Climate

10631(a). A plan shall… Describe the service area of the supplier, including … climate…

10630. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning… while accounting for impacts of climate change.

The City's service area climate is a semi-arid, Mediterranean environment with cold winters, warm summers, and moderate rainfall. The City experiences generally dry weather conditions throughout the year with rain occurring through the months of November through April. Average monthly evapotranspiration (ETo) rates, rainfall, and temperature are summarized in Table 3.1.

Table 3.1 Climate Characteristics

Month	Standard Monthly Avg. ETo(1) (in)	Monthly Avg. Rainfall(2) (in)	Min Monthly Avg. Temp(2) (°F)	Max Monthly Avg. Temp(2) (°F)
January	1.24	2.21	35.50	56.90
February	1.96	2.06	38.40	63.80
March	3.41	1.94	41.10	69.50
April	5.10	1.14	44.90	76.70
May	6.82	0.44	50.40	85.10
June	7.80	0.11	56.10	93.00
July	8.06	0.01	61.40	99.10
August	7.13	0.02	59.50	97.30
September	5.40	0.18	54.80	91.50
October	3.72	0.55	47.10	80.70
November	1.80	1.18	38.90	67.50
December	0.93	1.79	35.20	57.50
Annual	**53.37**	**11.63**	**46.94**	**78.22**

Notes:
(1) California Irrigation Management Information System (CIMIS) Station 169 Porterville. Represents Monthly average ETo from August 2000 to February 2019, Zone 12.
(2) Source: Western Regional Climate Center Lindsay (044957). Represents monthly average from December 1913 to June 2016.

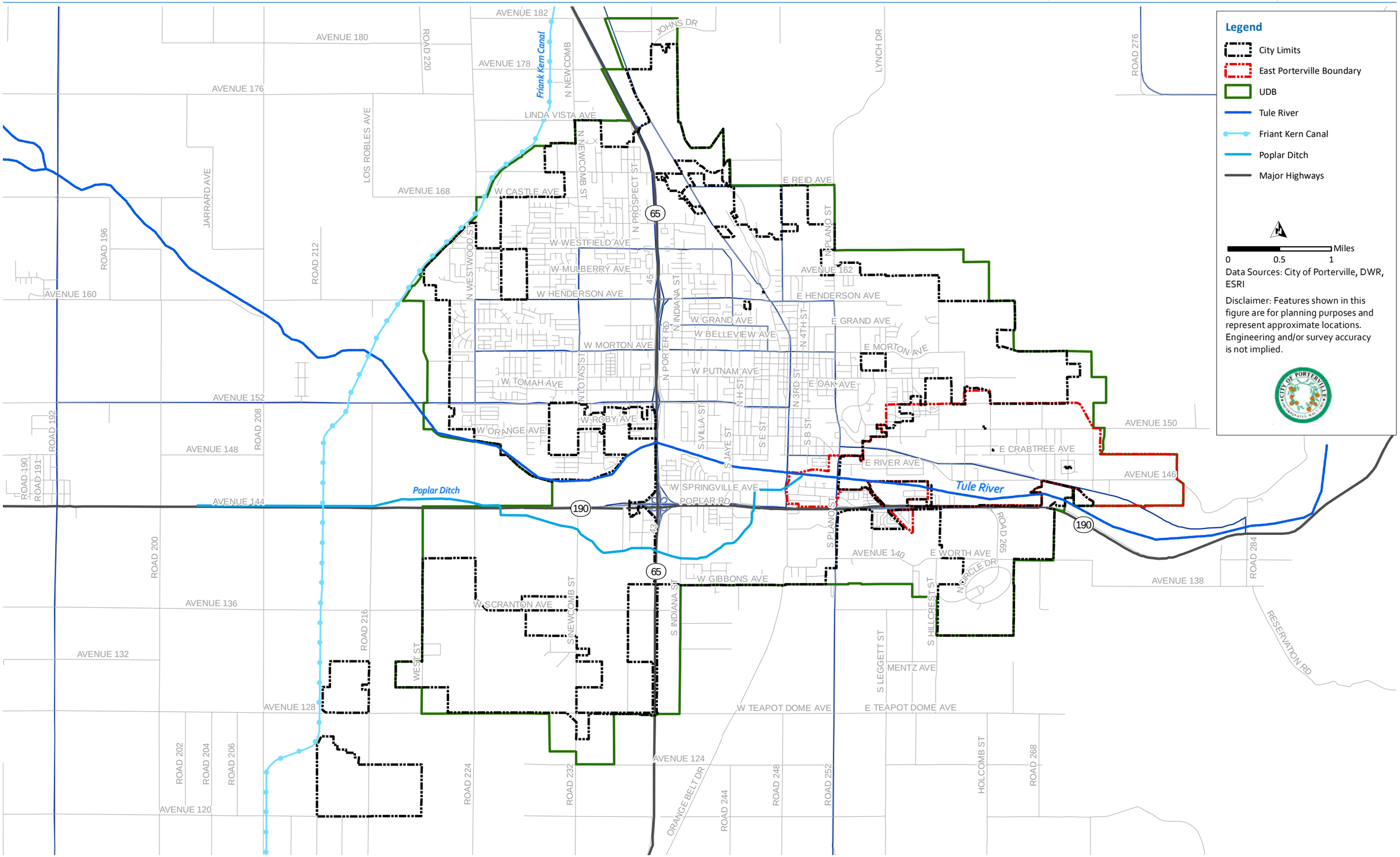

Figure 3.1 Porterville Regional Location Map

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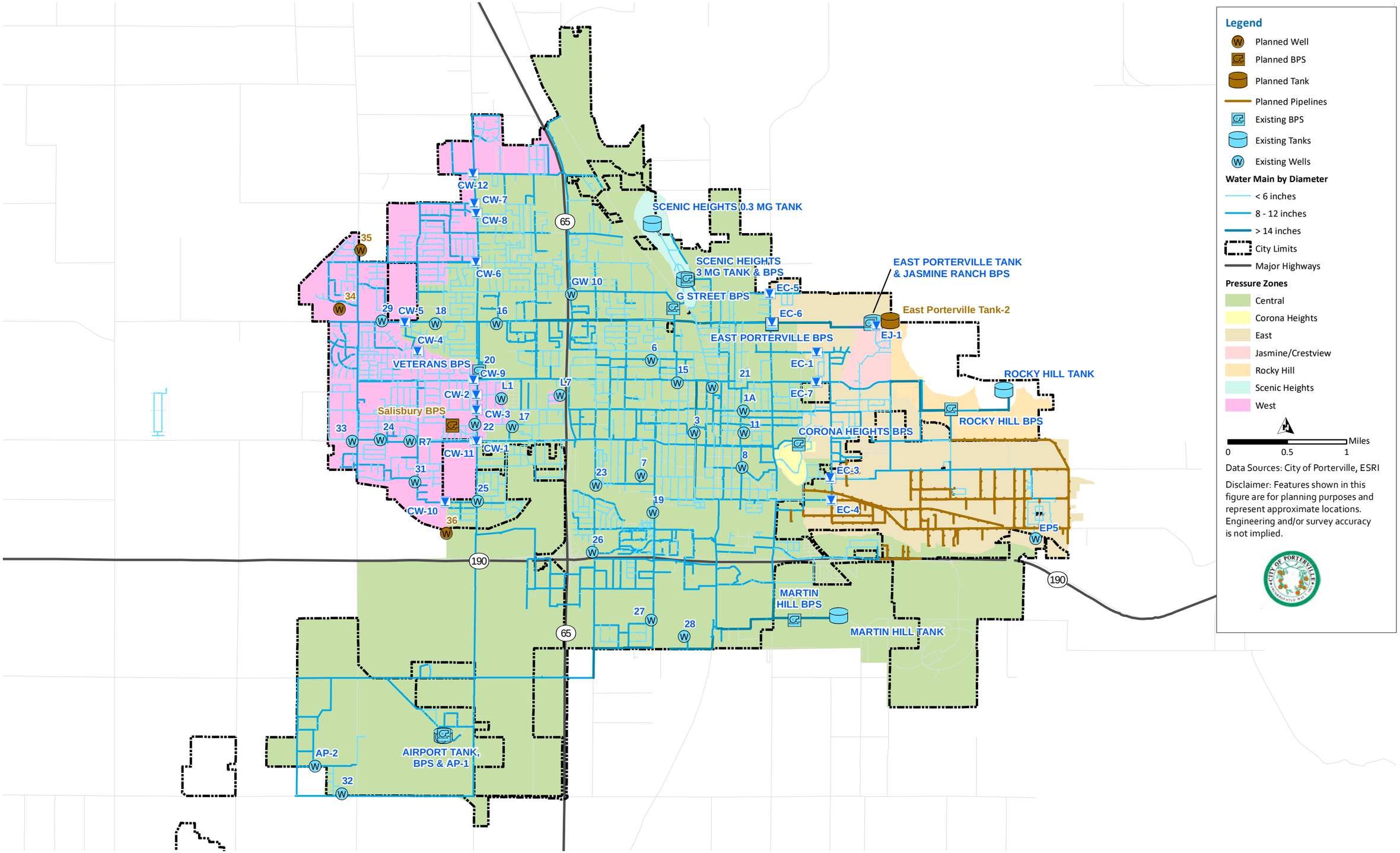

Figure 3.2 Porterville Water Distribution System

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As shown in Table 3.1, the City's service area's average monthly temperature ranges from about 47 to 78°F. Total annual values of ETo and precipitation are 53.37 inches and 11.62 inches, respectively. Records show that the average monthly precipitation ranges from 0 to 2 inches with most of the precipitation typically occurring from November through April.

3.3 Climate Change

Climate change in California has the potential to increase temperature, reduce snowfall and extend periods of severe drought. Porterville is located in the Tulare Lake Hydrologic Region which encompasses roughly 17,000 square miles in the southern San Joaquin Valley. In this region, the following climate effects are likely expected in the future:

- Crops affected by reduced winter chill hours, increasing extreme heat days, and increasing evapotranspiration therefore requiring more irrigation.
- Loss of snowpack reduces reliability of surface water and replenishment of local supplies, resulting in greater demand for groundwater.
- Higher likelihood of extreme wet and dry years.
- Increased frequency of flooding in low-lying areas.
- Average annual maximum temperatures likely to increase 5 to 9 degrees F by the year 2100.

These climate change affects all have potential to impact the water supply of the City. The groundwater aquifers in the Central Valley are generally recharged through a combination of precipitation through rainfall and percolation through the various rivers and canals sourced from the Sierra snow melt. With a decrease in groundwater recharge and increase in average temperatures and overall demand, a perfect storm of low supply and increased use limits the availability of groundwater for all users in the Valley.

The City of Porterville is completely reliant upon groundwater for its drinking water supply. The City is surrounded by agricultural land varying in citrus, vegetable, nut, and grain crops which receive water from either an irrigation district supplied from the Friant-Kern Canal or a private agricultural well. Groundwater levels have dropped significantly over the last drought period as outlined in the Eastern Tule Groundwater Sustainability Plan (ETGSP). With a significant reduction in surface water allocations most farmers and surrounding communities were left with no choice but to utilize the groundwater supply for agricultural use.

Drought conditions initially cause increase in demand with increase temperatures and reduced precipitation. The diurnal pattern of demand over an average year peaks in the hotter months for landscape irrigation, recreation, and agricultural uses. Over-pumping leaves the City's groundwater supply and pumping effectiveness quite vulnerable to significant reductions in groundwater elevations from a rise in demands. The City does not have an alternative supply of water therefore drastic reduction in groundwater elevation creates an extremely vulnerable condition which puts the City at risk. Effects of drought have already occurred nearby to the community of East Porterville which experienced emergency water shortage issues during the last major drought event between 2013 and 2017 and required State intervention. The overall hydrologic dynamic of the City and surrounding area's drinking water supply are exposed to the effects and changing conditions set upon by climate change.

The following chapters will present a more detailed approach on the City's efforts to develop a more reliable and diverse source of water and to address excessive groundwater pumping to eliminate over drafting conditions in the future:

- Chapter 4: Customer Water Use
- Chapter 5: Conservation Target Compliance
- Chapter 6: Water Supply Characterization

3.4 Service Area Population and Demographics

> *10631(a). Describe the service area of the supplier, including current and projected population …The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.*

This section summarizes historical, current, and projected population trends in the Porterville. Population projections are essential to the planning process and form the basis for most planning decisions, yet projecting future growth is far from an exact science given the complex set of variables that can affect the rate of growth. Typically, projections are developed by taking past patterns and combining them with assumptions to obtain an estimate of future growth rates. These projections serve to provide the City insight on the type and quantity of future growth as well as guidance regarding future planning activities; therefore, such planning activities can only be as effective as the ability to anticipate population growth. The general Porterville water service population consists mainly of full-time residents and has a very small transient population that commute into the City service area for work or travel.

3.4.1 Service Area Population

The water service population from 2001 to 2010 was taken from the City's 2015 UWMP. At the time, the growth rate was calculated at approximately 2.5 percent. Historical population growth rates have been approximately 2.2 percent on average which is shown in Figure 3-3. The water service populations for the 2020 UWMP was calculated using an acceptable modification of the DWR population. The DWR population tool resulted in an abnormally high persons per connection of 4.98. To reflect current population growth, the 2010 persons per connection of 4.39 was used as an acceptable modification per the population tool guidelines. The resulting water service population, shown in Figure 3.3, is estimated at 74,907. The Population Tool results are included in Appendix K. Table 3.2 shows the current and projected water service population for the City.

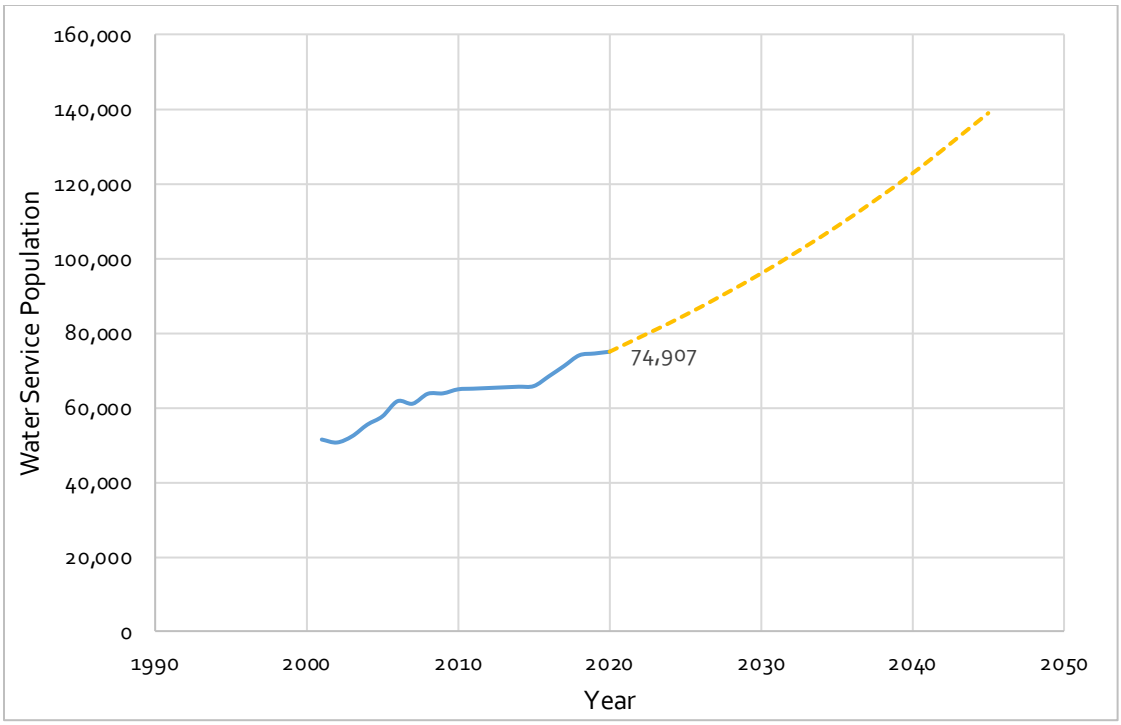

Figure 3-3 Historical and Projected Water Service Population

Table 3.2 Retail: Population – Current and Projected

	2020	2025	2030	2035	2040
Population Served	74,907	87,901	99,452	112,521	127,307

Notes:
(1) Growth rate set at 2.5 percent, consistent with City's 2020 IMP.

3.4.2 Other Social, Economic, and Demographic Factors

> *10631. Describe the service area of the supplier, including… other social, economic and demographic factors affecting the supplier's water management planning.*

Porterville is located in a rural area that depends on an independent water management strategy that solely services the City. DWR defines disadvantage communities (DAC) as regions whose annual median household income (MHI) is less than 80 percent of the Statewide annual MHI. The City of Porterville is mostly within the California's DAC boundary as shown in Figure 3-4. Most of the City's water service population identifies to be within a DAC. The current Statewide MHI is $71,228 and per 2019 census data, the median household income for Porterville residents is $43,823.

Implemented in 2020 as a result of the COVID-19 pandemic, California legislation was passed that requires the City to provide a payment plan for outstanding utility bill balances since the deferral of water shutoff as a result of non-payment was not allowed during the pandemic. Otherwise, the City does not provide utility bill payment assistance.

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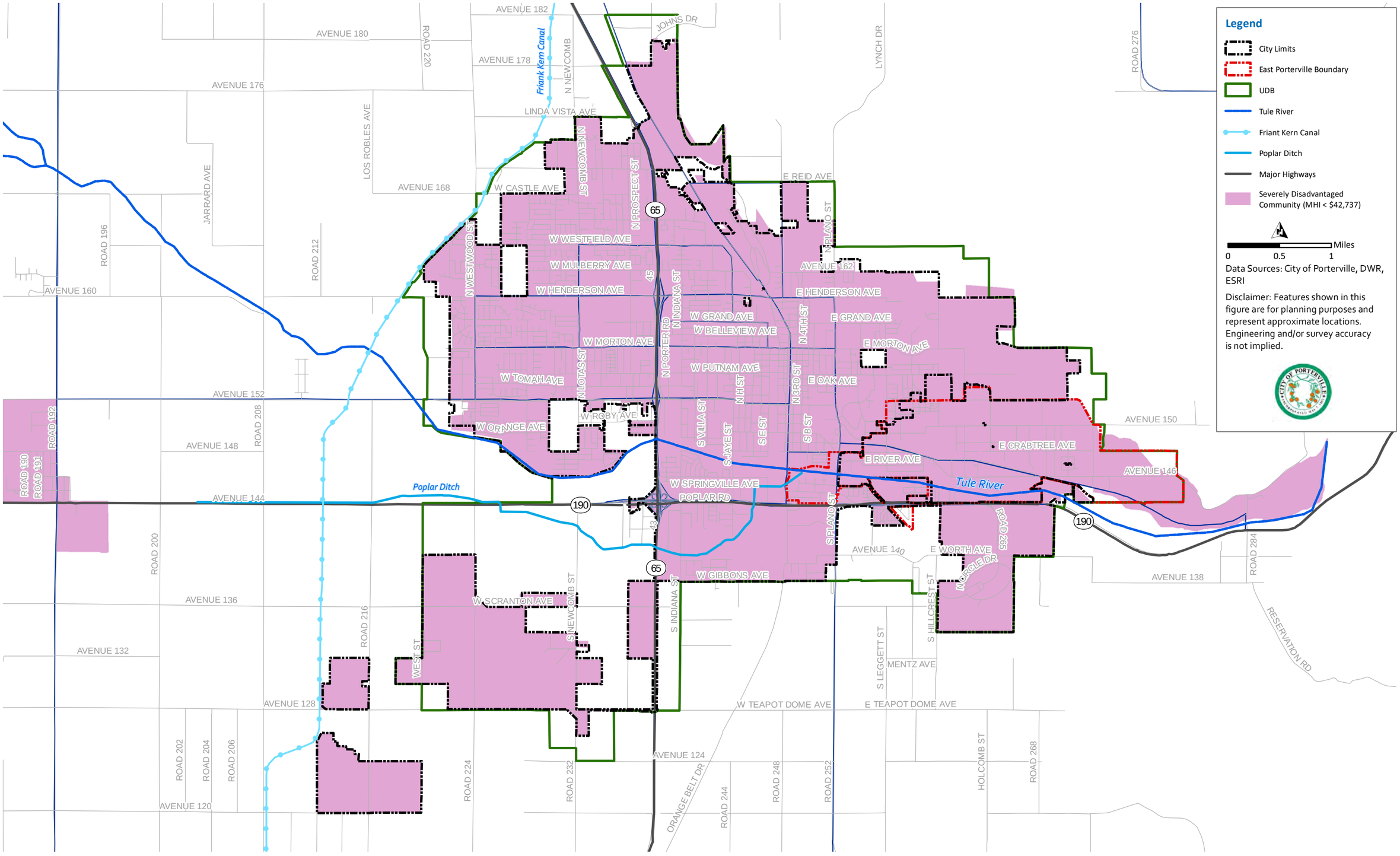

Figure 3.4 Disadvantaged Communties

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3.5 Land Uses within Service Area

> *10631(a). The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities…*

The City of Porterville Urban Development Boundary (UDB) is defined in its 2030 General Plan which has a total area of approximately 17,183 acres. The City service area falls within the City limits and few areas outside of the limits, such as the East Porterville area, which is still within the UDB. The UDB extends from Lake Success to the Friant Kern Canal as its western border and from Avenue 182 to the airport as its north and south limits. Land use information presented in this UWMP is based on the City's 2030 General Plan.

3.5.1 Land Use and Existing Service Area

Figure 3.5 shows the City's existing land use map. Table 3.3 provides a summary, by land use, of the amount of developed and underdeveloped land within the existing service area.

As shown in Table 3.3, there are approximately 6,482 acres of developed and underdeveloped land within the service area (excluding right-of –ways such as streets, highways, and railroads). Within the service area, 3,782 acres (58 percent) are classified as residential, 608 acres (9 percent) are classified as commercial, and 399 acres (6 percent) are associated with Industrial. The remaining mixed use and others make up the remaining 1,692 acres (26 percent). The East Porterville land use area shown in Figure 3.3 is generally single family residential with a few commercial and public intuitional classified parcels throughout. This area comprises of approximately 1,704 total acres.

Table 3.3 Water Service Area Land Use[(1)(2)]

Land Use Category	Developed	Underdeveloped	Total
Residential			
Rural Residential	13	11	24
Very Low Density Residential	63	5	68
Low Density Residential	2,550	286	2,836
Low Medium Density Residential	33	61	94
Medium Density Residential	431	108	539
High Density Residential	198	23	221
Commercial			
Neighborhood Commercial	14	9	23
Retail Centers	183	30	214
Professional Office	77	7	84
General and Service Commercial	211	15	226
Downtown Retail	62		62
Industrial			
Industrial	223	20	243
Industrial Park	63	92	156
Mixed Use			
Commercial Mixed Use	62	2	63
Downtown Mixed Use	45	8	53
Other			
Public Institutional (Excl. Airport)	380	11	391
Education	367	19	386
Parks and Recreation	238	22	260
Agriculture Rural Conservation	26	0	26
Other (Unknown)	63	3	66
Airport	447	0	447
East Porterville	-	-	1,704
Total	**5,751**	**731**	**8,186**

Notes:
(1) Land use areas based on an aerial analysis of the City's current service area.
(2) The land use totals in this table exclude the area associated with East Porterville/Porter Vista PUD

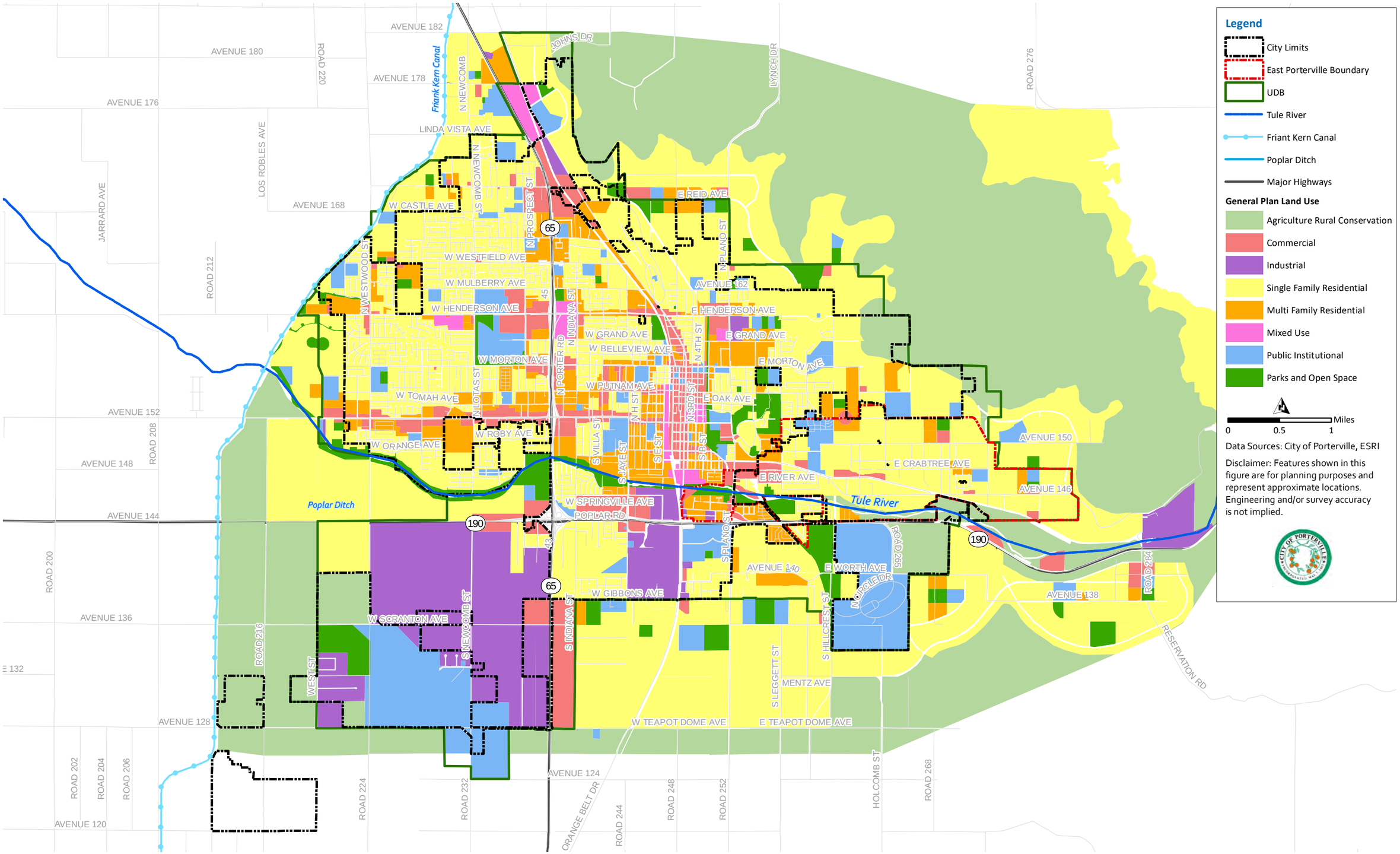

Figure 3.5 General Plan Land Use

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Chapter 4

CUSTOMER WATER USE

The UWMPA requires that the UWMP identify the quantity of water supplied to the agency's customers including a breakdown by user classification. This section describes the water system demands and water demand projections.

4.1 Non-Potable Versus Potable Water Use

This chapter covers potable and raw water demand. Recycled water is addressed comprehensively in Chapter 6.4.

4.2 Past, Current, and Projected Water Use By Sector

> *10631(d). (1) For an urban retail water supplier, quantify, to the extent records are available, past, and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following…*
>
> *(2). The water use projections shall be in the same five-year increments described in subdivision (a).*
>
> *(4)(A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.*
>
> *(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following: (i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections. (ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.*

Water demands served by the City are primarily residential (includes SFR and MFR), commercial, industrial, and institutional (CII), and landscape irrigation. Of the City's 17,063 connections, 16,814 of them are metered. The City classifies meters (2020) into the following categories:

- Single Family Residential.
- Multi-Family Residential.
- Commercial/Institutional.
- Industrial.
- Landscape Irrigation.
- Other.
- Agricultural Irrigation.

The actual demands for potable and non-potable water are presented in Table 4.1 for the 2020 calendar year. Conservation efforts between 2015 and 2020 indicate that the City is using less water than originally anticipated in the 2015 UWMP. The 2020 projections in the 2015 UWMP, show an anticipated potable water demand of 4,857 MG. The 2020 actual use, shown in Table 4.1, is 1,210 MG (3,713 AF) or 25 percent less than the 2020 projected demand. The combination of continued below average and inconsistent precipitation, general water conservation mindset, and metering has decreased typical potable water consumption to approximately 130 gallons per capita per day (gpcd). Moving forward, the City's per capita water usage is expected to increase with population growth and favorable hydrologic conditions. The City utilizes the 179 gpcd as a conservative approach for planning purposes in their water, sewer, storm drain integrated master plan (IMP) and other studies.

Table 4.1 Retail: Demands for Potable and Non-Potable Water – Actual

Use Type	2020 Actual		
	Additional Description	Level of Treatment When Delivered	Volume
Single Family Residential		Drinking Water	2,025
Multi-Family Residential		Drinking Water	390
Commercial and	Institutional	Drinking Water	448
Industrial		Drinking Water	10
Landscape		Drinking Water	223
Losses		Drinking Water	403
Other		Drinking Water	148
Agricultural Irrigation		Drinking Water	0
Total			**3,647**

Table 4.2 contains the projected potable water demands from 2025 through 2040. The demand projections are based on the growth projections from the City's IMP. From the IMP, it was determined the methodology for future water demand projections includes a combination of projection population, per capita demand rates, water demand factors (by land use), and land use designations. The future demands, the baseline per capita demand, was applied to the projected population to estimate infill and new development. Additionally, for undeveloped land, the future demands were calculated by applying water demand factors to the designated land use acreage within the UDB. Table 4.2 are only general estimates of projected use and may vary significantly based on future development and water conservation measures taken by each customer sector.

Table 4.2 Retail: Use for Potable and Non-Potable Water – Projected

Use Type	Additional Description	Projected Water Use Report to the Extent that Records are Available			
		2025	2030	2035	2040
Single Family Residential		3,182	3,607	4,074	4,621
Multi-Family Residential		612	694	784	889
Commercial and	Institutional	704	798	901	1,022
Industrial		16	18	20	23
Landscape		351	398	449	509
Losses		232	263	297	337
Other		634	719	811	920
Agricultural Irrigation		0	0	0	0
Total		**5,731**	**6,497**	**7,337**	**8,322**

The City's total water demands for potable and recycled water are based on the figures presented in Table 4.1, Table 4.2, and Table 6.4. These demands are summarized in Table 4.3. As discussed in chapter 3, currently, the City uses recycled water as a means of treated wastewater effluent disposal for restricted agricultural irrigation. Within the next five years, the City plans to provide recycled water for unrestricted agricultural irrigation to nearby irrigation districts for beneficial use as described in Chapter 6.

Table 4.3 Retail: Total Gross Water Use (Potable and Non-Potable)

Year	2020	2025	2030	2035	2040
Potable Water, Raw, Other Non-Potable	3,647	5,731	6,497	7,337	8,322
Recycled Water Demand	1,556	2,230	2,522	2,854	3,227
Optional Deduction of Recycled Water Into Long-Term Storage	1,556	2,230	2,522	2,854	3,227
Total Water Use	**3,647**	**5,731**	**6,497**	**7,337**	**8,322**

4.3 Distribution System Water Losses

10631(e)(1) Quantify, to the extent records are available, past, and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses:

(J) Distribution system water loss

10631(d)(3)(A) The distribution system water loss shall be quantified for each of the five years preceding the plan update, in accordance with rules adopted pursuant to Section 10608.34

Distribution system water losses ("real" losses) are the physical water losses from the water distribution system and the supplier's storage facilities, up to the point of customer consumption. The City distribution system losses are quantified using the American Water Works Association (AWWA) Method Guidance "Water Resources Water Audit Manual." The distribution system water loss for the most recent 12-month period available (2020 calendar year) is reported in Table 4.4.

Table 4.4 Retail: 12 Month Water Loss Audit Reporting

Reporting Period Year	Volume of Water Loss(1) (MG)	Volume of Water Loss (AF)
01/2016	310	952
01/2017	353	1083
01/2018	405	1242
01/2019	366	1124
01/2020	337	1035.5

Notes:
(1) Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.

As shown in Table 4.4 and reported in the AWWA water audit (Appendix E), the City had approximately 1,035.5 AFY of water loss in their latest 2020 report. The system losses for the five preceding years were:

- 2016 – 951.8 AFY of water loss.
- 2017 – 1082.5 AFY of water loss.
- 2018 – 1242.2 AFY of water loss.
- 2019 – 1123.8 AFY of water loss.
- 2020 – 1035.5 AFY of water loss.

The average total Water loss between 2016 and 2020 is approximately 1004 AF or 327 MG.

4.4 Estimating Future Water Savings

"Passive" savings are water savings from codes, standards, ordinances, or transportation and land use plans. As shown in Table 4.5, future water savings are not included in the total water use projections (Table 4.2) and lower income household demand projections are included in the total water use projections (Table 4.2 and Table 4.3).

Table 4.5 Retail Only: Inclusion in Water Use Projections

Are Future Water Savings Included in Projections?	No
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc. utilized in demand projections are found.	
Are Lower Income Residential Demands Included In Projections?	Yes

4.5 Water Use for Lower Income Households

The UWMPA requires that the UWMP identify planned low-income housing developments within the agency's service area and develop demand projections for those units. A lower income household is defined as one with an income below 80 percent of area MHI, adjusted for family size.

10631.1(a). The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

The 2015 UWMP calculated water use for low-income housing based on the City's 2015 Housing Element report referenced in the 2030 General Plan. The low-income forecasted demands were based on a usage of 3.39 persons per occupied household. Since then, 2020 Census data report that the City of Porterville has a 27.5-percent of person to be in poverty. DWR Drought and Water Shortage Risk for self-supplied communities identify Porterville to have a 28.4 percent of persons in the area living at or below federal poverty standards. Using the IMP planning level per capita demand and the 2020 SB7x7 Target demand of 179 gpcd, the total estimated 2025 to 2040 projected water use for lower income households is shown in Table 4.6. Percent of persons in poverty were averaged from historical data from Tulare County Census data.

Table 4.6 Retail Only: Inclusion in Water Use Projections

Year	2025	2030	2035	2040
Projected Low-Income Water Usage	1,395	1,578	1,785	2,020
Units (MG)				

4.6 Climate Change Considerations

Recent affects in climate change have drastically altered the water consumption standards and behaviors of the entire state of California. The Central San Joaquin Valley in particular has been significantly affected by the most recent California drought and continues to face abnormally warm seasons, severe weather changes, reduced snowpack, and less frequent rainfall events. Coupled with population growth, the increased demand and decrease supply poses a problem that can potentially impact a City's growth and increase infrastructure vulnerabilities and risks. As stated in Section 3.3, Groundwater levels have dropped significantly over the last drought period as outlined in the ETGSP. With a significant reduction in surface water allocations most farmers and surrounding communities were left with no choice but to utilize the groundwater supply for agricultural use. The City has been successful at facing the adversity of climate change by reducing potable water consumption and adaptation strategies (water supply diversification), actively participating in groundwater recharge efforts through treated wastewater effluent management, surface water allocations, and investigating the feasibility of diversifying and expanding their drinking water supply.

Since approximately 2008, the City's per capita demand has gradually decreased with significant reductions beginning in 2013. Demands in 2013 peaked at 179 gpcd and have reduced to 130 gpcd on average in 2015 and have remained consistent through 2020. The City of Porterville's 2015 UWMP shows a projected total gross water use in 2020 to be 4,857 MG in Table 4.2. The City's 2030 general plan aims to reduce the groundwater pumping to match the safe yield of the groundwater basin. Similarly, as part of the Eastern Tule GSA, the City plans to reduce groundwater usage by diversifying their supply portfolio as well as implement additional groundwater recharge in the future. Table 4.3 in this 2020 UWMP shows a total gross water use potable water use to be 3,647 MG, which is a net change of 1,210 MG when compared to the Projected 2020 gross water use of 4,857 MG. The projected total gross water use in comparison to the 2015 UWMP was adjusted based on the 2020 actual value. The significant drop in total

gross projections takes into consideration that the standard practice of domestic water consumption and the implementation of conservation efforts set by the City. Water use reduction efforts throughout the city has promoted a conservation culture which in turn has decreased total usage over time. Available rebates for high efficiency plumbing, installation of water meters on new and existing services, water waste audits, landscape rebates and selection, and a more conscientious effort by citizens has proved to reduce total usage and ultimately decrease projections over the next 20 years.

Climate change has already impacted various communities nearby and the City of Porterville itself. Porterville has taken many steps in preparation to progress forward in reducing current and future climate change impacts to their water system through conservation strategies and by having the foresight to augment their water supply portfolio. The City continues to investigate means to reduce water consumption and loss, improve infrastructure, and create the ability to both augment and diversify their existing water supply.

Chapter 5

CONSERVATION TARGET COMPLIANCE

The UWMPA requires that the UWMP identify the baseline water demand, urban water use target, and interim urban water use target for the City. In the 2015 UWMP these water use targets were determined per the DWR Methodologies. The daily per capita water use, expressed in gpcd, is the total water use within the service area divided by the population. These targets are necessary to judge compliance with the 2020 use reductions set forth in the Water Conservation Bill of 2009 (SB X7-7).

The purpose of this section in the 2020 UWMP is to determine whether the City has met the 20 percent conservation mandate. All SB X7-7 forms are included in Appendix F.

5.1 2015 UWMP Baseline and Targets

A supplier may update the baseline and target water use if there were changes to their distribution area. Porterville's distribution area has not changed since 2015. Therefore, the baseline and target gpcd values from the 2015 UWMP are utilized in this UWMP to determine compliance with the 2020 target. In the 2015 UWMP, a 10-year baseline and a 5-year baseline were calculated to establish the minimum criteria for the Porterville's water use reduction targets. The 2015 UWMP identifies that the 10-year baseline range (2001 to 2010), and 5-year baseline range (2003 to 2007) are 195 and 199 gpcd, respectively. These tables are included in Table 5 of the SB X7-7 Verification Forms of the 2015 UWMP (Appendix C). The City's water use target for 2020 is 179 gpcd, see section 5.1.5.3.

5.2 Service Area Population

> *10608.20. (e) An urban retail water supplier shall include in its urban water management plan due in 2010… the baseline per capita water use,…along with the bases for determining those estimates, including references to supporting data.*
>
> *(f) When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.*
>
> *10644. (a)(2) The plan… shall include any standardized forms, tables or displays specified by the department.*

The 2020 service area population was provided by the DWR Population Tool. This population is shown in table 3-1 and was used to calculate the 2020 target per capita demand. The population in the 2015 UWMP to develop the baseline target was determined using the DWR Population tool as shown in Table 2 of the SB X7-7 Verification Forms. The 2020 service area population is reported in Table 3 of the SB X7-7 Verification Forms.

5.3 Gross Water Use

> *10608.12 (g) "Gross Water Use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:*
> *(1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier*
> *(2) The net volume of water that the urban retail water supplier places into long term storage*
> *(3) The volume of water the urban retail water supplier conveys for use by another urban water supplier*
> *(4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.*

"Gross Water Use" is the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier with certain acceptable exclusions. Gross water use is reported for each year in the baseline periods as well as 2020, the compliance year, in Table 4 of the SB X7-7 Verification Forms (Appendix F). The annual gross water values are the "total water into the system" reporting in the City's Public Water System Statistics reports. This reflects the volume of water entering the system. These values do not account for losses in the distribution system.

5.4 Baseline Daily Per Capita Water Use

The baseline daily per capita water use in each of the baseline years is calculated in Table 5 of the SB X7-7 Verification Form included in the 2015 UWMP (Appendix C) by dividing annual gross water use by annual service area population.

5.5 Baselines and Targets Summary

The Water Conservation Act of 2009 (SB X7-7) governs water conservation in California and requires water suppliers to increase water efficiency by decreasing per-capita consumption by a State mandated 20 percent by the year 2020.

As mentioned above a supplier may update the baseline and target water use if there were changes to their distribution area. Since there has been no change in water service area, the baseline and target gpcd values from the 2015 UWMP are utilized in this UWMP to determine compliance with the 2020 target.

Using the 10-year baseline, the City's water use target for 2020 must be 20 percent less than the baseline volume, resulting in 156 gpcd and a 2015 interim water use target of 187 gpcd to measure progress. Based on the 2015 UWMP, the gross water usage was 130 gpcd, which was below the interim water use target. Furthermore, Section 5.5.1 discusses the methodology in calculating the actual 2020 water use target.

Table 5.1 Baselines and Targets Summary

Baseline Period	Start Year	End Year	Average Baseline gpcd(1)	Confirmed 2020 Target(1)
10-15 year	2001	2010	195	179
5 Year	2003	2007	199	

Notes
(1) All values are in gpcd

5.5.1 Target Methods and Target Confirmation

> *10608.22. Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined in paragraph (3) of subdivisions (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.*

Four target methods have been developed, and identify the specific steps water suppliers shall follow to establish these targets. A brief description of each method, as well as the water use calculated using each methodology is included below, however the City utilized Method 3 to calculate their 2020 target, which is consistent with the 2015 UWMP.

5.5.1.1 Method 1 – 80 Percent of Base Daily Per Capita Water Use

Method 1 requires an urban water supplier to first determine the base daily per capita use. In order to determine the target using Method 1, 80 percent of the base daily per capita use 10-year base period) is calculated. Based on the 10-year baseline daily per capita use of 195 gpcd determined previously, the target use for Method 1 is 156 gpcd.

5.5.1.2 Method 2 – Performance Standards

Method 2 requires water suppliers to use baseline CII, indoor residential, and landscaped area water use to calculate a water use target. Based on the nature of the data required to determine a target using Method 2, it is not feasible for the City to use this methodology.

5.5.1.3 Method 3 – 95 Percent of Hydrologic Region Target

Method 3 requires water suppliers to use the hydrologic region target to calculate a water use target for 2020. In order to determine the target using Method 3, 95 percent of the region-specific conservation goal is calculated. Based on a target of 188 gpcd for the Tulare Lake Region, the Method 3 target is 95 percent of the target resulting in 179 gpcd.

5.5.1.4 Method 4 – Savings by Water Sector

Method 4 identifies water savings obtained through identified practices and subtracts them from the base daily per capita water use value identified for the water supplier. The water savings identified that can be used to reduce the base daily per capita water use value include:

- Indoor residential use savings.
- Metered savings (not applicable since City is fully metered).
- CII savings.
- Landscape and water loss savings.

To calculate the CII savings, a retail water supplier must have data for the entire baseline period used in the base daily per capita water use calculation. The City does not have metered CII usage data for the entire baseline.

5.6 2020 Compliance Daily Per Capita Water Use

> *10608.12(e) "Compliance daily per-capita water use" means the gross water use during the final year of the reporting period…*
>
> *10608.20 (e) An urban retail water supplier shall include in its urban water management plan due in 2010 . . . compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.*

Compliance daily per-capita water use means the gross water use during the final year of the reporting period. Water suppliers are required to calculate their actual 2020 water use (2020 calendar year) and evaluate whether their per capita 2020 target use was met. Refer to Table 5.2 and SB X7-7 Table 9 for 2020 compliance. The City met the 2020 target of 179 gpcd in the year 2020 with an actual per capita water use of 133 gpcd. If consumption rates begin to rise, the City must implement additional conservation and/or efficiency measures to maintain below this target.

Table 5.2 2020 Compliance

Actual 2020 gpcd	Optional Adjustments to 2020 GPCD Enter "0" if no adjustment is made					2020 confirmed target gpcd(1)	Did Supplier Achieve Targeted Reduction for 2020?
	Extraordinary Events	Economic Adjustment	Weather Normalization	Total Adjustments	Adjusted 2020 gpcd		
133	0	0	0	0	133	179	Yes

Notes:
(1) All values are in gpcd.

Chapter 6

SYSTEM SUPPLIES

The UWMPA requires that the UWMP include a description of the agency's existing and future water supply sources for the next 20 years. The description of water supplies must include detailed information on surface water, groundwater, the groundwater basin, potential opportunities for desalination of groundwater and seawater, and detailed information on the agency's imported water.

6.1 Water Supply Overview

The City water supply is strictly from extracted groundwater. The City has 36 active groundwater wells that are located throughout the City limits that pump directly to the distribution system or to various water storage tanks. Figure 3-2 displays the City's distribution system, water storage tanks, and active groundwater wells.

6.2 Purchased or Imported Water

The City of Porterville does not import or purchase any raw or potable water for their public distribution system. The City has a total surface water allocation of approximately 2,039 ac-ft (664 MG). The City has acquired surface water rights in the amount of 468 shares from the Pioneer Water Company which is equivalent to approximately 1.5 ac-ft per share resulting in 236.5 MG. Additionally, the City has acquired approximately 14.5 ac-ft (4.7 MG) from Porter Slough Ditch Company and 1,300 ac-ft (423.6 MG) from Porterville Irrigation District. When available, the City purchases surface water supplies from nearby irrigation and water districts and utilizes for groundwater recharge. The City has been using their surface water allocation to augment their existing groundwater supply and to create a drought buffer during excessive extraction periods. Figure 6.1 shows the volume of surface water the City has used for groundwater recharge over the last ten years.

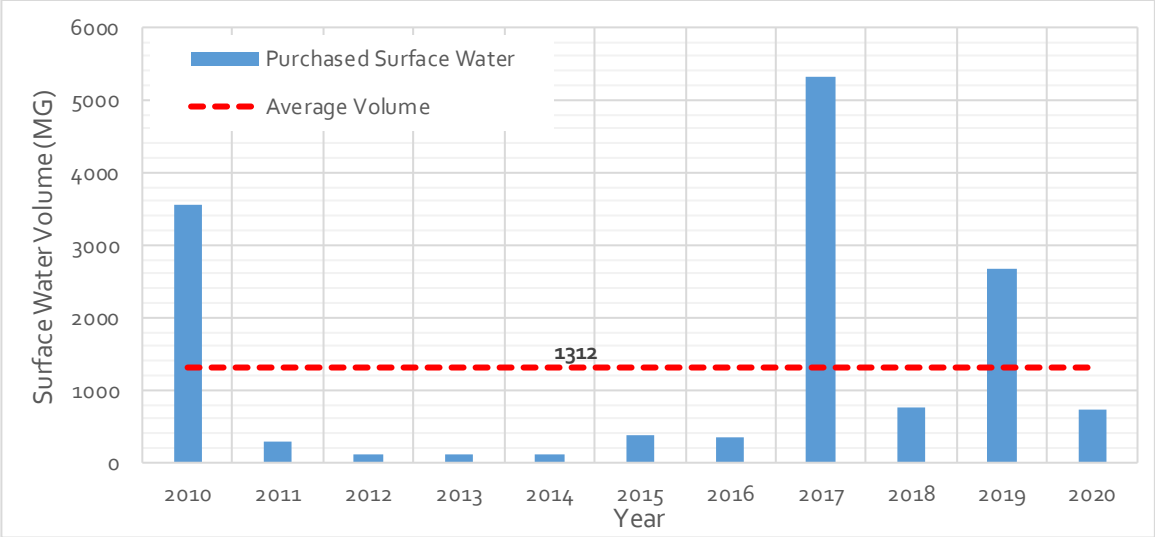

Figure 6.1 Purchased Surface Water Volume, MG (2010 – 2020)

6.3 Groundwater

The City of Porterville drinking water supply is solely from groundwater extraction wells. The City's groundwater supply is extracted using 36 active wells scattered throughout the water service area that pump directly into the water distribution system and surrounding above ground water storage tanks. Extracted groundwater is chlorinated at the wellheads to provide disinfectant residual in the distribution system.

6.3.1 Basin Description

> *10631 (b) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:*
>
> *(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater.*

The City's groundwater system is supplied from the east side of the Tule Sub-basin. The Tule sub-basin sits on a series of overlapping alluvial fan sedimentary deposits sourced from runoff from the Sierra Nevada mountain range east of the City. Near the City, the natural waterways that promote supply to the groundwater basin are Deer Creek and the Tule River. Tule River flow is managed by Lake Success for flood control and recreation at Lake Success located just east of the City. As described in the ETGSP, The Tule Subbasin consist of permeable sand and gravel layers, interbedded with low permeability silt and clay lenses. The transmissivity of the aquifer soils near the Tule River are high from loose soil river deposits. DWR records indicate that the groundwater elevation is approximately 300 feet below ground surface.

6.3.2 Groundwater Management

> *10631 (b) If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:*
>
> *(1) A copy of any groundwater management plan adopted by the urban water supplier… or any other specific authorization for groundwater management.*

Porterville is part of the Eastern Tule GSA which in part has outlined various projects and management actions that are to be taken by the City and the surrounding water purveyors to meet the groundwater sustainable yield goals set in the GSP. The adopted ETGSP is attached to this plan in Appendix G.

6.3.3 Overdraft Conditions

> *10631 (b)(2) For basins that have not been adjudicated, (provide) information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.*

The Eastern Tule GSP, outlines that historically, the Tule Subbasin has been subject to overdraft conditions by excessive groundwater pumping. Per the GSP, overdraft is estimated to be approximately 61,000 acre-feet/year for the region within the ETGSA boundary. The ETGSP presents the need for a sustainable yield in order to address overdraft conditions in the future for the entire region. The Eastern Tule GSA has outlined management actions that are to be taken by the City and the surrounding water purveyors to meet the groundwater sustainable yield goals set in the GSP. The sustainable goals are intended to balance average annual inflows and outflows of water in the groundwater basin by 2040 so that negative change in storage does not occur after 2040 ultimately avoiding undesirable and potentially catastrophic conditions of the groundwater subbasins. The current sustainable yield for the City is calculated as 1.01 ac-ft/acre of the City's UDB. The City's extraction volume within its native sustainable yield and total precipitation allocation is approximately 17,355 AFY which is about 5,655 MG. The sustainable yield is subject to revision every year due to current drought conditions, groundwater use and supply management measures. These measures ultimately seek to achieve the following criteria:

- Increase available water supplies.
- Optimize existing water supplies.
- Decreased consumptive use of non-sustainable groundwater supplies to mitigate overdraft.
- Groundwater levels sustained to sustainable management criteria quantified in this Plan.
- Reduction or cessation of subsidence near critical infrastructure.
- Stabilized water quality for agronomic and municipal beneficial uses.
- Funding for local water management.
- Improved collection and management of water related data within the Agency.

The implementation of projects and management actions are expected to provide a collective benefit for not only the City but the surrounding users. In general project types and management actions that are considered to be implemented in the future fall under four groups:

1. Water Supply Optimization: Optimizing efficiencies in existing surface water or groundwater operations.
2. Surface Water Development: Developing new surface water supplies.
3. Managed Aquifer Recharge and Banking: Developing recharge and groundwater banking projects.
4. Agricultural Land Retirement: Projects related to fallowing agriculture land.

The project and management action categories provide a roadmap in reaching a sustainable water resource utilization on a regional basis which ultimately trickles down to the individual user. The GSP will develop improved practices in distributing, integrating, exchanging, recharging, and managing water supplies to create a sustainable environment for groundwater resources for the City and the surrounding areas.

6.3.4 Historical Groundwater Pumping

> *10631 (b) …If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:*
>
> *(3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.*

The City of Porterville has historically relied on groundwater wells to supply its drinking water distribution system. The City has 36 active wells that are currently in service and are located throughout the City. Before 2014, the City's groundwater demand was much higher than it is today. For example, the groundwater supplied to the City averaged 4,150 MG between 2002 and 2014 and an average of 3,378 MG between 2015 and 2020. The severe drought of 2011 - 2017 drastically increased the City's conservation efforts ultimately leading to a decrease in groundwater pumping. The City's groundwater supply is summarized in Table 6.1.

Table 6.1 Retail: Groundwater Volume Pumped

☐	Supplier does not pump groundwater. The supplier will not complete the table below.					
☑	All or part of the groundwater described below is desalinated.					
Groundwater Type	Location or Basin Name	2016	2017	2018	2019	2020
Add additional rows as needed						
Alluvial Basin	Tule Subbasin	3,222	3,345	3,515	3,422	3,647
Total		**3,222**	**3,345**	**3,515**	**3,422**	**3,647**

6.4 Surface Water

The City of Porterville does not import or purchase any raw surface water from the nearby Friant-Kern Canal or from adjacent irrigation district for their public drinking water distribution system. The City does have surface water allocations from the Pioneer Water Company, Porter Slough Ditch Company, and Porterville Irrigation District which they use for groundwater recharge or recharge credits as water is available.

6.5 Stormwater

The City of Porterville's storm water collection system is a separated from the sanitary sewer collection system. The City stormwater collection system conveys captured runoff to retention/recharge basins or directly to flood channels that run throughout the City. There are two scales of stormwater which are potentially relevant to the City's water supply portfolios, the first is the hydrological dependent surface water supplies from runoff in the region. The second is the volume of stormwater captured in the City's collection system. The benefit of stormwater in the grand scheme of the City's water supply portfolio is minimal, therefore it is not further evaluated in their assessment and the City does not reuse stormwater for their potable water supply.

6.6 Wastewater and Recycled Water

The UWMPA requires that the UWMP address the opportunities for development of recycled water, including the description of existing recycled water applications, quantities of wastewater currently being treated to recycled water standards, limitations on the use of available recycled water, an estimate of projected recycled water use, the feasibility of said projected uses, and practices to encourage the use of recycled water.

6.6.1 Recycled Water Coordination

> *10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.*

The City of Porterville 2020 Recycled Water Feasibility Study (RWFS) outlines various alternatives to provide recycled water for beneficial use to the surrounding area. The City has been coordinating with local irrigation and water districts investigating the potential demand for recycled water produced from the City's wastewater. The feasibility study concluded that the City's most beneficial use of recycled water was to provide three adjacent irrigation districts: Porterville Irrigation District (PID), Tea Pot Dome Irrigation District (TPDID), and Saucelito Irrigation District (SID) with tertiary treated disinfected recycled water to be used for unrestricted agricultural irrigation in exchange for surface water allocations. The City in turn plans to initiate the preliminary development of producing an advanced treatment recycled water facility in the near future as part of their Alternative Compliance Project for the California Central Valley (CV) Salts Program.

6.6.2 Wastewater Collection, Treatment Systems, and Disposal

10633. (a) (Describe) the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

The City of Porterville currently collects sanitary sewer from the City service area shown in Figure 3-1. The City owns and maintains approximately 2,728 manholes, 24 lift stations, 9,880 feet of force mains and 48.4 miles of gravity sewer pipes. The City also receives and treats wastewater from the Porter Vista Public Utilities District (PVPUD) from East Porterville.

The City of Porterville owns and operates the wastewater treatment facility (WWTF) which receives and treats all wastewater from residential, commercial, and industrial discharges within the City as well as from the Porterville State Hospital and the PVPUD. The WWTF is located west of the town center on the corner of N. Prospect St. and W. Morton Avenue near Veteran's Park. The City's WWTF was built in 1954 with a capacity of 1.8 million gallons per day (mgd) and upgraded to 4.0 mgd in 1978 to provide capacity for future growth and for the addition of existing developments which previously depended on individual disposal systems (septic tanks). In 1994 the WWTF was expanded to increase the average day maximum month flow (ADMMF) from 4.0 mgd to 8.0 mgd.

The City's WWTF Waste Discharge Requirement Order No. R5-2008-304 restricts the monthly average daily discharge to 5.3 mgd. The 2020 wastewater flows from the City's service area is summarized in Table 6.2. As shown in Table 6.2, the City contributed a total of 1,712 MG (4.69 mgd) of wastewater flow into the WWTP in 2020.

Table 6.2 Retail: Groundwater Volume Pumped

☑	There is no wastewater collection system. The supplier will not complete the table below.
100	Percentage of 2020 service area covered by wastewater collection system (optional)
	Percentage of 2020 service area population covered by wastewater collection system (optional)

Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected from UWMP Service Area 2020	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?	Is WWTP Operation Contracted to a Third Party?
City of Porterville	Metered	1,712	City of Porterville	City of Porterville Wastewater Treatment Facility	Yes	No
Total Wastewater Collected from Service Area in 2020:		**1,712**				

The existing WWTF provides activated sludge secondary treatment. The primary treatment process starts with the influent wastewater from the sewer collections system to the headworks which screens out large debris such as rags, trash, and other obstructions. Screened wastewater is pumped from the headworks pump station and through a Parshall flume to measure flow and then to an aerated grit chamber to collect smaller grit-like particles in the system. From the aerated grit chambers wastewater is sent to the primary clarifiers allowing additional solids to settle and sum to float to the surface.

Following primary treatment process, wastewater is conveyed to the aeration basins where the activated sludge process begins. From the aeration basins, wastewater is then sent to the secondary clarifiers allowing the mixed liquor from the aeration basins to settle and it's either returned to the aeration basins or wasted to the dissolved air flotation thickeners (DAFT) for sludge thickening.

6.6.3 Wastewater Treatment and Discharge within Service Area

After the secondary treatment process, treated wastewater effluent is pumped to the reclamation area through a 4.5 miles pipeline to the southwest area of town center near the Porterville Municipal Airport where it is applied on the effluent irrigation areas or percolated into the ground via percolation basins. Sludge from the DAFT and primary clarifiers is sent to the anaerobic digester for processing to produce methane gas. From the digester, treated sludge is pumped from the biosolids transfer station located adjacent to the anaerobic digesters through a 4.5 mile pipeline to the sludge drying beds located near the City Municipal Airport. Once dry, biosolids are applied on the effluent irrigation areas as directed in the City's Biosolids Management Plan and annual Biosolids pre-application. Table 6.3 identifies the volume of treated wastewater either recycled or disposed of within the service area.

Table 6.3 Retail: Wastewater Treatment and Discharge within Service Area in 2020

☑	No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below.										
							2020 Volumes				
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number (optional)	Method of Disposal	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level	Wastewater Treated	Discharged Treated Wastewater(1)	Recycled Within Service Area(2)	Recycled Outside of Service Area	Instream Flow Permit Requirement
City of Porterville Wastewater Treatment Facility	City of Porterville Percolation Ponds and Reclamation Area	Adjacent to and southwest of the Porterville Airport	5D540107001	Land disposal	Yes	Secondary, Undisinfected	1,556	626	930	0	0
						Total	**1,556**	**626**	**930**	**0**	**0**

Notes:
(1) Discharged Treated Wastewater volume is identified as water that is discharged to the City's groundwater percolation basins.
(2) Recycled within Service Area volume is water that is used as agricultural irrigation to City owned farmland

6.6.4 Recycled Water System Description

10633. (c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

The City currently has a total of 880 acres available for biosolids application which includes a total of 630 acres within the reclamation area with the remaining 250 acres located in the City-owned dry-farmed area adjacent to the airport. Therefore, a total of 630 acres are available to receive effluent for irrigation and biosolids application. The City also utilizes approximately 48 acres of percolation ponds for groundwater infiltration which is also shown in. Figure 6.2 shows that average monthly effluent discharged to either the percolation ponds or the irrigation areas is approximately 130 MG. Typically, biosolid application and effluent irrigation is applied heavily during the summer months, May to September, and effluent is discharged to the percolation ponds for groundwater infiltration October through April.

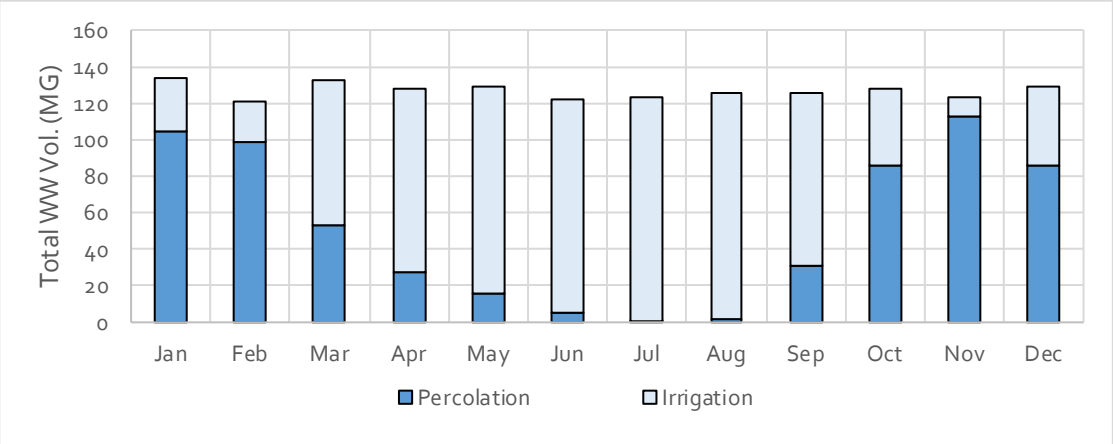

Figure 6.2 Average Treated Wastewater Effluent Discharged

6.6.4.1 Recycled Water Beneficial Uses

The range of beneficial uses of recycled water for the City are separated into five different reuse categories. Each category is listed below with a brief description in respect to the City's water system specifically.

Restricted Agricultural Reuse

Undisinfected secondary treated recycled water is discharged to City-owned agricultural property for the irrigation of fodder crops and percolation. This s the City's current recycled water program.

Unrestricted Agricultural

Water could be used to continue the City's existing recycled program as well as provide supply to districts close to the City.

Landscape Irrigation

Disinfected tertiary recycled water would be supplied to landscape irrigation users for domestic, commercial, and municipal properties within the vicinity of the existing WWTP or a recycled water distribution line.

Potable Reuse by Groundwater Replenishment

Recycled water meeting Title 22 requirements for advanced treatment beyond disinfected tertiary standards would be used for groundwater recharge by surface spreading in recharge basins. Groundwater percolation provides an environmental buffer with adequate retention time until groundwater is extracted using City's municipal wells.

Direct Potable Reuse

Potable reuse by raw water augmentation of the City's drinking water supply by comingling highly purified recycled water with surface water in a proposed surface water treatment plant. There is no environmental buffer to direct potable reuse, rather an engineered storage of the purified recycled water.

6.6.5 Potential, Current, and Planned Uses of Recycled Water

> *10633. (b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.*
>
> *(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.*
>
> *(e) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.*

As discussed in Section 6.6.4 – Recycled Water System Description, the City currently percolates undisinfected secondary treated wastewater effluent to designated groundwater infiltration basins and uses the same effluent as fodder crop irrigation heavily during the summer months. The City recently completed a 2020 Recycled Water Feasibility Study which analyzed the potential recycled water market within the City. The result of this Study has provided a recommendation for the City to provide unrestricted agricultural irrigation supply water (disinfected tertiary treated recycled water) to nearby irrigation districts (PID, TPDID, SID). The current and projected recycled water uses are summarized in Table 6.4. The projected recycled water volumes are based on the City's 2020 Recycled Water Feasibility Study.

The City plans to implement a WWTP denitrification upgrade as well as produce tertiary treated disinfected recycled water for unrestricted agricultural irrigation within the next 5 to 8 years. For this UWMP, it is assumed that by 2025 the City will be producing recycled water, however this is subject to change in the coming years. It is expected that the recycled water will be supplied to surrounding irrigation districts for distribution to customers with surface water exchange agreements in place for groundwater recharge as well as water supply augmentation via surface water treatment in the future. The recycled water feasibility study analyzed the total production of recycled water based on the 2040 projected plant effluent of 8.84 mgd (3,227 MG or 9,920 AFY). The surrounding irrigation districts who have preemptively agreed to accept recycled water would each on their own be able to consume the full amount of projected flow on a month-to-month basis, however contractual agreement negotiations have not occurred. The recycled water use projection for 2020 from the 2015 UWMP is compared to the 2020 actual use in Table 6.5. In the interim, the City's recycled water effluent volume is expected to increase with population and development growth within the UDB.

Table 6.4 Retail: Recycled Water Direct Beneficial Uses within Service Area

☐	Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.

Name of Supplier Producing (Treating) the Recycled Water:	City of Porterville
Name of Supplier Operating the Recycled Water Distribution System:	City of Porterville
Supplemental Water Added in 2020 (volume)	None
Source of 2020 Supplemental Water	N/A

Beneficial Use Type	Potential Beneficial Uses of Recycled Water	Amount of Potential Uses of Recycled Water	General Description of 2020 Uses	Level of Treatment	2020	2025	2030	2035	2040
Agricultural Irrigation	Agricultural Irrigation	930	Irrigation of oats, hay, alfalfa, and corn in the summer months	Secondary, Undisinfected	930				
Other (Provide General Description)	Groundwater Percolation	626	Percolation into 50 acre ponds during winter months	Secondary, Undisinfected	626				
Agricultural Irrigation	Provide tertiary treated recycled water to surrounding irrigation districts	0	Not used in or before 2020	Tertiary	0	2,230	2,522	2,854	3,227
Total					**1,556**	**2,230**	**2,522**	**2,854**	**3,227**

Notes:

(1) Assuming implementation of recycled water treated facility utilizing 100 percent of City Treated Effluent.

Table 6.5 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual

☑	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below.	
Use Type	2015 Projection for 2020	2020 Actual Use
Agricultural Irrigation	974	1,556
Total	974	1,556

6.6.6 Actions to Encourage and Optimize Future Recycled Water Use

> *10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier… and shall include the following:*
>
> *(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.*

The use of a recycled water facility to provide a drinking water supply through either offsetting potable water use for landscape irrigation, groundwater augmentation, or surface water comingling and treating has been rejected by the City. Due to the location and reclamation limitations of the City, advanced treatment and purification is an uneconomical solution due to the discharge requirements of an advanced treatment system. Being said, as discussed in the Recycled Water Feasibility Study, the City has begun the process in developing an expanded recycled water program to create a reliable unrestricted agricultural irrigation water supply in exchange for reliable surface water right exchanges that can potentially be used for a groundwater basin or feed a surface water treatment plant in the future. Table 6.6 shows the City's near future projected recycled water production.

Table 6.6 Retail: Methods to Expand Future Recycled Water Use

☐	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
6.6.4 - 6.6.6	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use(1)
Unrestricted Agricultural Irrigation	The WWTP would be upgraded to provide disinfected tertiary recycled water. The water could be used to irrigation the City's reclamation area or supplied to neighboring irrigation districts.	2025	2,230
Total			2,230

Notes:
(1) Expected increase is not an increase from 2020 to 2025, this value is the volume of expected recycled water use in 2025.

6.7 Desalinated Water Opportunities

10631(d). Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

The City does not utilize any desalinated water for their domestic water supply.

6.8 Exchanges or Transfers

10631(d). Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

The UWMPA requires the UWMP to address the opportunities for development of short or long-term transfer or exchange opportunities.

6.8.1 Exchanges or Transfers

Water exchanges entail water being delivered by one water user to another water user, with the receiving water user providing water in return at a specified time or when the conditions of the parties' agreements are met. As outlined in the Recycled Water Feasibility Study, if the City is providing irrigation water supply to nearby irrigation districts, the opportunity for Friant-Kern Canal (FKC) surface water exchanges with those irrigation districts is a likely possibility. This surface water would be used to feed groundwater recharge basins or a surface water treatment plant. Presently, the City does not have any exchange agreements with adjacent irrigation districts between FKC surface water and recycled water, however negotiations are expected to begin in the near future.

6.8.2 Emergency Interties

The City does not have any emergency interties with surrounding agencies. As mentioned in Section 6.3, the City's source of water is solely from groundwater wells and does not have any supplementary drinking water supply to its system.

6.9 Future Water Projects

10631(f)… The urban water supplier shall include a detailed description of expected future projects and programs that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in normal and single dry water years and for a period of drought lasting five consecutive water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

As discussed in Section 6.6.5, the City intends to upgrade their existing WWTP and supporting effluent infrastructure to supply tertiary treated disinfected recycled water for unrestricted agricultural irrigation to nearby irrigation districts. This in turn will provide the opportunity for the City to enter into surface water exchange agreements with the irrigation districts surface water allocation for groundwater recharge from either the Friant Kern Canal. Ultimately this exchange enables the City to actively increase groundwater recharge efforts and potentially construct a surface water treatment plant in the future. Additionally, the City's anticipates the installation of three new wells on the west side of the UDB to provide an additional capacity up to 3.3 mgd to the potable water distribution system to reduce the supply deficit between the

maximum day demand (MDD) and the existing firm supply. The City's IMP also investigated the augmentation of their existing water supply portfolio with the addition of 12 new wells within the water service area to meet the 2040 projected future maximum day demands. The City plans to utilize these future water projects regardless or normal or consecutive drought years to expand their water system within their UDB to meet daily demands within their water service area. The City investigated the feasibility of a direct potable reuse water supply alternative in their 2020 RWFS. DPR includes combining highly treated recycled water with potable groundwater water to augment drinking water supply directly. The high cost of advanced treatment and the requirement to dispose of RO concentrate eliminated this alternative from the City's water supply portfolio alternatives. Table 6.7 presents the City's expected future water supply programs and their anticipated implementation time.

Table 6.7 Retail: Expected Future Water Supply Projects or Programs

☐	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.
☐	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.
6.6.4 - 6.6.6 & 6.9	Provide page location of narrative in the UWMP

Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Supplier
	Y/N	Name of Agencies				
Add additional rows as needed						
Recycled Water	No	N/A	Tertiary treated disinfected unrestricted agricultural irrigation	2024 - 2025	All Year Types	0
Surface Water Exchange	Yes	Porterville Irrigation District Saucelito Irrigation District Teapot Dome Water District	Assuming a 1:1 exchange ratio of recycled water to surface water	TBD	All Year Types	1,556 – 3,227[(1)]
Water Supply Improvements Installation of three (3) New Wells on west side	No	N/A	Install new groundwater extraction wells within City UDB[(2)]	2021	All Year Types	5.1 mgd
2040 Water Supply Recommendations Installation of up to 12 new wells	No	N/A	Install up to 12 new wells to meet the 2040 future demand[(2)]	TBD	All Year Types	20.4 mgd

Notes:
(1) Volumes listed includes the range of flows from 2020 to 2040.
(2) Porterville Integrated Master Plan Chapter 8 – Utility System Evaluation and Proposed Improvements

6.10 Summary of Existing and Planned Sources of Water

10631 (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a), providing supporting and related information, including all of the following…

(b)(2) When multiple sources of water supply are identified, a description of the management of each supply in correlation with the other identified supplies.

(h) An urban water supplier that relies upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

6.10.1 Description of Supplies

As discussed in Section 6.3, 6.4, and 6.5, the City's main and only source of potable water is groundwater with undisinfected secondary treated recycled water used as restricted agricultural irrigation for fodder crops as a means of groundwater recharge and effluent disposal. In the future, the City Plans to expand its water supply portfolio by upgrading their existing WWTP to full tertiary treatment with disinfection to provide recycled water for unrestricted agricultural irrigation to surrounding irrigation districts in exchange for surface water rights for groundwater recharge and/or surface water treatment.

6.10.2 Quantification of Supplies

The actual source and volume of water for the year 2020 is presented in Table 6.8. With the implementation of Sustainable Groundwater Management Act (SGMA) and the acceptance of the ETGSP, groundwater supply availability in the Tule subbasin is quantified by the City's sustainable yield. As discussed in Section 6.3.2, the sustainable yield is the volume of water the City can safely extract from the aquifer without causing excessive overdraft conditions in the future. The City's 2020 Integrated Master Plan Water Supply Assessment investigates detailed water supply portfolio alternatives the City should consider in the future in order to diversify and expand its water supply. Presently, the City's groundwater volume is equivalent to the sustainable yield calculated in section 6.3.3. The City's projected 2040 extraction volume within its native sustainable yield and total precipitation allocation is approximately 17,355 AFY (5,655 MG) which is about 2,008 MG (6,162 AF) above existing pumping conditions. The recycled water quantification is simply the treated wastewater effluent volume that is available for percolation into the City's groundwater recharge ponds. The surface water (not desalinated) is the City's total surface water allocations from adjacent irrigation districts. Chapter 7 further discusses the supply and demand balance considering the supply fluctuations from drought conditions and variations in demand.

Table 6.8 Retail: Water Supplies — Actual

Water Supply	Additional Detail on Water Supply	2020		
		Actual Volume	Water Quality	Total Right or Safe Yield
Groundwater (not desalinated)	Tule Groundwater Subbasin	3,647	Drinking Water	5,655
Recycled Water	Disinfected Secondary Treated effluent from WWTP	1,556	Recycled Water	626(1)
Surface Water (not desalinated)	Surface Water Allocation from Irrigation Districts	728	Other Non-Potable Water	664
Total		**5,931**		**6,945**

Notes:
(1) The Total or Safe Yield for recycled row lists the amount of recycled water that was percolated by the City in 2020

The projected water supply in 5-year increments is included in Table 6.9. For the City, the available water supply is projected based on estimated future demands. As discussed in Section 6.8, the surface water exchanges are assumed to be a 1:1 volume exchange ratio of tertiary treated disinfected recycled water to Friant Kern Canal delivered surface water, therefore as shown in Table 6.9, the recycled water volume is not listed since that would not offset potable water supply but would enable a surface water exchange. All surface water will be utilized in groundwater recharge.

Table 6.9 Retail: Water Supplies — Projected

Water Supply	Additional Detail on Water Supply	Projected Water Supply Report to the Extent Practicable *Reasonably Available Volume*(1)				
		2025	2030	2035	2040	2045 (opt)
Groundwater (not desalinated)	Strictly groundwater pumping using existing City wells	5,655	5,655	5,655	5,655	-
Surface water (not desalinated)	From 1:1 exchange with nearby Irrigation Districts from Surface Water and Recycled Water Exchange. Not Treated, would be available for groundwater recharge	2,230	2,522	2,854	3,227	-
Surface water (not desalinated)(2)	Purchased for groundwater percolation from PWC and PSDC	664	664	664	664	-
Total		**8,549**	**8,841**	**9,173**	**9,546**	**-**

Notes:
(1) The Reasonably Available volume was determined from the City of Porterville 2020 Integrated Master Plan groundwater Sustainable yield outlined in the ETGSP. This volume is subject to change over the coming years, however projected to 2040, remains at 5,655 MG per year or 17,355 AFY. The surface water via exchange with nearby irrigation districts is an assumed 1:1 exchange ratio with projected recycled water production volumes listed in the City's RWFS.
(2) Surface water allocation through Porter Slough Ditch Company, Porterville Irrigation District, and Pioneer Water Company

6.11 Special Conditions

This section describes any special conditions that could potentially affect the City's water supply presently or in the future.

6.11.1 Climate Change Effects

Increasing temperatures, drought conditions, and population growth will likely increase water demands for the City in the future. To augment the groundwater supply working towards both their GSP and General Plan goals, the City currently recharges treated wastewater effluent into groundwater percolation basins at their reclamation site near the municipal airport. In the future, the potential for surface water exchanges with nearby irrigation districts will add additional supply for groundwater recharge and potentially surface water treatment. Effects from climate change can potentially decrease the availability of surface water in the FKC given the allocation volumes therefore reducing the availability of surface water for the City's use and further reducing supplies To investigate the effects of climate change on the projected averages of hydrologic parameters such as precipitation, snowfall, surface runoff, and temperature, the Cal-Adapt extended drought scenario tool was used to explore possible impacts resulting from climate change.

As discussed, the City's supply is completely dependent upon seasonal hydrologic conditions via precipitation in the valley or accumulated snowpack in the Sierra Nevada mountains. Cal-Adapt Extended Drought tool displays hydrologic data projected to specific date ranges of this upcoming century. Early Century is considered 2023 to 2042 and late century 2051 to 2070. This tool explores data for two 20-year drought scenarios, earlier and latter part of the century, derived from meteorological and hydrological simulations. Cal Adapt includes projected max/min temperatures, precipitation, evapotranspiration, snow water equivalent, and runoff values for a period of an extended drought period of up to 20 years. Data from the Cal-Adapt Extended Drought Tool was analyzed to summarize the potential impacts on water supplies related to climate change with respect to historical data. In summary, the model shows the effects from climate change can likely reduce the annual precipitation averages in future. Table 6.10 shows the projected hydrologic parameters listed in the model for the City's water service area. Appendix J includes additional informational outputs from the Cal-Adapt Extended Drought Simulation Tool.

Table 6.10 Cal-Adapt Hydrologic Parameter Projections

Hydrologic Parameter	Early Century Drought (2023 – 2042)	Late Century Drought (2051-2070)	Observed Historical
Max. Temperatures (°F)	82.0	85.6	77.2
Min. Temperatures (°F)	53.1	56.3	49.0
Precipitation (inches)	7.7	7.6	11.0
Evapotranspiration (inches)	5.5	6.6	9.4
Snow Water Equivalent (inches)	0.0	0.0	0.0
Runoff (inches)	0.5	0.5	0.8

6.11.2 Regulatory Conditions and Project Development

As discussed with the implementation of SGMA and the ETGSP, the City must strive to extract groundwater within their sustainable yield volume. Presently, the City is well beneath the quantified sustainable yield volumes and plans to expand groundwater production efforts for system reliability and augmentation to meet existing and future maximum day demands. Additionally, as development within the City continues, all new water service connections will require meters to monitor consumption and demands.

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Chapter 7

WATER SYSTEM RELIABILITY AND DROUGHT RISK ASSESSMENT

The UWMPA requires that the UWMP address the reliability of the agency's water supplies. This includes supplies that are vulnerable to seasonal or climatic variations. In addition, an analysis must be included to address supply availability in a normal year, a single-dry year and in five-consecutive years of drought.

> *10635 (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.*

7.1 Constraints of Water Sources

> *10631 (b)(1) A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change*

There are two aspects of supply reliability that can be considered. The first relates to immediate service needs and is primarily a function of the availability and adequacy of the supply facilities. The second aspect is climate-related and involves the availability of water during mild or severe drought periods. This section examines the reliability of the water supply available to the City.

7.1.1 Water Supply Quality

Appendix H contains the Annual Consumer Confidence Report (CCR) for the City's service area for the year 2020. The City's groundwater quality has been consistently good over the last ten years with the exception of moderately high nitrate concentrations in some areas due to historical irrigation practices. The City shallow wells (less than 300 feet deep) show increased nitrate concentrations over the last 12 years, however the elevated levels ranged between 3.6 to 6.8 milligrams per liter (mg/L) which is still below the MCL. As for the deeper City wells,

(>300 feet), the nitrate concentrations ranged from 1 to 5.5 mg/L, however it is expected that the increased influence in nitrate concentration is from downward flow of shallow groundwater to greater depths when water levels were deeper. The City has the opportunity to improve the groundwater quality by avoiding construction of new wells near the surface water features throughout the City to enable effective groundwater recharge as well as groundwater recharge from surface water application on sandy soil areas typically adjacent to the Tule River.

7.1.2 Climate

The constraints to the City's water source is discussed in Section 4.6 and 6.3.

7.1.3 Potential Alternative Sources

As discussed in Chapter 6, presently the City's existing water supply is sourced solely from groundwater. The City also received surface water allocations from the Pioneer Water Company, Porter Slough Ditch Company, and Porterville Irrigation District that are utilized for groundwater recharge. When surplus surface water allocations are available the City purchases additional surface water from nearby irrigation districts for additional groundwater recharge. The City's IMP outlines the need for the City to increase its groundwater water supply through expansion of their existing well system as well as groundwater recharge from surface water right exchanges with adjacent irrigation districts. Ultimately, the access to surface water gives the City the opportunity to investigate a surface water treatment plant in the future. As discussed in Section 6.9, the City rejected the DPR water supply alternative in their RWFS.

7.2 Water Supply Reliability by Type of Year

This section considers the City's water supply reliability during three water scenarios: average year, single-dry year, and five-consecutive-year drought. An average year is also referred to as a "normal" year.

These scenarios are defined as follows:

- **Average year:** a year, or an averaged range of years, that most closely represents the average water supply available to the City. Generally, a year that represents the average precipitation on record. Based on the historic DWR precipitation records from 1988 to 2020, calendar year 2015 best characterizes average year condition.
- **Single-dry year:** The year that represents the lowest water supply available to the City in a single year. Based on historic DWR precipitation records from 1988 to 2020, the calendar year 2013 best characterizes single dry year conditions.
- **Five-Consecutive-Year Drought:** the period that represents the driest five-year historical sequence for the City. Generally considered to be the lowest average runoff for a five-consecutive-year period. Based on historic DWR precipitation records from 1988 to 2020, the period from 2011 through 2015 best characterizes the five-year consecutive drought conditions.

7.2.1 Methodology

In the event of single and multiple dry years, reduced rainfall results in less groundwater recharge. The ETGSP has determined sustainable yields for the time being of the City of Porterville with respect to other agencies who utilize the Tule groundwater basin. The ETGSP determines the City's sustainable yield from the Tule groundwater is about 17,355 AFY (5,655 MG), this volume is subject to change annually based on current drought conditions and

City usage. The volume is assumed to be projected to 2040 to represent the City's sustainable yield to 2040. Currently and historically, the City's demand is below the sustainable yield limit. In past period of drought, the City has met water demands with their existing groundwater supply, however water restrictions were set in place to reduce impacts on the existing well and distribution infrastructure and to alleviate strained groundwater elevations from dropping below existing wells.

7.2.2 Basis of Water Year Data

The specific years identified for average, single-dry, and five-consecutive-year drought presented in Table 7-1 were developed based on historical DWR runoff records for the City of Porterville and the availability of City's records. The historic per capita demand is shown in Figure 7.1.

Table 7.1 Retail: Basis of Water Year Data (Reliability Assessment)

Year Type	Base Year	Available Supplies if Year Type Repeats	
		☐ Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____	
		☑ Quantification of available supplies is provided in this table as either volume only, percent only, or both.	
		Volume Available	Percent of Average Supply
Average Year	2015	3,117	100
Single-Dry Year	2013	4,276	137%
Consecutive Dry Years 1st Year	2011	3,955	127%
Consecutive Dry Years 2nd Year	2012	4,220	135%
Consecutive Dry Years 3rd Year	2013	4,276	137%
Consecutive Dry Years 4th Year	2014	3,877	124%
Consecutive Dry Years 5th Year	2015	3,117	100%

The years chosen to represent the dry-year scenarios were determined by examining precipitation records from DWR Success Lake (SCC) precipitation gage with historical data ranging from 1988 to 2020. The total precipitation average of the historical data shows 2015 as an average year for the City's water supply. The per capita water demand in 2015 was 130 gpcd. Figure 7.1 shows the average demand from 2015 to 2020 is around 130 gpcd as well as conservation efforts and customer water use behavior has changed as a result of the last major drought period from 2011 to 2017. 2013 shows the lowest single year precipitation therefore representing the single-dry year type with a per-capita water demand of 179 gpcd. The single dry year demand shows to be approximately 27-percent higher than the average per capita demand as a result of increased water usage from dry conditions. The historical precipitation records show the lowest average consecutive precipitation between 2011 and 2015. The average per capita demand between 2011 and 2015 starts at 163 gpcd in 2011 and peaks at 170 gpcd in 2013 and ending at 130 gpcd in 2015 as conservation efforts were implemented by the City to reduce demands. The City's demand has historically been covered completely by groundwater through all year types with fluctuation in demands as conservation efforts are set in place.

For conservation planning, demands were not increased for the single dry-year since the value in 2013 is significantly higher than the present per capita demand between 2015 and 2020. Additionally for the five-year consecutive dry condition, demands were not reduced due in part they are much higher than the present day demands and already represent a conservative planning approach to the City.

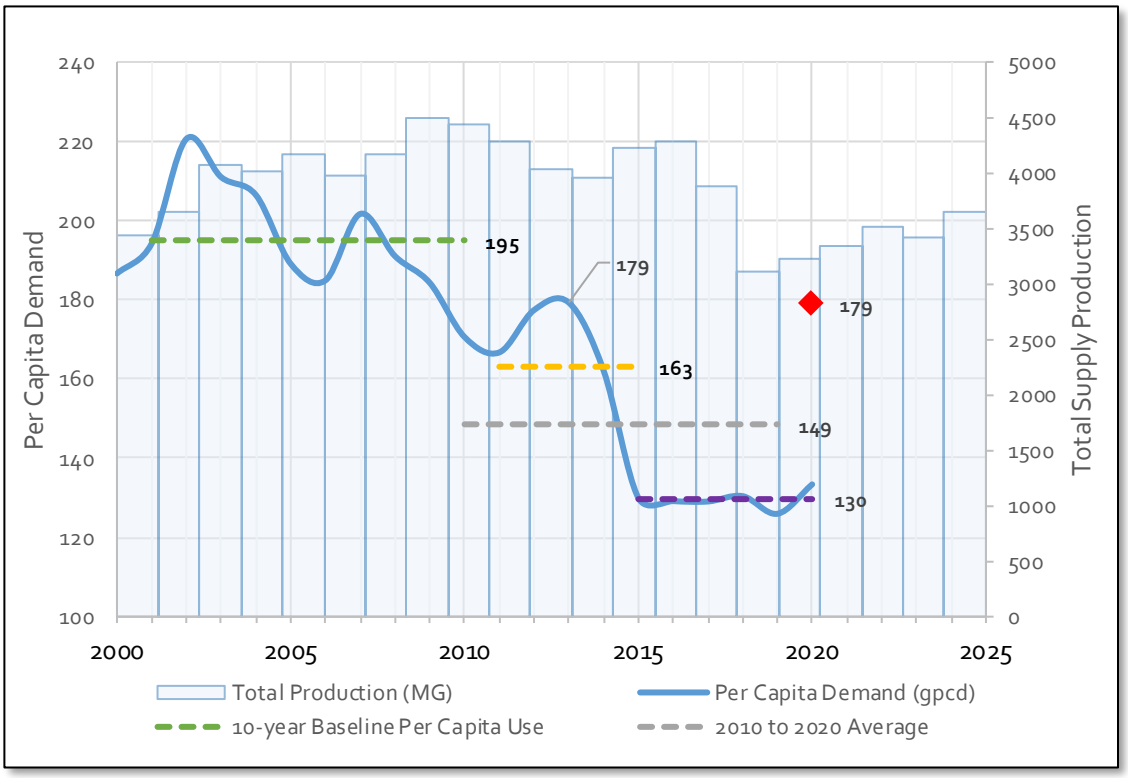

Figure 7.1 Average Demand from 2015 to 2020

7.3 Water Service Reliability Assessment

> *10635(a). Every urban water Supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.*

The projected demand and supplies are compared in 5-year increments in Table 7.2, Table 7.3, and Table 7.4.

7.3.1 Water Service Reliability - Normal Year

Table 7.2 provides an estimate of the projected normal year supply and demand totals. Demands are projected to increase to 8,322 MG in 2040. Under average year conditions the City will meet the majority of their demand with groundwater up to the sustainable yield allocation volume of the basin as well as the anticipated groundwater recharge through available surface water exchanges with nearby irrigation districts and surface water allocations already possessed by the City. The demand total for Table 7.2 shows the average year demand for only the potable water demand with the existing groundwater supply in addition to surface water recharge.

Table 7.2 Retail: Normal Year Supply and Demand Comparison – Potable and Non-Potable

	2025	2030	2035	2040
Supply Totals(1)	8,542	8,834	9,166	9,539
Demand Totals(2)	5,731	6,497	7,337	8,322
Difference	2,812	2,337	1,829	1,217

Notes:
(1) Supply total assumes a 1:1 surface water exchange with recycled water with surrounding irrigation districts utilizing projected recycled water volumes as shown in the 2020 RWFS.
(2) Demands include drinking water from Table 4-3

7.3.2 Water Service Reliability - Single-Dry Year

Table 7.3 provides an estimate of the projected single-dry year supply and demand totals. Demand reductions due to water shortage stage rationing measures are not included in the single-dry year demand estimates.

As described in Section 7.2.2, the single-dry year demand was not increased since it is 27-percent greater than the average year and the 2015 to 2020 average water demand, therefore presenting an automatic conservative estimate with respect to current demands. This planning demand is consistent with the City's 2020 IMP per capita water demand.

The surface exchanges were assumed to be 100 percent allocation from the FKC being that years prior to this single-dry year were hydrologically normal therefore reservoir levels were able to accommodate United States Bureau of Reclamation (USBR) water contractor demands. The surface water volume was based on a 40 percent ratio of extracted groundwater to metered wastewater effluent. The recycled water volumes were directly exchanged for surface water through the FKC to be used for groundwater recharge augmenting the basin. With the augmented groundwater supply, the City has a sufficient available volume to meet projected demands during the single dry year condition.

Table 7.3 Retail: Single Dry Year Supply and Demand Comparison

	2025	2030	2035	2040
Supply Totals(1)	8,345	8,589	8,862	9,168
Demand Totals(2)	4,789	5364	6,007	6,728
Difference	3,556	3,225	2,855	2,440

Notes:
(1) Supply total assumes a 1:1 surface water exchange with recycled water with surrounding irrigation districts utilizing projected recycled water volumes as shown in the 2020 RWFS and a 100 MG per year groundwater recharge similar to historical City practices.
(2) Demands include potable water only with a 12% growth rate.

7.3.3 Water Service Reliability – Five-Consecutive-Year Drought

Table 7.4 provides an estimate of the projected five-consecutive-year drought supply and demand totals. Similar to the single dry year, the water demands were not adjusted since they represent a conservative estimate in comparison to the City's present day water use. The water demand during consecutive dry years is represented by the water demand between 2011 and 2015. The highest demand increase was a 6 percent increase from 2011 to 2012 and a 1 percent increase from 2012 to 2013. From the third year (2013) demands significantly reduce by 10 percent in above 2014 and by 20 percent in 2015.

Since the City has historically met all water needs regardless of hydrologic condition by groundwater and are still below their sustainable yield, the supply for all years included groundwater extraction to meet demand and groundwater recharge from the City's existing allocation and surface water exchanges for recycled water with the nearby irrigation districts to increase supply. Similar to section 7.3.2, the surface water exchange volume was assumed to be 40 percent of the extracted groundwater and exchanged at a 1:1 ratio with surface water. It was assumed that the FKC allocation for surface water was 100 percent for the first year, 80 percent for the second year, 75 percent for the third year and was reduced to 50 percent for the fourth and fifth years. It was also assumed that groundwater recharge followed the same allocations as surface water percentages and was a portion of the City's total allocation of 664 MG.

From the data shown in Figure 7.1, the reduction in demands between 2013 and 2015 is from the implementation of conservation efforts set by the City and continue to progress with a similar average demand to 2020 as a result of passive water conservation efforts by the customers.

Table 7.4 Retail: Multiple Dry Years Supply and Demand Comparison

		2025	2030	2035	2040
First Year	Supply Totals	8,542	8,834	9,166	9,539
	Demand Totals	4,430	4,961	5,556	6,223
	Difference	**4,113**	**3,873**	**3,610**	**3,316**
Second Year	Supply Totals(1)	8,012	8,245	8,511	8,809
	Demand Totals	4,726	5,294	5,929	6,640
	Difference	**3,285**	**2,952**	**2,582**	**2,168**
Third Year	Supply Totals(1)	7,879	8,098	8,347	8,626
	Demand Totals	4,789	5,364	6,007	6,728
	Difference	**3,090**	**2,734**	**2,340**	**1,898**
Fourth Year	Supply Totals(1)	7,215	7,361	7,528	7,714
	Demand Totals	4,342	4,863	5,447	6,101
	Difference	**2,873**	**2,498**	**2,081**	**1,613**
Fifth Year	Supply Totals(1)	7,215	7,361	7,528	7,714
	Demand Totals	3,491	3,910	4,379	4,905
	Difference	**3,724**	**3,451**	**3,148**	**2,809**

Notes:
(1) FKC allocations to water contractors: 100 percent first year, 80 percent second year, 75 percent third and 50% fourth, and fifth years. Groundwater recharge from surface water allocations from Porterville Irrigation District, Pioneer Water Company, and Porter Slough Ditch Company

7.3.4 Description of Management Tools and Options

10620(f). An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

Currently, the City of Porterville solely utilizes local groundwater supplies to meet potable water demands. The City plans to continue to use groundwater as its main water supply with groundwater recharge using surface water in the near future. Details of the groundwater recharge potential is discussed in Section 6.8 and 6.9

7.3.5 Seismic Risk Assessment and Mitigation Plan

> *10632.5(c). An urban water supplier may comply with this section by submitting, pursuant to Section 10644, a copy of the most recent adopted local hazard mitigation plan or multihazard mitigation plan under the federal Disaster Mitigation Act of 2000 (Public Law 106-390) if the local hazard mitigation plan or multihazard mitigation plan addresses seismic risk.*

The Central San Joaquin Valley has an unlikely chance of seismic risk due to the soil type and the vicinity of active faults, however the risk is still possible for a significant seismic event to affect the City's water assets. The Kern Canyon Fault Zone and the Owens Valley Faults are the only two fault systems that run through Tulare County that are reported by the United States Geological Survey (USGS), however the Kern Canyon Fault has been inactive since the 1930's. Additionally, the State's largest fault system, the San Andres Fault, is not within Tulare County, but is nearby the western border. The largest earthquake ever recorded nearest to the City was a magnitude 5.0 in 1915. Being within Tulare County, Porterville is included within the Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHMP) as a participating agency.

The MJLHMP identifies Tulare County vulnerabilities to earthquakes as small since the County is not in a high hazard area for earthquakes The MJLHMP provides mitigation goals and actions for participating communities within the Plan. The 5 goals of the MJLHMP are listed below:

- Goal 1: Protect life, property, and reduce potential injuries from natural, technological, and human-caused hazards.
- Goal 2: Improve public understanding, support and need for hazard mitigation measures
- Goal 3: Promote disaster resistance for the County's natural, existing, and future built environment.
- Goal 4: Strengthen partnerships and collaboration to implement hazard mitigation activities.
- Goal 5: Enhance the County's ability to effectively and immediately respond to disasters.

The mitigation measures associated with Earthquake risks and their corresponding hazard mitigation goals are listed in Table 7.6 below. The entire hazard mitigation list for all hazards are included in Table 6.2 of the MJHMP in Appendix L.

Table 7.5 County-Specific Mitigation Strategies for Earthquake Hazards

Goal	Strategy Number	Mitigation Strategy
1	1-1	Create a GIS-based pre-application review for new construction and major remodels of residential and/or non-residential structures in hazard areas, such high and/or very high wildfire areas.
1	1-2	Continue to integrate the Tulare County MJLHMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.
1	1-3	Permit development only in areas where the potential danger to the health and safety of people and property can be mitigated to an acceptable level.
1	1-4	Continue to designate areas with a potential for significant hazardous conditions for open space, agriculture, and other appropriate low intensity uses.
1	1-5	Except as otherwise allowed by State law, ensure that all new buildings intended for human habitation are designed in compliance with the latest edition of the California Building Code, California Fire Code, and other adopted standards based on risk (e.g., seismic hazards, flooding), type of occupancy, and location (e.g., floodplain, fault).
1	1-7	Continue to evaluate areas to determine levels of earthquake risk.
1	1-8	Continue to discourage construction and grading on slopes in excess of 30%
1	1-9	Request Federal and State financial assistance to implement corrective seismic safety measures required for existing County buildings and structures.
1	1-10	Do not permit any structure for human occupancy to be placed within designated Earthquake Fault Zones (pursuant to and as determined by the Alquist-Priolo Earthquake Fault Zoning Act; Public Resource code, Chapter 7.5) unless the specific provision of the Act and Title 14 of the California Code of Regulations have been satisfied.
1	1-11	Discourage the location of new schools in areas designated for agriculture, unless the School District agrees to the construction and maintenance of all necessary infrastructure impacted by the project.
1	1-43	Continue to create, revise, and maintain emergency plans for the broad range of natural and human-made disasters and response activities that could foreseeably impact the County. This shall include, but not be limited to, flooding, dam failure, extreme weather, evacuation/transportation, mass care and shelter, and animal evacuation and sheltering.
1	1-60	Seismically retrofit or replace County and local ramps and bridges that are categorized as structurally deficient by Caltrans, are located in high ground shaking areas, and/or are necessary for first responders to use during and/or immediate after a disaster or emergency.
2	2-1	Continue to promote awareness and education among residents regarding possible natural hazards, including soil conditions, earthquakes, flooding, fire hazards, and emergency procedures.

Goal	Strategy Number	Mitigation Strategy
4	4-3	Coordinate emergency response with local, State, and Federal governmental agencies, community organizations, volunteer agencies, and other response partners during emergencies or disasters using the California Standard Emergency Management System and the National Incident Management System.
4	4-4	Participate in established local, State, and Federal mutual aid systems. Where necessary and appropriate, the County shall enter into agreements to ensure the effective provision of emergency services, such as mass care, heavy rescue, hazardous materials, or other specialized function.
5	5-2	Require, where feasible, road networks (public and private) to provide for safe and ready access for emergency equipment and provide alternate routes for evacuation.

7.4 Drought Risk Assessment

> *10635(b) Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following...*
>
> *(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period. [Emphasis added]*
>
> *(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.*

CWC Section 10635(b) is a new requirement for the 2020 UWMPs where suppliers are required to prepare a DRA with descriptions of data and methods used, basis for the supply shortage conditions, determination of the reliability of sources, and a comparison of the total water supplies and uses during the drought. The DRA will be submitted every five years in addition to conducting an annual water supply and demand assessment. Evaluation for the DRA is based on the five dry years with consideration of climate changes, regulations, and other local criteria. In the event of stressed hydrologic conditions, suppliers will consider management of their water supplies in relation to customer usage, identify potential system vulnerabilities, and provide explanations of assumptions and decisions on which the analysis was based.

A summary of the City's water supply drought risk assessment from 2021 through 2025 is summarized in Table 7.6. As discussed, the City presently and historically has met all of their demands from groundwater and actively uses surface water allocations for groundwater recharge. Groundwater recharge is not assumed to be a WSCP planned action since it's the City's status quo. Additionally, the City is still well below their sustainable yield value as indicated in the ETGSP therefore there is sufficient supply to meet anticipated demands within the next five years. The DRA report is included in Appendix J, which included additional details regarding potential supply vulnerabilities.

Table 7.6 Five-Year Drought Risk Assessment Tables to Address CWC Section 10635(b)

2021	Total
Gross Water Use	3,738
Total Supplies	7,882
Surplus/Shortfall without WSCP Action	4,144
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	N/A
WSCP - use reduction savings benefit	N/A
Revised Surplus/(shortfall)	N/A
Resulting percent Use Reduction from WSCP action	4,144
2022	**Total**
Gross Water Use [Use Worksheet]	3,832
Total Supplies [Supply Worksheet]	7,837
Surplus/Shortfall without WSCP Action	4,005
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	N/A
WSCP - use reduction savings benefit	N/A
Revised Surplus/(shortfall)	N/A
Resulting percent Use Reduction from WSCP action	4,005
2023	**Total**
Gross Water Use [Use Worksheet]	3,927
Total Supplies [Supply Worksheet]	7,856
Surplus/Shortfall w/o WSCP Action	3,928
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	N/A
WSCP - use reduction savings benefit	N/A
Revised Surplus/(shortfall)	N/A
Resulting percent Use Reduction from WSCP action	3,928
2024	**Total**
Gross Water Use [Use Worksheet]	4,026
Total Supplies [Supply Worksheet]	7,791
Surplus/Shortfall without WSCP Action	3,665
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	N/A
WSCP - use reduction savings benefit	N/A
Revised Surplus/(shortfall)	N/A
Resulting percent Use Reduction from WSCP action	3,665

2025	Total
Gross Water Use [Use Worksheet]	4,126
Total Supplies [Supply Worksheet]	7,215
Surplus/Shortfall without WSCP Action	3,089
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	N/A
WSCP - use reduction savings benefit	N/A
Revised Surplus/(shortfall)	N/A
Resulting percent Use Reduction from WSCP action	3,089

7.5 Regional Supply Reliability

10620 (f) an urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

As described in Chapter 6, the City does not utilize imported water within its service area for domestic use. The City uses imported surface water only for groundwater recharge. In the near future, the City intends to utilize imported surface water exchanges with recycled water for groundwater augmentation projects. Currently, negotiations and agreements with nearby irrigation districts have not been initiated. The future groundwater recharge efforts by the City are intended to reduce the impacts to the groundwater basin from over drafting conditions and to increase the reliability of the groundwater basin for continued use by the City in the future. The potential to utilize the surface water received via exchanges may also be utilized for a surface water treatment facility in the future by the City to further diversify their water supply portfolio.

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Chapter 8

WATER SHORTAGE CONTINGENCY PLAN

In response to the severe drought of 2012-2016, new legislation in 2018 created a Water Shortage Contingency Plan (WSCP) mandate replacing the water shortage contingency analysis under former law. The new requirements are more prescriptive to drive consistency throughout California.

The City has an existing Water Conservation Plan (WCP), which serves as the WSCP and is a stand-alone document. The WCP is included in Appendix I of this Urban Water Management Plan (UWMP). Because the WSCP is separate from the UWMP, it can be amended as needed without amending the 2020 UWMP.

To fulfill the requirements of California Water Code (CWC) § 10632, the WSCP includes the following required elements in addition to details unique to the City's supply, location, and service area characteristics:

- Water Supply Reliability and Drought Risk Assessment.
- Annual Water Supply and Demand Assessment Procedures.
- Six Standard Water Shortage Levels.
- Shortage Response Actions.
- Communication Protocols.
- Compliance and Enforcements.
- Legal Authorities.
- Financial Consequences of WSCP Activation.
- Monitoring and Reporting.
- WSCP Refinement Procedures.
- Special Water Feature Distinction.
- Plan Adoption, Submittal, and Availability.

8.1 Water Supply Reliability and Drought Risk Assessment

A Drought Disk Assessment (DRA), which includes the following components, is considered as part of the water supply reliability assessment:

- Description of the data, methodology, and basis for the supply shortage conditions for a drought period lasting five consecutive water years, starting from the year following the assessment year.
- Determination of the reliability of each water supply source under a variety of water shortage conditions.
- Total available water supply sources compared with total projected water use for the drought period.
- Considerations of historical drought hydrology, plausible changes to projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

Chapter 7 of the UWMP provides a DRA based on five consecutive dry years from 2021 through 2025. The DRA shows that the highest projected demand for both the single dry year and multiple dry year scenarios was 6,728 MG in 2040. With the City's continuous groundwater recharge activities, passive water conservation efforts already implemented in their conservation mandates, and the anticipated expansion of their surface water allocation with the upgrade of their existing WWTP to produce recycled water for unrestricted agricultural use, the City's supply portfolio is well beyond the projected demand and falls within their anticipated sustainable yield of 5,655 MG. The City presently and historically has met all their demands from groundwater. Additionally, the City is still well below their sustainable yield value and actively augments their supply by groundwater recharge. There is sufficient supply to meet projected demands within the next five years. The DRA report, included in Appendix J of the UWMP, includes additional details regarding potential supply vulnerabilities.

8.2 Annual Water Supply and Demand Assessment Procedures

> *10632.1 An urban water supplier shall conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and, on or before July 1 of each year, submit an annual water shortage assessment report to the department with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan…*
>
> *10632(a)(2) The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following: (A) The written decision-making process that an urban water supplier will use each year to determine its water supply reliability. (B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following…*

As required by CWC § 10632.1, the City must conduct a Water Supply and Demand Assessment (Annual Assessment) and must submit an annual Water Shortage Assessment Report (WSAR) based on that Annual Assessment on or before July 1 of each year starting in 2022. The focus of the Annual Assessment is based on actual forecasted near-term water supply conditions (over the next 12 months) to ensure appropriate shortage response actions are triggered in a timely manner with expected outcomes. The annual WSAR must contain information on any anticipated shortages, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the City's WSCP. The Annual Assessment will be conducted using the procedures and methods detailed in Appendix Q of the Department of Water Resources (DWR) UWMP guidance document. As required by CWC § 10632(a)(2), the procedures must include the elements detailed in the following sections.

8.2.1 Decision-Making Process

The City's decision-making process for determining water supply reliability each year will be included in the WSAR:

1. City staff makes the determination that water supply conditions warrant a change in water shortage level.
2. City staff presents a request to the City Council for their approval of the change in water shortage level.

3. City staff monitors production capacity in order to make a determination on recommendations for moving from one water shortage level to the next. The decision to change water shortage levels will be based on a combination of surface water supplies, weather conditions, trends in water usage, groundwater levels, and well yield.
4. If efforts to reduce consumption in one water shortage level are not sufficient, then the next water shortage level is implemented. This progression continues until the highest water shortage level is reached.

8.2.2 Data Inputs and Water Supply Reliability Assessment Methodology

The following data inputs and assessment methodologies used to evaluate the City's water supply reliability for the current year and one dry year will be included in the WSAR.

- **Current Year Unconstrained Demand** - Procedures for determining anticipated customer water needs for the current year considering factors like weather, growth, and policies to manage current supplies. This matches the methodology presented in Chapter 4 of the UWMP for projecting demand and allows for real-time adjustments to account for weather, prior-year conditions, anticipated new demands, land use, and customer use patterns.
- **Current Year Available Supply** - Procedures for evaluating current year available water supply considering factors like groundwater recharge, hydrological and regulatory conditions in the current year and one dry year, hydrologic forecasting, and restrictions based on prior year availability and use. Each year's assessment is informed by characterizations in Chapter 6 of the UWMP.
- **Infrastructure Capabilities and Constraints** - Procedures to evaluate how existing capabilities and constraints may affect ability to deliver supplies to meet expected customer use needs in current year and one dry year. This would include anticipated capital projects to add capacity, or upcoming repairs or maintenance that may constrain capabilities, for example.
- **Locally Applicable Criteria and Other Factors** - Local criteria and how the City use it for the Annual Assessment; Local factors that can influence or disrupt supplies.

8.2.3 Description and Quantification of Each Water Supply Source

Chapter 6 of the UWMP provides a detailed description of the City's existing water supply and estimated future water supply sources over the next 20 years. The City's sole source of water supply is strictly groundwater. The City has historically relied on groundwater wells to supply its drinking water distribution system. The City has 36 active wells that are currently in service and are located throughout the City. The City's groundwater supply is summarized in Table 8.1.

Table 8.1 Retail: Groundwater Volume Pumped (MG)

Groundwater Type	Location or Basin Name	2016	2017	2018	2019	2020
Alluvial Basin	Tule Subbasin	3,222	3,345	3,515	3,422	3,647
Total		**3,222**	**3,345**	**3,515**	**3,422**	**3,647**

The City's water supply is quantified by adding sustainable yield plus groundwater recharge.

The City has plans to produce recycled water that it will both use for landscape irrigation and provide to nearby irrigation districts in exchange for surface water from the Friant-Kern Canal. It is the City's expectation that the exchange rate will be 1:1. Surface water from the Friant-Kern Canal may then be used as recharge water in the City's infiltration basins, or it may be source water for a future surface water treatment plant. Recycled water annual average daily flows (AADF) are projected to be 7.26 million gallons per day (MGD) in the year 2032 and 8.84 MGD in the year 2040.

8.3 Six Standard Water Shortage Levels

> *10632(a)(3) (A) Six standard water shortage levels corresponding to progressive ranges of up to 10, 20, 30, 40, and 50 percent shortages and greater than 50 percent shortage. Urban water suppliers shall define these shortage levels based on the suppliers' water supply conditions, including percentage reductions in water supply, changes in groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use…*

As required by CWC § 10632(a)(3), the WSCP must include six standard water shortage levels representing shortages compared with normal reliability. The shortage levels are standardized to provide consistency regionally and statewide in response to the severe statewide drought of 2011-2017 and the resulting uncertainty associated with many different local definitions of water shortage stages. The six standard water shortage levels correspond to Up to 10%, up to 20%, up to 30 percent, up to 40 percent, up to 50 percent, and greater than 50 percent shortage in water supplies compared to demands under normal conditions.

These shortage levels are defined based on the City's water supply conditions including percentage reductions in water supply, changes in groundwater levels, changes in surface elevation or level of subsidence, or other changes in hydrological or other local conditions indicative of the water supply available for use. Shortage levels also apply to catastrophic interruption of water supplies, including, but not limited to, power outages, earthquakes, and other potential emergencies.

In concept, the six shortage levels represent an increasing gap between normal water supplies and normal customer water use. For example, the City may meet its anticipated customer water use with 100 percent of its available supply. At a 10 percent shortage level, the City must show its normally available supply is reduced by 10 percent and then identify locally appropriate shortage response actions (detailed further in Section 8.4) that would address the resulting gap. The normally expected water supply and water use is characterized in Chapters 4 and 7 of the UWMP. Since use and supply typically vary monthly and seasonally, the shortage evaluation is on a monthly and/or seasonal basis.

An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement by developing and including a cross-reference relating its existing categories to the six standard water shortage levels, also known as a "crosswalk". The City has elected to keep the previously established five water shortage phases from their WCP and add a sixth stage to classify supply shortage greater than 50%. A crosswalk between the City's stages and DWR's standard levels is shown in Figure 1.

WCP Phases	Percent Supply Reduction	Water Supply Condition
I	0%	Normal water supply
II	0-10%	Water supply shortage
III	10-25%	Significant water supply shortage
IV	25-50%	Critical water supply shortage
V	>50%	Emergency water supply shortage

Standard WSCP Level	Percent Shortage Range	Shortage Response Actions (Narrative Description)
1	Up to 10%	Combination of WCP Phase I and II Actions
2	Up to 20%	Combination of WCP Phase II and III Actions
3	Up to 30%	Similar to WCP Phase III Actions
4	Up to 40%	Similar to WCP Phase IV
5	Up to 50%	Combination of WCP Phase IV and V Actions
6	Greater than 50%	Similar to WCP Phase V

Figure 8.1 Crosswalk between WCP Phases and Standard WSCP Levels

8.4 Shortage Response Actions

> *10632(a)(4) Shortage response actions that align with the defined shortage levels and include, at a minimum, all of the following: (A) Locally appropriate supply augmentation actions. (B) Locally appropriate demand reduction actions to adequately respond to shortages. (C) Locally appropriate operational changes. (D) Additional, mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions and appropriate to the local conditions. (E) For each action, an estimate of the extent to which the gap between supplies and demand will be reduced by implementation of the action.*

CWC § 10632(a)(4) requires that the WSCP include locally appropriate shortage response actions that align with the six defined water shortage levels. The specific response actions depend on the severity of the shortage levels, local conditions, and are based on a quantitative analysis of the effectiveness of each action.

These shortage response actions must include at a minimum the following:

- Supply augmentation.
- Demand reduction.
- Operational changes.
- Additional mandatory restrictions (in addition to state-mandated prohibitions).
- Estimate of shortage response action effectiveness.

Table 8.2 lists the shortage response actions along with an estimate of the extent to which each shortage response action will reduce the gap between water supply and water demand. The expected magnitude of effectiveness or reduction benefit from a given action is based on water use changes that have occurred in response to implementing water shortage actions in the past. Additionally, throughout all the shortage response actions the City continues to augment their groundwater supply surface water allocations become available year round.

Table 8.2 WSCP Water Shortage Levels, Shortage Response Actions, and Estimated Magnitude of Benefit

Water Shortage Level	Percent Shortage Range	Shortage Response Actions (Narrative Description)	Estimated Magnitude of Benefit
1	Up to 10%	**Operational Changes** • City Watering Schedule – City parks, median islands, and public facility landscaping will be watered during late night or early morning hours to the greatest extent possible and will be watered on alternating days rather than every day. • City Landscaping – All new landscaping projects undertaken by the City will incorporate conservation design. • Non-Peak Fire Hydrant Testing – The City's fire hydrant testing program will be scheduled during non-peak water usage times to the greatest extent possible without impairing the integrity of the City's fire protection service. **Demand Reduction Actions** • Public Information Program – Coordination with local news media; distribution of materials to residents, businesses, and industries; participation in Water Awareness Month (May); coordination with local schools; list of low-water trees and plants as well as Lawn and Landscape Water Guides made available upon request. • Project Review Committee – The City's Project Review Committee (PRC) will evaluate the water conservation efforts of all new development projects. The goal is to encourage developers to voluntarily reduce water consumed in the project. In addition, City staff will familiarize the developer with the concept of xeriscaping, combining creative landscaping and efficient irrigation to save water and promote attractive alternatives to traditional, high water use landscapes. • Voluntary Three-Day Odd/Even Watering Schedule – To minimize water usage, the public is encouraged to water their lawns and landscaping according to the following schedule. Addresses ending in an odd number water on Tuesday, Thursday, and Saturday, and addresses ending in an even number water on Wednesday, Friday, and Sunday. There is no watering on Monday. Watering should be avoided between the hours of 5:00 AM to 10:00 AM and 5:00 PM to 10:00 PM. • No Watering after Rainfall – Advise against outdoor watering within forty-eight (48) hours of a measurable rainfall[1]. **Mandatory Restrictions (in Additional to State-Mandated Prohibitions)** • No mandatory restrictions or prohibitions at Water Shortage Level 1.	The City's standard practice to is to operate within Water Shortage Levels 3 and 4 to maintain water conservation throughout the year. The estimated magnitude of benefit for Levels 1 and 2 Shortage Response Actions is negligible because the Shortage Response Actions for Levels 3 and 4 generally supersede those of Levels 1 and 2.
		Supply Augmentation Actions • Ongoing surface water recharge from the Porter Slough Ditch Company, Pioneer Water Company, and allocation agreement with Porterville Irrigation District.	Surface water allocation is expected to be 100% at this level.

[1] Measurable rainfall is defined by the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) as 1/100th of one inch.

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Water Shortage Level	Percent Shortage Range	Shortage Response Actions (Narrative Description)	Estimated Magnitude of Benefit
2	Up to 20%	**Operational Changes** • Continuation of all operational changes established in Water Shortage Level 1. • Three-Day City Watering Schedule – A three-day water schedule will be adopted for all City parks, median islands, and public facility landscaping. • Water System Pressure Reduction – Water use for nonessential activities may be deferred due to the pressure reduction in the City's water system during high usage periods. **Demand Reduction Actions** • Continuation of all demand reduction actions established in Water Shortage Level 1. • Public Information Program – The City will pursue a more aggressive distribution of information to promote awareness of the need to conserve water with an emphasis on the change from Water Shortage Level 1 (Voluntary) to 2 (Mandatory). Public education on the mandatory watering schedule. • Restaurants – Notices will be sent to all restaurants within city limits requesting support of water conservation efforts by serving water to customers upon request only. • Leak and Water Waste Detection – City staff will continue to audit water usage and report evidence of leaks or water waste for immediate action with an emphasis on coordinated community efforts to reduce water waste. • "Waste of Water Notices – City staff will be equipped to issue "Waste of Water" notices to consumers identified as misusing water. **Mandatory Restrictions (in Additional to State-Mandated Prohibitions)** • Three-Day Odd/Even Watering Schedule – The City of Porterville will enforce a three-day odd/even landscape watering schedule for all residents, businesses, and industries. Addresses ending in an odd number shall water on Tuesday, Thursday, and Saturday, and addresses ending in an even number shall water on Wednesday, Friday, and Sunday. There is no watering on Monday. Watering shall only occur on designated watering days. Watering is prohibited between the hours of 5:00 AM to 10:00 AM and 5:00 PM to 10:00 PM. • No Watering after Rainfall – Outdoor watering within forty-eight (48) hours of a measurable rainfall[2] is prohibited. • Vehicle Washing – Washing of automobiles, trucks, trailers, boats, & airplanes is only permitted on designated watering days. Such washing, when allowed, shall be done either by automatic car washes that recycle water or with a handheld bucket, or handheld hose equipped with a positive shutoff nozzle for quick rinses. • Sidewalk Hosing and Excessive Runoff Prohibited – The washing of sidewalks, driveways, parking areas, patios or other paved areas is prohibited, unless it is necessary for the health and safety of the public. Per Section 25-32A.26 of the City Municipal Code, "…property owners and residents shall use reasonable care to prevent the waste of water. Water shall not be allowed to run or waste from a property onto streets or highways, and shall not be used to wash sidewalks, building entrances or lobbies or other properties to such excess that water shall flow in street gutters beyond the frontage of the properties occupied by them." • Ornamental Water Features – Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life. The operation of ornamental fountains or other structure making similar use of water is prohibited unless the fountain uses a recycling or recirculating system.	The City's standard practice to is to operate within Water Shortage Levels 3 and 4 to maintain water conservation throughout the year. The estimated magnitude of benefit for Levels 1 and 2 Shortage Response Actions is negligible because the Shortage Response Actions for Levels 3 and 4 generally supersede those of Levels 1 and 2.
		Supply Augmentation Actions • Ongoing surface water recharge described in Water Shortage Level 1.	Surface water allocation is expected to be 100% at this level.

[2] Measurable rainfall is defined by the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) as 1/100th of one inch.

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Water Shortage Level	Percent Shortage Range	Shortage Response Actions (Narrative Description)	Estimated Magnitude of Benefit
3	Up to 30%	**Operational Changes** • Continuation of all operational changes established in Water Shortage Levels 1 and 2 • Two-Day City Watering Schedule – A two-day water schedule will be adopted for all City parks, median islands, and public facility landscaping. If it becomes necessary, watering of City parks and median islands will be suspended and evaluated each day. • Water Leaks – All leaks must be treated as a priority upon discovery and repaired at the safest scheduled opportunity. • Citations and Fines – Per Section 25-32A.24 of the City Municipal Code, Non-compliance with the City of Porterville's water conservation regulations will result in one written warning from the City of Porterville before the issuance of a citation. A second violation within a 12-month period will result in the issuance of a citation with a fine of $100.00; a second citation will result in a fine of $200.00; a third citation will result in a fine of $500.00. Willful and egregious violations will result in issuance of a citation without a warning. Each day that a violation continues shall be regarded as a new and separate offense.	The City operates at Level 3 during the dry season (approximately June 1 to November 30) and Level 4 during the wet season (approximately December 1 to May 30). The primary Shortage Response Action associated with the transition from Water Shortage Level 2 to 3 is a reduction in outdoor water use from three days per week to two days per week. The magnitude of benefit for the City's Shortage Response Actions for Water Shortage Level 3 is approximately a 25% reduction in per-capita water use.
		Demand Reduction Actions • Continuation of all demand reduction actions established in Water Shortage Levels 1 and 2 • Public Information Program – The utility billing system will begin to notify customers of restrictions on water use. The program to promote public awareness will be intensified with emphasis placed on communicating the mandatory water conservation requirements to the public.	
		Mandatory Restrictions (in Additional to State-Mandated Prohibitions) • Continuation of all mandatory restrictions established in Water Shortage Level 2 • Two-Day Odd/Even Watering Schedule – The City of Porterville will enforce a two-day odd/even landscape watering schedule for all residents, businesses, and industries. Addresses ending in an odd number shall water on Tuesday and Saturday, and addresses ending in an even number shall water on Wednesday and Sunday. There is no watering on Monday. Watering shall only occur on designated watering days. Watering is prohibited between the hours of 5:00 AM to 10:00 AM and 5:00 PM to 10:00 PM.	
		Supply Augmentation Actions • Ongoing surface water recharge described in Water Shortage Level 1.	Surface water allocation is expected to be 80% at this level.
4	Up to 40%	**Operational Changes** • Continuation of all operational changes established in Water Shortage Levels 1, 2, and 3 • One-Day City Watering Schedule – A one-day water schedule will be adopted for all City parks, median islands, and public facility landscaping. If it becomes necessary, watering of City parks and median islands will be suspended and evaluated each day.	The City operates at Level 4 during the wet season (approximately from December 1 to May 30) and Level 3 during the dry season (approximately from June 1 to November 30). Reduced temperatures and increased rainfall lessen the need for landscape irrigation, thus decreasing water demand. The primary Shortage Response Action associated with the transition from Water Shortage Level 3 to 4 is a reduction in outdoor water use from two days per week to one day per week. The magnitude of benefit for the City's Shortage Response Actions for Water Shortage Level 3 is approximately a 50% reduction from Level 3 per-capita water use.
		Demand Reduction Actions • Continuation of all demand reduction actions established in Water Shortage Levels 1, 2, and 3	
		Mandatory Restrictions (in Additional to State-Mandated Prohibitions) • Continuation of all mandatory restrictions established in Water Shortage Level 2 • One-Day Odd/Even Watering Schedule – The City of Porterville will enforce a one-day odd/even landscape watering schedule for all residents, businesses, and industries. Addresses ending in an odd number shall water on Tuesday, and addresses ending in an even number shall water on Sunday. Watering shall only occur on designated watering days. Watering is prohibited between the hours of 5:00 AM to 10:00 AM and 5:00 PM to 10:00 PM.	
		Supply Augmentation Actions • Ongoing surface water recharge described in Water Shortage Level 1.	Surface water allocation is expected to be 75% at this level.

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Water Shortage Level	Percent Shortage Range	Shortage Response Actions (Narrative Description)	Estimated Magnitude of Benefit
5	Up to 50%	**Operational Changes** • Continuation of all operational changes established in Water Shortage Levels 1, 2, 3, and 4 • City Watering Suspended – Water of all City parks, median islands, and public facility landscaping will be suspended and evaluated each day. **Demand Reduction Actions** • Continuation of all demand reduction actions established in Water Shortage Levels 1, 2, 3, and 4. **Mandatory Restrictions (in Additional to State-Mandated Prohibitions)** • Continuation of all mandatory restrictions established in Water Shortage Level 2 • Lawn and Landscaping Watering Prohibited – The City of Porterville will enforce a prohibition on lawn and landscape watering for all residents, businesses, and industries.	Suspending all outdoor water use results in a total reduction of 40 to 50% of supply ultimately reducing the overall total water demand. The per-capita water demand will decrease to approximately 40% less than Level 4 per capita demands
		Supply Augmentation Actions • Ongoing surface water recharge described in Water Shortage Level 1.	Surface water allocation is expected to be 50% at this level.
6	Greater than 50%	**Operational Changes** • Continuation of all operational changes established in Water Shortage Levels 1, 2, 3, 4, and 5 • Rate Structure Enhancement – A 20% water rate increase on all residential and landscape accounts will go into effect. This rate increase will encourage water conservation and will also serve as a provision to recover the lost revenues from water conservation. **Demand Reduction Actions** • Continuation of all demand reduction actions established in Water Shortage Levels 1, 2, 3, 4, and 5 **Mandatory Restrictions (in Additional to State-Mandated Prohibitions)** • Continuation of all mandatory restrictions established in Water Shortage Level 2	The City has never implemented an emergency water rate increase as a result of a water shortage. Therefore, there is no data to support an estimated magnitude of benefit for Water Shortage Level 6. It is anticipated that with the significant reduction of water use from Levels 2 through 5, any reduced demand caused by increasing water rates would not provide a significant water use benefit compared to Levels 2 through 5.
		Supply Augmentation Actions • Ongoing surface water recharge described in Water Shortage Level 1. • In case of emergency Level 6 shortages, the City will consider the moving to full tertiary, adding advanced treatment, and a making a temporary connection to Friant water for non-potable supply.	Surface water allocation is expected to be 50% at this level.

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8.4.1 Eastern Tule Groundwater Sustainability Plan (GSP)

Chapter 6 of the UWMP references the Eastern Tule Groundwater Sustainability Plan (GSP) with respect to groundwater management actions to be taken by the City to meet groundwater sustainable yield goals in response to overdraft conditions. Supply augmentation, demand reduction, and operational changes are already integrated into the criteria that the City seeks to achieve in their pursuit of the GSP's sustainable yield goals. While Chapter 6 of the UWMP lists groups of management actions that the City will consider implementing to reach their sustainability goals, the WSCP lists specific actions with quantifiable benefits for each water shortage level.

8.4.2 Water Conservation Plan (WCP)

Section 25-32A.27 of the City Municipal Code states the following:

> *"The city council has adopted by resolution its water conservation plan which sets forth water conservation phases and conservation measures including mandatory restrictions on water usage by property owners and water consumers. Violation of the measures in effect, currently and as may be amended by resolution from time to time, pursuant to the applicable phase of the water conservation plan, shall be enforceable as set forth per any applicable remedy provisions in this code, including, but not limited to, sections 1-9 and 1-10 of this code, and chapter 2, article XIV of this code, and/or this division. The city's water conservation plan is deemed to be the city's "water shortage contingency plan" as per applicable state law. (Ord. 1830, 11-17-2015)"*

The City's existing WCP lists actions to be taken by the City for different water conservation phases. To meet the requirements of CWC § 10632(a)(4), these are realigned by a crosswalk with the six standard water shortage levels and adapted to include the minimum shortage response actions listed in Table 8.2.

8.4.3 Emergency Response Plan

In addition to the Shortage Response Actions listed in Table 8.2, the WSCP includes a description of how catastrophic shortages are tied to the water shortage levels. Catastrophic shortages caused by temporary disruptions to water supply and the City's response actions to these shortages may already be adequately address in the City's Emergency Response Plan (ERP).

Although the City does not have its own formal Emergency Response Plan (ERP) to address catastrophic interruptions in water supply, the shortage response actions listed in Table 2 could be used to reduce consumption following a temporary disruption to water supply. In addition, the City has back-up generators for their supply wells that can be employed in the event of a power outage.

The City was a participant in the coordinated preparation of the March 2018 Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHMP). The MJLHMP assesses the natural, technological, and human-caused risks to participating communities and proposes mitigation strategies to reduce the potential impact of the hazards. The 5 goals of the MJLHMP are listed below:

- Goal 1: Protect life, property, and reduce potential injuries from natural, technological, and human-caused hazards.
- Goal 2: Improve public understanding, support and need for hazard mitigation measures.
- Goal 3: Promote disaster resistance for the County's natural, existing, and future built environment.
- Goal 4: Strengthen partnerships and collaboration to implement hazard mitigation activities.
- Goal 5: Enhance the County's ability to effectively and immediately respond to disasters.

In July 2021, the City submitted a Risk and Resilience Assessment (RRA) report to comply with America's Water Infrastructure Act (AWIA) requirements. The RRA report includes a summary of best practices for reducing risk, a list of critical assets with their identified risks from malevolent threats and natural hazards, and an assessment of the City's resilience level.

8.4.4 Seismic Risk Assessment and Mitigation Plan

Per CWC § 10632.5, a seismic risk assessment and mitigation plan is required to assess the vulnerability of the City's water system facilities to seismic risks and to mitigate those vulnerabilities.

The MJLHMP identifies vulnerabilities to earthquakes in Tulare County and provides mitigation goals and actions for seismic risks for participating communities. The seismic risk mitigation measures and corresponding hazard mitigation goals listed in the MJLHMP are detailed in Chapter 7 and Appendix H of the UWMP. The MJLHMP is included in Appendix L. The City's RRA report also assesses the vulnerability of the City's water supplies to seismic risk.

8.5 Communication Protocols

10632 (a)(5) Communication protocols and procedures to inform customers, the public, interested parties, and local, regional, and state governments, regarding, at a minimum, all of the following: (A) Any current or predicted shortages as determined by the annual water supply and demand assessment described pursuant to Section 10632.1. (B) Any shortage response actions triggered or anticipated to be triggered by the annual water supply and demand assessment described pursuant to Section 10632.1. (C) Any other relevant communications.

As required in CWC § 10632(a)(5), the WSCP includes protocols and procedures for communicating with different stakeholders in the event of the different water shortage levels as part of the WSCP implementation. The communications protocols include the mechanisms used to inform customers, the general public, and interested parties as wells a local, regional, and state government entities. Communication mechanisms may include social media posts, bill stuffers or newsletters, press releases, radio spots, television coverage, and blog posts.

The decision-making process described in Section 8.2 triggers specific communications protocols to address each of the six standard shortage levels, with a focus on communicating the shortage response actions, which are derived from the results of the Annual Assessment. Emergency communications protocols are also included to address earthquakes, fires, infrastructure failures, civil unrest, and other catastrophic events. The City also participates in Reverse 911, an emergency alert system that sends text alerts directly to phones in Tulare County. Table 8.3 lists the communication protocols for the six standard water shortage levels.

Table 8.3 Communications Protocols

Water Shortage Level	Percent Shortage Range	Communication Protocol
1	Up to 10%	• Coordination with local news media on the water shortage level and ways that the public can conserve water • Distribution of materials to residents, businesses, and industries on the results of the Annual Assessment, Shortage Response Actions triggered by the Annual Assessment and WSAR, and ways that the public can conserve water • Participation in Water Awareness Month (May) • Coordination with local schools to educate students on local water issues and conditions and ways that they can conserve water • Coordination with local nurseries to provide list of low-water trees and plants • Lawn and Landscape Water Guides made available upon request • Communicate with developers on water conservation and xeriscaping • Advise against outdoor watering within forty-eight (48) hours of a measurable rainfall (1) • See the process for escalating the water shortage level in Section 8.2.1.
2	Up to 20%	• Continuation of all communication protocols in Water Shortage Level 1 • The City will pursue a more aggressive distribution of information to promote awareness of the need to conserve water with an emphasis on the change from Water Shortage Level 1 (Voluntary) to 2 (Mandatory). • Public education on the mandatory watering schedule and all other mandatory restrictions for Water Shortage Level 2. • Notices will be sent to all restaurants within city limits requesting support of water conservation efforts by serving water to customers upon request only. • City staff will report evidence of leaks or water waste for immediate action with an emphasis on coordinated community efforts to reduce water waste. • City staff will be equipped to issue "Waste of Water" notices to consumers identified as misusing water.
3	Up to 30%	• Continuation of all communication protocols in Water Shortage Levels 1 and 2 • The public information program will be intensified to promote awareness of the need to conserve water with an emphasis on the change from Water Shortage Level 2 to 3. • Public education on the mandatory watering schedule and all other mandatory restrictions for Water Shortage Level 3. • All water leaks will be treated as a priority upon discovery and repaired at the safest scheduled opportunity. • City staff will be equipped to issue citations and fines for non-compliance and violations.

Water Shortage Level	Percent Shortage Range	Communication Protocol
4	Up to 40%	• Continuation of all communication protocols in Water Shortage Levels 1, 2, and 3. • The public information program will be intensified to promote awareness of the need to conserve water with an emphasis on the change from Water Shortage Level 3 to 4. • Public education on the mandatory watering schedule and all other mandatory restrictions for Water Shortage Level 4. • Communicate with developers on mandatory water conservation and xeriscaping
5	Up to 50%	• Continuation of all communication protocols in Water Shortage Levels 1, 2, 3, and 4. • The public information program will be intensified to promote awareness of the need to conserve water with an emphasis on the change from Water Shortage Level 4 to 5. • Public education on the mandatory watering schedule and all other mandatory restrictions for Water Shortage Level 5.
6	Greater than 50%	• Continuation of all communication protocols in Water Shortage Levels 1, 2, 3, 4, and 5. • The public information program will be intensified to promote awareness of the need to conserve water with an emphasis on the change from Water Shortage Level 5 to 6. • Public education on the mandatory watering schedule and all other mandatory restrictions for Water Shortage Level 6.

Notes:
(1) Measurable rainfall is defined by the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) as 1/100th of one inch.

8.6 Compliance and Enforcement

10632 (a)(6) For an urban retail water supplier, customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions as determined pursuant to Section 10632.2.

As required by CWC § 10632(a)(6), the WSCP includes a description of actions the City will take to ensure compliance with and enforcement of the prescribed shortage response actions and mandatory restrictions detailed in the WSCP. This section describes the actions the City will take to ensure compliance with and enforcement of the prescribed shortage response actions and mandatory restrictions. Table 8.4 lists the compliance and enforcement actions for the six standard water shortage levels.

Table 8.4 Compliance and Enforcement Actions

Water Shortage Level	Percent Shortage Range	Compliance and Enforcement Actions
1	Up to 10%	• City operational changes and public information program only. No enforcement actions triggered for Water Shortage Level 1. • Voluntary watering schedule and advisement against outdoor watering within 48 hours of a measurable rainfall (1). • PRC to coordinate with developers on voluntary water conservation and xeriscaping.
2	Up to 20%	• City staff will be equipped to issue "Waste of Water" notices to consumers identified as misusing water. • Mandatory restrictions for Water Shortage Level 2.
3	Up to 30%	• Continuation of compliance enforcement actions for Water Shortage Level 2. • Per Section 25-32A.24 of the City Municipal Code, Non-compliance with the City of Porterville's water conservation regulations will result in one written warning from the City of Porterville before the issuance of a citation. A second violation within a 12-month period will result in the issuance of a citation with a fine of $100.00; a second citation will result in a fine of $200.00; a third citation will result in a fine of $500.00. Willful and egregious violations will result in issuance of a citation without a warning. Each day that a violation continues shall be regarded as a new and separate offense.
4	Up to 40%	• Continuation of compliance enforcement actions for Water Shortage Levels 2 and 3. • Mandatory restrictions for Water Shortage Level 4.
5	Up to 50%	• Continuation of compliance enforcement actions for Water Shortage Levels 2, 3, and 4 • Mandatory restrictions for Water Shortage Level 5.
6	Greater than 50%	• Continuation of compliance enforcement actions for Water Shortage Levels 2, 3, 4, and 5. • Mandatory restrictions for Water Shortage Level 6. • Rate Structure Enhancement – A 20% water rate increase on all residential and landscape accounts will go into effect. This rate increase will encourage water conservation and will also serve as a provision to recover the lost revenues from water conservation.

Notes:
(1) Measurable rainfall is defined by the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) as 1/100th of one inch.

8.7 Legal Authorities

10632 (a)(7) (A) A description of the legal authorities that empower the urban water supplier to implement and enforce its shortage response actions specified in paragraph (4) that may include, but are not limited to, statutory authorities, ordinances, resolutions, and contract provisions. (B) A statement that an urban water supplier shall declare a water shortage emergency in accordance with Chapter 3 (commencing with Section 350) of Division 1. (C) A statement that an urban water supplier shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency, as defined in Section 8558 of the Government Code.

This section lists all relevant statutory authorities, local ordinances, codes, resolutions, and water supply contract provisions that give the City legal authority to implement and enforce the shortage response actions listed in Table 8.2 and enforce them pursuant to the actions listed in Table 8.4.

Relevant Municipal Code sections:

- 25-32A.2 – Applicability to landscape projects.
- 25-32A.4 – Compliance with landscape documentation package.
- 25-32A.12 – Irrigation scheduling.
- 25-32A.13 – Landscape and irrigation maintenance schedule.
- 25-32A.23 – prescriptive compliance option.
- 25-32A.24 – penalties.
- 25-32A.26 – wasteful use of water prohibited.
- 25-32A.27 – WCP.
- 2-144 – Civil/Administrative Fines and Administrative Costs.

In the event of a water shortage emergency, the City shall declare a water shortage emergency in accordance with CWC Chapter 3 (commencing with Section 350) of Division 1 general provision regarding water shortage emergencies. The City shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency under California Government Code, California Emergency Services Act (Article 2, Section 8558).

8.8 Financial Consequences of WSCP Activation

10632 (a)(8) A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following: (A) A description of potential revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4). (B) A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4). (C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1.

The WSCP includes a description of potential reductions in revenue and increased expenses associated with the implementation of the shortage response actions described in Section 8.4 coupled with anticipated mitigation actions needed to address these financial impacts.

The City bills most of its customers on a volumetric basis. As a result, conservation measures, which aim to reduce water consumption, can also reduce revenue for the City. Significant water conservation during droughts can have a major impact on City revenues. Although the City would have lower water production costs with lower water deliveries, they also have considerable fixed and overhead costs that are the same for any volume of water delivered. As a result, conservation measures need to be coupled with rate adjustments to ensure that the water system is financially sustainable.

The City's current WCP includes a 20% water rate increase on all residential and landscape accounts for the Phase V, or critical water supply shortage scenario. The higher unit rate is intended to discourage use, but it will also help to offset the revenue lost from selling a lower volume of water. The suitability of this 20% increase is not yet known, and it needs to be tested during a single-year and multi-year drought. If, in the future, the 20% price increase is found to be inadequate, the City will reevaluate the increase and modify it accordingly.

It is anticipated that implementation of the WSCP will not have a large impact on expenditures or revenues. No additional costs are expected for billing or operations. Existing City staff will provide the personnel needed to implement the plan and enforce water conservation measures. It is likely that higher expenditures will be needed for public information programs, but these will probably be small compared to the total City water budget. Fines for water waste are a source of revenue, and they typically increase during droughts. However, the revenues from fines are also small compared to the overall City water budget.

The compliance and enforcement actions detailed in Section 8.6 include a description of the fines associated with non-compliance with the water shortage response actions.

8.9 Monitoring and Reporting

10632 (a)(9) For an urban retail water supplier, monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.

The WSCP includes a description of how the City will monitor and report on implementation of its WSCP. Monitoring and reporting is essential to ensure that the shortage response actions are achieving their intended water use reduction purposes. Monitoring can also help the City determine whether improvements or new actions need to be considered. Monitoring for customer compliance tracking is also useful in enforcement actions.

The State Water Board is preparing regulation for monthly reporting of water production, water uses, and enforcement metrics. When finalized, these will be summarized in the WSCP and incorporated by reference.

The City will be able to closely track groundwater pumping and any surface water deliveries on a daily basis. This data will be evaluated weekly to determine the effectiveness of the shortage response actions. Monthly water meter reading will help with compliance monitoring for individual customers.

8.10 WSCP Refinement Procedures

> *10632 (a) (10) Reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.*

Per the requirements of CWC § 10632(a)(10), the WSCP includes a description of how the City will use the results of the monitoring and reporting to evaluate the need for revisions to the WSCP.

This WSCP is a dynamic tool that can be refined as needed to ensure that the shortage response actions are effective and are producing the desired results. Refinements or new actions may be identified and suggested by City staff, customers, or other interested parties. These suggestions will be evaluated by City administration for the possible incorporation into future revisions of the WSCP. If deemed necessary by City administration, these suggestions or revisions may be made to the current WSCP as an amendment so that they may be implemented quickly at the appropriate water shortage levels.

8.11 Special Water Feature Distinction

> *10632 (b) For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.*

Because pools and spas must use potable water for health and safety considerations, pools and spas are analyzed and defined separately in the WSCP from other water features which may use recycled water. Water features that are not pools or spas are distinguished in the WSCP with the use of terminology such as "decorative water features" or "recreational water features", and shortage response actions, enforcement actions, and monitoring are prepared for each respectively.

8.12 Plan Adoption, Submittal, and Availability

> *10632(c) The urban water supplier shall make available the water shortage contingency plan prepared pursuant to this article to its customers and any city or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.*

Chapter 10 of this UWMP describes the process for adoption, submittal, and implementation of the UWMP. These same processes and steps will be followed for the adoption of the City's WSCP. The City's WCP currently serves as their WSCP per their municipal code and previous adoption and may be periodically amended independently of the UWMP as needed. The City shall follow their standard amendment process, public adoption hearings, issuance of notices to affected cities, counties, and the public about the adoption process, submittal to DWR, the California State Library, local libraries, and others. The City can also describe how the plan has been made available to all of the cities and counties it serves no later than 30 days after it is adopted.

8.13 Resources and References

The City may use the following list of resources and references for developing its WSCP:

1. Alliance for Water Efficiency 2020. Use and Effectiveness of Municipal Irrigation Restrictions During Drought. Available at: https://www.allianceforwaterefficiency.org/impact/our-work/useand-effectiveness-municipal-irrigation-restrictions-during-drought
2. American Water Works Association (AWWA) 2011. AWWA M60: Drought Preparedness and Response Manual. The AWWA M60, 72 pages. Available at: https://www.awwa.org/Store/M60-Drought-Preparedness-and-Response-Second-Edition/ProductDetail/75759388
3. AWWA M19: Emergency Planning for Water and Wastewater Utilities. Outline link: Available at: https://www.awwa.org/Portals/0/files/publications/documents/M19LookInside.pdf
4. California Department of Water Resources. 2010. California Drought Contingency Plan. Available at: https://drought.unl.edu/archive/plans/Drought/state/CA_2010.pdf
5. California Department of Water Resources. Draft 2020. Handbook for Water Budget Development. Available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/GroundwaterManagement/Data-and-Tools/Files/Water-Budget-Handbook.pdf
6. California State Water Resources Control Board. Emergency Response Plan Guidance for Public Drinking Water Systems. Available at: https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/security/ddw_emergency_guidelines_0215.pdf
7. California Water Efficiency Partnership (CalWEP) 2020. Model Water Shortage Contingency Plans. Available at: http://toolbox.calwep.org/wiki/Model_Water_Shortage_Contingency_Plans
8. California Public Utilities Commission Drought Procedures Standard Practice U-40-W. Summarized by CalWEP here: Available at: http://toolbox.calwep.org/wiki/Model_Water_Shortage_Contingency_Plans#CPUC_Drought_Procedures_Standard_Practice_U-40-W Current text of law available at: http://www.leginfo.ca.gov/cgibin/displaycode?section=wat&group=00001-01000&file=350-359
9. Vogt, J.V., Naumann, G., Masante, D., Spinoni, J., Cammalleri, C., Erian, W., Pischke, F., Pulwarty, R., Barbosa, P., Drought Risk Assessment. A conceptual Framework. EUR 29464 EN, Publications Office of the European Union, Luxembourg, 2018. ISBN 978-92-79-97469-4. doi:10.2760/057223, JRC113937; Available at: https://publications.jrc.ec.europa.eu/repository/handle/JRC113937
10. State of Washington 2011. Guidance Document: Preparing Water Shortage Response Plans. Available at: https://www.watersupplyforum.org/docs/6/773f6f0d95152843a051c624d028d80d5841da51/Dept.ofHealth_PreparingWaterShortageResponsePlans1.pdf
11. United Nations Development Programme. 2012. Drought Risk Management: Practitioner's Perspectives from Africa and Asia. Available at: https://catalogue.unccd.int/36_Drought_Risk_Management.pdf

12. U.S. Environmental Protection Agency. 2015. Planning for an Emergency Drinking Water Supply. Available at: https://www.epa.gov/sites/production/files/2015-03/documents/planning_for_an_emergency_drinking_water_supply.pdf
13. Whilhite, D. Sivakumar, M., Pulwarty, R. 2014. Managing Drought Risk in a Changing Climate: The role of national drought policy. Weather and Climate Extremes 3: 4-13. Available at: https://doi.org/10.1016/j.wace.2014.01.002

Chapter 9

DEMAND MANAGEMENT MEASURES

The UWMPA requires that the UWMP involve a comprehensive discussion of the agency's water conservation measures.

> 10631 (f)(A)...The narrative shall describe the water demand management measure that the supplier plans to implement to achieve its water use targets pursuant to Section 10608.30.
>
> (B) The narrative pursuant to this paragraph shall include descriptions of the following water demand management measures:
>
> (i) Water waste prevention ordinances
>
> (ii) Metering
>
> (iii) Conservation pricing
>
> (iv) Public education and outreach
>
> (v) Programs to assess and manage distribution system real loss
>
> (vi) Water conservation program coordination and staffing support.
>
> (vii) Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovative measure, if implemented.

This chapter presents details of the demand management measures (DMMs) contained in the UWMPA, as well as the City's existing and planned efforts to further develop their water conservation program. The City is committed to water conservation and has implemented several policies and on-going programs that promote and encourage water conservation.

The UWMPA was amended in 2014 to streamline DMMs from 14 specific measures to 6 more general requirements and an "other" category. Brief descriptions of the City's current and planned implementation of DMMs are included in the following sections.

9.1 Water Waste Prevention Ordinances

According to Section 25-32A.26 of the City Municipal Code, "the consumer shall use reasonable care to prevent the waste of water, shall not allow water to run or waste from his property onto streets or highways, shall not use water in washing sidewalks, building entrances or lobbies or other properties to such excess that water shall flow in street gutters beyond the frontage of properties occupied by them."

The City has a Water Conservation Plan (WCP) that serves as the City's WSCP as discussed in Chapter 8. The City has seen positive reduction in water consumption as a result of the water conservation plan. For example, as a result of the WCP implementation in the 2015 UWMP, Figure 7.1 shows the City has seen steady conservation efforts from water usage over the last five years and reduced usage by 27 percent The WCP is implemented by a public hearing to discuss phase transitioning to Porterville City Council and then an official resolution by Council. Any change in Phase of the WCP requires council resolution.

For a number of years, the City has been operating between Phase III and Phase IV of the WCP. Phase III limits outdoor irrigation to twice a week and Phase IV to once a week. Typically, the City transitions to Phase III in May to allow 2-day watering during the summer months in order to maintain landscaping and will transition to 1-day watering schedules in December. In drier periods, the City tracks groundwater levels on a month to month basis and will recommend transitioning to WCP Phases earlier or later (e.g. 2 day watering schedule in late June and/or 1 day watering schedule in November) in the year to increase annual conservation efforts.

9.2 Metering

In 2020 the City has approximately 98.5 percent of their water connections metered. All metered customers are billed on a volumetric basis and therefore have incentives to conserve water and decrease monthly utility bills. The City continues to require water meters on all new connections for new development.

The City began adding water service meters to residents of East Porterville in 2016 and had a total of approximately 725 metered connections in 2020. The City tracks additional service connections separately in their water meter account.

The City is currently in the process of upgrading their water meter program to an advanced meter infrastructure (AMI) system which will create an integrated network that does not require physical efforts for meter data collection and will provide data to a City network at predetermined intervals.

9.3 Conservation Pricing

As of October 1st, 2020 the City has updated their water rates to include a flat rate of $86.54, with a $19.89 minimum and an additional $1.91 per unit of water, where one (1) unit of water is equivalent to 100 cubic feet (748 gallons) of water. The City sewer rates are a flat rate of $26.87 per connection with commercial connections cost dependent on type of use. Phase VI of the City's WCP includes a 20 percent water rate increase on all residential and landscape accounts to go into effect. This rate increase will encourage water conservation and will also service as a provision to recover the lost revenues from water conservation. Since the adoption of the WCP and with the revised WCP to account for the WSCP, the City has never implemented the 20 percent rate increase as a conservation measure.

The City municipal Code Section 25-32A.24 includes citations and fines are issued for non-compliance of the City's water conservation regulations. Non-compliance with the City of Porterville's water conservation regulations will result in one written warning from the City of Porterville before the issuance of a citation. A second violation within a 12-month period will result in the issuance of a citation with a fine of $100.00; a second citation will result in a fine of $200.00; a third citation will result in a fine of $500.00. Willful and egregious violations will result in issuance of a citation without a warning. Each day that a violation continues shall be regarded as a new and separate offense.

The City has continued to issue citations and fines since the implementation of the WCP since 2015 and plans to continue this activity in the future.

9.4 Public Education and Outreach

Historically the City uses the following water conservation public information programs since 2015:

- City participation in Water Awareness Month (May).
- Bill stuffers on water conservation.
- News programs on local channels, change in WCP phases advertised as necessary.
- Radio commercials in both English and Spanish.
- Booth at the Porterville City Fair and other city evens (Iris Festival etc.)
- Water bills that compare current water usage to the previous year's usage.
- Facility tours of the City's wastewater treatment plants for students.
- Advertising through billboards, City transit vehicles, and flyers throughout City property.

The City plans to expand their public education and outreach efforts by including the following items:

- Social media outreach through the City Manager's office.
- Local Newspaper advertisements in addition to the WCP Phase changes.
- Advertise on transit vehicles on the Greenpower bus fleet.
- Local School district, interns, video shorts.
- City website advertisement.
- Mosquito abatement requirements and recommendations.

9.5 Programs to Assess and Mange Distribution System Real Loss

DWR encourages agencies to detect and resolve leaks when economically feasible through reporting and audit mechanisms performed on water distribution systems. Water system audits include an evaluation of the City's distribution system for leaks and other losses. System losses are quantified as water input minus metered and/or delivered water. The resultant loss is a good indication of a system's integrity.

The City has performed water systems audits as required and are included in section Chapter 3 of this UWMP. The 2020 AWWA Water Audit is due October 2021.

The City's water distribution system is completely operated under pressure and as a result older pipes and facilities tend to develop leaks through deteriorated gaskets, seals, and developed cracks. As stated in the 2015 UWMP, a physical system audit is not performed every year, since the production to metered water use is fairly consistent. In all newly constructed water and sewer infrastructure, facilities shall be pressure tested prior to completion to identify any leaks to reduce and cost of physical water system audits.

City staff does perform individual water surveys on individual single and multi-family services at the request of owner. Typically these surveyors are requested when a customer feels their water bill is too high. A typical individual water survey includes the following:

1. Check indoor and outdoor plumbing for leaks.
2. Check irrigation system timers.
3. Evaluate Irrigation water schedule.
4. Flow tests for customer.
5. Recommend various water conservation measures to the customer, such as modifications to their irrigation schedule and retrofitting with water efficient fixtures and appliances.

Division 6 of the City's municipal code covers water conservation and efficiency measures required by the City. This section recognizes the importance of landscaped areas for the health of the City; however the management of such areas shall be done in an efficient and water conscious methods to ensure the availability of adequate supplies of water for future uses.

As mentioned in Section 9.2, the City is currently in the beginning stages of upgrading their existing water meter system to an AMI system. The AMI system will provide leak detection monitoring to notify City staff if a water meter is leaking or if a water system customer (residential, institutional, commercial, or industrial) has an onsite leak that can be fixed to both lower monthly water bills and prevent waste.

9.6 Water Conservation Program Coordination and Staffing Support

The City's water conservation program is an ongoing program of public education and being proactive in continuous monitoring, repairing, and managing the water supplies in conjunction with State regulations and surrounding agencies. The City also continues to monitor residential, commercial and industrial customers through their metering program to ensure all entities in the water service area are complying with conservation measures to assure that the system will have adequate supplies in the future. The implementation of the entire program wide is the assumed responsibility of the City's water superintendent, water systems specialist, and the public works director. This has been the case since the implementation of the WCP in 2015 and the City continues to operate their water conservation program under this structure.

9.7 Other Demand Management Measures

The City does not have any additional demand management measures scheduled to be included in their City-wide water conservation program at this time.

9.8 Planned Implementation to Achieve Water Use Targets

The City plans on continuing to implement and manage it's existing water conservation program as described in the previous sections throughout the foreseeable future. In summary, adding to the existing program, the City plans to implement the following programs as mentioned in the previous sections:

- Upgrade of their existing water meter system to an AMI system.
- Significant increase in their public outreach and communication efforts.
- Continued implementation of the WCP through City staff involvement and leadership from management level staff.

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Chapter 10

PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

A completed UWMP checklist is included in Appendix A.

10.1 Inclusion of All 2020 Date

The 2020 UWMPs must include the water use and planning data for the entire year of 2020. The City is reporting on a calendar year basis and therefore, 2020 data includes the months of January to December 2020.

10.2 Notice of Public Hearing

A public hearing was held on February 15th, 2022, prior to adoption of the UWMP at Porterville Council Chambers, 291 N. Main Street, Porterville, CA 93257. Notices were provided to cities and counties, and the public. The public hearing provided an opportunity for the public to provide input to the plan before it is adopted. Additionally, the public hearing provided an opportunity for the customers, residents, and employees to learn and ask questions about the current and future water supply of the City.

10.2.1 Notice to Cities, Agencies, Organizations, and Counties

> *10621(b) Every urban water supplier required to prepare a plan shall… at least 60 days prior to the public hearing on the plan… notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.*
>
> *10642… The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area…*

The agencies listed in Table 10.1, were provided 60-day notification (prior to the public hearing) that the City was in the process of preparing the 2020 UWMP. The 60 Day Notification letters are included in Appendix D. The cities and counties were provided a notice of public hearing, including the time and location. The notice of public hearing to the same agencies are included in Appendix D.

10.2.2 Notice to the Public

> *10642… Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection… Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code…*

The UWMPA requires that the UWMP show the water agency solicited public participation. The notice to the public was included in a local newspaper as prescribed in Government Code 6066. This notice included the time and location of the public hearing, in addition to the location of where the UWMP was available for public inspection. The notice of public hearing to the public is included in Appendix D.

On February 1st, 2022 and February 8th, 2022, the City placed a notice in the Porterville Recorder (local newspaper) stating that its UWMP was being updated and that a public hearing was to be conducted to address comments and concerns from members of the community. The notice stated that a public review period would be scheduled through February 15th, 2022.

The Draft 2020 UWMP was available for public inspection at the Porterville City Hall at 241 N. Main Street, Porterville Ca 93257, as well as the City's website

10.3 Public Hearing and Adoption

10642…Prior to adopting a plan, the urban water supplier shall hold a public hearing thereon.

10608.26(a). In complying with this part, an urban retail water supplier shall conduct at least one public hearing to accomplish all of the following:

(1) Allow community input regarding the urban retail water supplier's implementation plan for complying with this part.

(2) Consider the economic impacts of the urban retail water supplier's implementation plan for complying with this part.

(3) Adopt a method, pursuant to subdivision (b) of Section 10608.20 for determining its urban water use target.

10642… After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

The plan was adopted by the City of Porterville City Council at a public hearing on February 15th, 2022. The City Resolution is included in Appendix B. The hearing provided an opportunity for the City customers, residents, and employees to learn and ask questions about the current and future water supply of the City. At the hearing, the UWMP, water use targets, and conservation implementation plan were discussed.

10.3.1 Adoption

After the public hearing, the 2020 UWMP was adopted as prepared.

10.4 Plan Submittal

The public hearing will be followed by submittal of the UWMP to the DWR, the California State Library, and Cities and Counties (see Commitment to Distribute in Appendix A).

10.4.1 Submission to DWR

The 2020 UWMP will be submitted to DWR within 30 days of adoption.

10.4.2 Electronic Data Submission

The 2020 UWMP, in addition to tabular data, will be submitted using Water Use and Efficiency (WUE) data submittal tool.

10.4.3 Submission to the California State Library

The 2020 UWMP will be submitted in compact disc (CD) or hardcopy format to the California State Library within 30 days of adoption.

10.4.4 Submission to Cities and Counties

The 2020 UWMP, which includes the Water Shortage Contingency Plan, will be submitted in electronic format to cities and counties within 30 days of adoption.

10.5 Public Availability

Within 30 days of submitting the UWMP to DWR, the adopted UWMP will be available for public review during normal business hours at the locations specified herein.

10.6 Amending and Adopted UWMP

The plan may be updated at any time when the urban water supplier believes significant changes have occurred in population, land use, and/or water sources that may affect the contents of the plan. Copies of amendments or changes to the plan shall be submitted electronically to DWR and the California State Library within 30 days of adoption.

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Appendix A

COMPLETED URBAN WATER MANAGEMENT CHECKLIST

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Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Complete?	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activitie	Yes	Introduction and Overview	Chapters 3, 4 and 6.
x	x	Chapter 1	10630.5	Each plan shall include a simple description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Yes	Summary	Chapter 1, 3, 4 and 6
x	x	Section 2.2	10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplie	N/A	Plan Preparation	
x	x	Section 2.6	10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including oth water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable	Yes	Plan Preparation	Chapters 1 and 10
x	x	Section 2.6.2	10642	Provide supporting documentation that the water supplier has encouraged active involvement diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency pla	yes via public outreach	Plan Preparation	Chapters 1, 10 and Appendix D - Public Notifications
x		Section 2.6, Section 6.1	10631(h)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source	N/A	System Supplies	
	x	Section 2.6	10631(h)	Wholesale suppliers will include documentation that they have provided their urban water supplie with identification and quantification of the existing and planned sources of water available from wholesale to the urban supplier during various water year type	N/A	System Supplies	
x	x	Section 3.1	10631(a)	Describe the water supplier service area	Yes	System Description	Chapter 3
x	x	Section 3.3	10631(a)	Describe the climate of the service area of the supplie	Yes	System Description	Chapter 3
x	x	Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 204	Yes	System Description	Chapter 3
x	x	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning	Yes	System Description	Chapter 3
x	x	Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	Yes	System Description and Baselines and Targets	Chapter 3 and Appendix K
x	x	Section 3.5	10631(a)	Describe the land uses within the service area	Yes	System Description	Chapter 3
x	x	Section 4.2	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	Yes	System Water Use	Chapter 3
x	x	Section 4.2.4	10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were m	Yes	System Water Use	Chapter 4
x	x	Section 4.2.6	10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans and other policies or laws.	Yes	System Water Use	Chapter 4
x	x	Section 4.2.6	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	Yes	System Water Use	Chapter 8 and 9
x	optional	Section 4.3.2.4	10631(d)(3)(A)	Report the distribution system water loss for each of the 5 years preceding the plan update.	Yes	System Water Use	Chapter 4
x	optional	Section 4.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	Yes	System Water Use	Chapter 4
x	x	Section 4.5	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	Yes	System Water Use	Chapter 7 and Appendix H
x		Chapter 5	10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, inter urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting dat	Yes	Baselines and Targets	Chapter 5 and Appendix F
x		Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 202	Yes	Baselines and Targets	Chapter 5 and Appendix F
	x	Section 5.1	10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	N/A	Baselines and Targets	
x		Section 5.2	10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, econom adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	N/A	Baselines and Targets	
x		Section 5.5	10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base da per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100	Yes	Baselines and Targets	Chapter 5 and Appendix F
x		Section 5.5 and Appendix E	10608.4	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Forn	Yes	Baselines and Targets	Chapter 5 and Appendix F
x	x	Sections 6.1 and 6.2	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of droug	Yes	System Supplies	Chapter 7
x	x	Sections 6.1	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and drought lasting five years, as well as more frequent and severe periods of drought, *including changes in supply due to climate change.*	Yes	System Supplies	Chapter 7
x	x	Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies	Yes	System Supplies	Chapter 6
x	x	Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of wat	Yes	System Supplies	Chapter 6
x	x	Section 6.2.8	10631(b)	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045	Yes	System Supplies	Chapter 6
x	x	Section 6.2	10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	Yes	System Supplies	Chapter 6
x	x	Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has be adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorizatio	Yes	System Supplies	Chapter 6 and Appendix G
x	x	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin	Yes	System Supplies	Chapter 6
x	x	Section 6.2.2	10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pun	N/A	System Supplies	
x	x	Section 6.2.2.1	10631(b)(4)(B)	For unadjudicated basins, indicate whether or not the department has identified the basin as a h or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions	Yes	System Supplies	Chapter 6 and Appendix G
x	x	Section 6.2.2.4	10631(b)(4)(C)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five yea	Yes	System Supplies	Chapter 6
x	x	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped	Yes	System Supplies	Chapter 6
x	x	Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long- term basis	Yes	System Supplies	Chapter 6
x	x	Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water proje	Yes	System Supplies (Recycled Water)	Chapter 6
x	x	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the supplier's service area.	Yes	System Supplies (Recycled Water)	Chapter 6
x	x	Section 6.2.5	10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses	Yes	System Supplies (Recycled Water)	Chapter 6
x	x	Section 6.2.5	10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 1 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected	Yes	System Supplies (Recycled Water)	Chapter 6
x	x	Section 6.2.5	10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projec results of these actions in terms of acre-feet of recycled water used per year.	Yes	System Supplies (Recycled Water)	Chapter 6
x	x	Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	Yes	System Supplies (Recycled Water)	Chapter 6
x	x	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supp	N/A	System Supplies	
x	x	Section 6.2.5	10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area with quantified amount of collection and treatment and the disposal method	Yes	System Supplies (Recycled Water)	Chapter 6
x	x	Section 6.2.8, Section6.3.7	10631(f)	Describe the expected future water supply projects and programs that may be undertaken by t water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years	Yes	System Supplies	Chapter 6 and Chapter 7
x	x	Section 6.4 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.	N/A	System Suppliers, Energy Intensity	Not included in UWMP
x	x	Section 7.2	10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Yes	Water Supply Reliability Assessment	Chapter 6 and Appendix J
x	x	Section 7.2.4	10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions	N/A	Water Supply Reliability Assessment	Chapter 9
x	x	Section 7.3	10635(a)	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Yes	Water Supply Reliability Assessment	Chapter 7 and Appendix J
x	x	Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply project	Yes	Water Supply Reliability Assessment	Appendix J
x	x	Section 7.3	10635(b)(1)	Include a description of the data, methodology, and basis for one or more supply shorta conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years	Yes	Water Supply Reliability Assessment	Chapter 7, Chapter 8 and Appendix J
x	x	Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions	Yes	Water Supply Reliability Assessment	Chapter 7, Chapter 8 and Appendix J
x	x	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period	Yes	Water Supply Reliability Assessment	Chapter 7, Chapter 8 and Appendix J
x	x	Section 7.3	10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected suppli and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Yes	Water Supply Reliability Assessment	Chapter 7, Chapter 8 and Appendix J
x	x	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x	x	Chapter 8	10632(a)(1)	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x	x	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the wa shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemente	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I

x	x	Section 8.2	10632(a)(2)(A)	Provide the written decision-making process and other methods that the supplier will use each year to determine its water reliability	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x	x	Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x	x	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x	x	Section 8.3	10632(a)(3)(B)	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x	x	Section 8.4	10632(a)(4)(A)	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x	x	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x	x	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x	x	Section 8.4	10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local condition	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x	x	Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x	x	Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Yes	Water Shortage Contingency Plan	Chapter 8 and Appendix I
x	x	Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x	x	Section 8.5 and 8.6	10632(a)(5)(B) 10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding a shortage response actions triggered or anticipated to be triggered and other relevant communications	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x		Section 8.6	10632(a)(6)	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x		Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x	x	Section 8.7	10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x	x	Section 8.7	10632(a)(7)(C)	Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency	N/A	Water Shortage Contingency Planning	
x	x	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x	x	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response action	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x		Section 8.8	10632(a)(8)(C)	Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drough	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x		Section 8.9	10632(a)(9)	Retail suppliers must describe the monitoring and reporting requirements and procedures th ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x		Section 8.11	10632(b)	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spa	Yes	Water Shortage Contingency Planning	Chapter 8 and Appendix I
x	x	Sections 8.12 and 10.4	10635(c)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will b provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR	Yes	Plan Adoption, Submittal, and Implementation	Chapter 8 and Appendix I
x	x	Section 8.12	10632(c)	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 after adopted the pla	N/A	Water Shortage Contingency Planning	
	x	Sections 9.1 and 9.3	10631(e)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	N/A	Demand Management Measures	
x		Sections 9.2 and 9.3	10631(e)(1)	Retail suppliers shall provide a description of the nature and extent of each demand managem measure implemented over the past five years. The description will address specific measures listed in code	Chapter 9	Demand Management Measures	Yes
x		Chapter 10	10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance	Yes	Plan Adoption, Submittal, and Implementation	Chapter 1, Chapter 10 and Appendix D
x	x	Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the suppli provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-	Yes	Plan Adoption, Submittal, and Implementation	Chapter 10
x	x	Section 10.4	10621(f)	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Uploaded In January 2022	Plan Adoption, Submittal, and Implementation	Chapter 1 and Chapter 10
x	x	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the urban water supplier made the plan and contingen plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plar	Yes	Plan Adoption, Submittal, and Implementation	Chapter 10
x	x	Section 10.2.2	10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water	Yes	Plan Adoption, Submittal, and Implementation	Chapter 10
x	x	Section 10.3.2	10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified	Yes	Plan Adoption, Submittal, and Implementation	Chapter 10
x	x	Section 10.4	10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library	Yes	Plan Adoption, Submittal, and Implementation	Chapter 10
x	x	Section 10.4	10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	N/A	Plan Adoption, Submittal, and Implementation	
x	x	Sections 10.4.1 and 10.4.2	10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically	Yes	Plan Adoption, Submittal, and Implementation	Chapter 10
x	x	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with t department, the supplier has or will make the plan available for public review during normal business hours.	Yes	Plan Adoption, Submittal, and Implementation	Chapter 10
x	x	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its wat shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours	Yes	Plan Adoption, Submittal, and Implementation	Chapter 10
x	x	Section 10.6	10621(c)	If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings	N/A	Plan Adoption, Submittal, and Implementation	
x	x	Section 10.7.2	10644(b)	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption	N/A	Plan Adoption, Submittal, and Implementation	

Appendix B

2020 URBAN WATER MANAGEMENT PLAN ADOPTION RESOLUTION

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Appendix C

2015 URBAN WATER MANAGEMENT PLAN AND DATA SOURCES

https://cms9files.revize.com/PortervilleCA/Document_Center/Department/Public%20Works/Water%20 Conservation/2015UWMPUpdate-Final.pdf

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Appendix D

PUBLIC NOTIFICATIONS

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June 18, 2021

Tule River Association
2904 W. Main St.
Visalia, CA 93291

Attention: R.L. Schafer

Subject: **Notice of Preparation of the 2020 City of Porterville Urban Water Management Plan**

Dear R.L. Schafer:

Pursuant to the requirements of the California Water Code, Division 6, Part 2.6 Urban Water Management Planning, Section 10621 (b), every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

This letter is intended to notify your agency that the City of Porterville (City) is in process of preparing the 2020 Urban Water Management Plan (UWMP). Based on the City's current schedule, we expect to have a public review draft of the 2020 UWMP available for review in August 2021, at which point your agency will receive a notification letter that the draft UWMP is available for public review.

If your agency would like to submit comments or provide input to the City in anticipation of the development of the 2020 UWMP, please submit written copies to:

Michael Knight
City of Porterville
Public Works Director
291 North Main Street
Porterville, CA 93257

Sincerely,

CITY OF PORTERVILLE

Michael L. Knight

Michael Knight
Public Works Director

cc: Anthony Cemo, Carollo Engineers, Inc.

June 18, 2021

Porter Vista Public Utilities District
1124 E. Success Dr.
Porterville, CA 93257

Attention: Jeannie Chavez

Subject: **Notice of Preparation of the 2020 City of Porterville Urban Water Management Plan**

Dear Jeannie Chavez:

Pursuant to the requirements of the California Water Code, Division 6, Part 2.6 Urban Water Management Planning, Section 10621 (b), every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

This letter is intended to notify your agency that the City of Porterville (City) is in process of preparing the 2020 Urban Water Management Plan (UWMP). Based on the City's current schedule, we expect to have a public review draft of the 2020 UWMP available for review in August 2021, at which point your agency will receive a notification letter that the draft UWMP is available for public review.

If your agency would like to submit comments or provide input to the City in anticipation of the development of the 2020 UWMP, please submit written copies to:

Michael Knight
City of Porterville
Public Works Director
291 North Main Street
Porterville, CA 93257

Sincerely,

CITY OF PORTERVILLE

Michael L. Knight

Michael Knight
Public Works Director

cc: Anthony Cemo, Carollo Engineers, Inc.

June 18, 2021

Tea Pot Dome Irrigation District
357 E. Olive Ave
Tipton, CA 93272

Attention: Eric Limas

Subject: **Notice of Preparation of the 2020 City of Porterville Urban Water Management Plan**

Dear Eric Limas:

Pursuant to the requirements of the California Water Code, Division 6, Part 2.6 Urban Water Management Planning, Section 10621 (b), every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

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If your agency would like to submit comments or provide input to the City in anticipation of the development of the 2020 UWMP, please submit written copies to:

Michael Knight
City of Porterville
Public Works Director
291 North Main Street
Porterville, CA 93257

Sincerely,

CITY OF PORTERVILLE

Michael L. Knight

Michael Knight
Public Works Director

cc: Anthony Cemo, Carollo Engineers, Inc.

June 18, 2021

Vandalia Irrigation District
357 E. Olive Ave
Tipton, CA 93272

Attention: Eric Limas

Subject: **Notice of Preparation of the 2020 City of Porterville Urban Water Management Plan**

Dear Eric Limas:

Pursuant to the requirements of the California Water Code, Division 6, Part 2.6 Urban Water Management Planning, Section 10621 (b), every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

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If your agency would like to submit comments or provide input to the City in anticipation of the development of the 2020 UWMP, please submit written copies to:

Michael Knight
City of Porterville
Public Works Director
291 North Main Street
Porterville, CA 93257

Sincerely,

CITY OF PORTERVILLE

Michael L. Knight

Michael Knight
Public Works Director

cc: Anthony Cemo, Carollo Engineers, Inc.

June 18, 2021

Lower Tule River Irrigation District
357 E. Olive Ave
Tipton, CA 93272

Attention: Eric Limas

Subject: **Notice of Preparation of the 2020 City of Porterville Urban Water Management Plan**

Dear Eric Limas:

Pursuant to the requirements of the California Water Code, Division 6, Part 2.6 Urban Water Management Planning, Section 10621 (b), every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

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If your agency would like to submit comments or provide input to the City in anticipation of the development of the 2020 UWMP, please submit written copies to:

Michael Knight
City of Porterville
Public Works Director
291 North Main Street
Porterville, CA 93257

Sincerely,

CITY OF PORTERVILLE

Michael Knight
Public Works Director

cc: Anthony Cemo, Carollo Engineers, Inc.

June 18, 2021

Saucelito Irrigation District
20712 Avenue 120
Porterville, CA 93257

Attention: Sean Geivet

Subject: **Notice of Preparation of the 2020 City of Porterville Urban Water Management Plan**

Dear Sean Geivet:

Pursuant to the requirements of the California Water Code, Division 6, Part 2.6 Urban Water Management Planning, Section 10621 (b), every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

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If your agency would like to submit comments or provide input to the City in anticipation of the development of the 2020 UWMP, please submit written copies to:

Michael Knight
City of Porterville
Public Works Director
291 North Main Street
Porterville, CA 93257

Sincerely,

CITY OF PORTERVILLE

Michael L. Knight

Michael Knight
Public Works Director

cc: Anthony Cemo, Carollo Engineers, Inc.

June 18, 2021

Terra Bella Irrigation District
24790 Avenue 95
Terra Bella, CA 93270

Attention: Sean Geivet

Subject: **Notice of Preparation of the 2020 City of Porterville Urban Water Management Plan**

Dear Sean Geivet:

Pursuant to the requirements of the California Water Code, Division 6, Part 2.6 Urban Water Management Planning, Section 10621 (b), every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

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If your agency would like to submit comments or provide input to the City in anticipation of the development of the 2020 UWMP, please submit written copies to:

Michael Knight
City of Porterville
Public Works Director
291 North Main Street
Porterville, CA 93257

Sincerely,

CITY OF PORTERVILLE

Michael L. Knight

Michael Knight
Public Works Director

cc: Anthony Cemo, Carollo Engineers, Inc.

June 18, 2021

Porterville Irrigation District
220860 Avenue 160
Porterville, CA 93257

Attention: Sean Geivet

Subject: **Notice of Preparation of the 2020 City of Porterville Urban Water Management Plan**

Dear Sean Geivet:

Pursuant to the requirements of the California Water Code, Division 6, Part 2.6 Urban Water Management Planning, Section 10621 (b), every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

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If your agency would like to submit comments or provide input to the City in anticipation of the development of the 2020 UWMP, please submit written copies to:

Michael Knight
City of Porterville
Public Works Director
291 North Main Street
Porterville, CA 93257

Sincerely,

CITY OF PORTERVILLE

Michael L. Knight

Michael Knight
Public Works Director

cc: Anthony Cemo, Carollo Engineers, Inc.

June 18, 2021

Eastern Tule Groundwater Sustainability Agency
881 W. Morton Avenue, Suite D.
Porterville, CA 93257

Attention: Rogelio Claudillo

Subject: **Notice of Preparation of the 2020 City of Porterville Urban Water Management Plan**

Dear Rogelio Claudillo:

Pursuant to the requirements of the California Water Code, Division 6, Part 2.6 Urban Water Management Planning, Section 10621 (b), every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

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If your agency would like to submit comments or provide input to the City in anticipation of the development of the 2020 UWMP, please submit written copies to:

Michael Knight
City of Porterville
Public Works Director
291 North Main Street
Porterville, CA 93257

Sincerely,

CITY OF PORTERVILLE

Michael L. Knight

Michael Knight
Public Works Director

cc: Anthony Cemo, Carollo Engineers, Inc.

June 18, 2021

County of Tulare
5961 S. Mooney Boulevard
Visalia, CA 93277

Attention: Denise England

Subject: **Notice of Preparation of the 2020 City of Porterville Urban Water Management Plan**

Dear Denise England:

Pursuant to the requirements of the California Water Code, Division 6, Part 2.6 Urban Water Management Planning, Section 10621 (b), every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

This letter is intended to notify your agency that the City of Porterville (City) is in process of preparing the 2020 Urban Water Management Plan (UWMP). Based on the City's current schedule, we expect to have a public review draft of the 2020 UWMP available for review in August 2021, at which point your agency will receive a notification letter that the draft UWMP is available for public review.

If your agency would like to submit comments or provide input to the City in anticipation of the development of the 2020 UWMP, please submit written copies to:

Michael Knight
City of Porterville
Public Works Director
291 North Main Street
Porterville, CA 93257

Sincerely,

CITY OF PORTERVILLE

Michael L. Knight

Michael Knight
Public Works Director

cc: Anthony Cemo, Carollo Engineers, Inc.

Appendix E

AWWA WATER AUDIT DOCUMENTS

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AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

American Water Works Association.
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? Click to access definition
+ Click to add a comment

Water Audit Report for: City of Porterville (54-10010)
Reporting Year: 2016 | 1/2016 - 12/2016

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

								Pcnt:	Value:	
Volume from own sources:	+ ?	4	3,222.000	MG/Yr	+ ?	3				MG/Yr
Water imported:	+ ?	n/a	0.000	MG/Yr	+ ?					MG/Yr
Water exported:	+ ?	n/a	0.000	MG/Yr	+ ?					MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 3,222.000 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

					Pcnt:	Value:	
Billed metered:	+ ?	5	2,776.000	MG/Yr			
Billed unmetered:	+ ?	10	95.576	MG/Yr			
Unbilled metered:	+ ?	n/a		MG/Yr			
Unbilled unmetered:	+ ?		40.275	MG/Yr	1.25%		MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: ? 2,911.851 MG/Yr

Use buttons to select percentage of water supplied **OR** value

WATER LOSSES (Water Supplied - Authorized Consumption) 310.149 MG/Yr

Apparent Losses

					Pcnt:	Value:	
Unauthorized consumption:	+ ?		8.055	MG/Yr	0.25%		MG/Yr
Customer metering inaccuracies:	+ ?	3	0.000	MG/Yr			MG/Yr
Systematic data handling errors:	+ ?		6.940	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: ? 14.995 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? 295.154 MG/Yr

WATER LOSSES: 310.149 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: ? 350.424 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+ ?	9	234.9	miles
Number of active AND inactive service connections:	+ ?	5	15,760	
Service connection density:	?		67	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: + ? (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: + ? 9 60.0 psi

COST DATA

Total annual cost of operating water system:	+ ?	10	$5,525,799	$/Year
Customer retail unit cost (applied to Apparent Losses):	+ ?	9	$1.75	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+ ?	5	$583.08	$/Million gallons

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 57 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Customer metering inaccuracies
3: Billed metered

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

American Water Works Association.
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? Click to access definition
+ Click to add a comment

Water Audit Report for: City of Porterville (54-10010)
Reporting Year: 2017 | 1/2017 - 12/2017

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

							Pcnt:	Value:	
Volume from own sources:	+ ?	7	3,345.000	MG/Yr	+ ?	3			MG/Yr
Water imported:	+ ?	n/a	0.000	MG/Yr	+ ?				MG/Yr
Water exported:	+ ?	n/a	0.000	MG/Yr	+ ?				MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 3,345.000 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

					Pcnt:	Value:	
Billed metered:	+ ?	5	2,891.000	MG/Yr			
Billed unmetered:	+ ?	10	59.430	MG/Yr			
Unbilled metered:	+ ?	n/a		MG/Yr			
Unbilled unmetered:	+ ?		41.813	MG/Yr	1.25%		MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: ? 2,992.243 MG/Yr

Use buttons to select percentage of water supplied **OR** value

WATER LOSSES (Water Supplied - Authorized Consumption) 352.758 MG/Yr

Apparent Losses

					Pcnt:	Value:	
Unauthorized consumption:	+ ?		8.363	MG/Yr	0.25%		MG/Yr
Customer metering inaccuracies:	+ ?	4	44.025	MG/Yr	1.50%		MG/Yr
Systematic data handling errors:	+ ?		7.228	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: ? 59.615 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? 293.142 MG/Yr

WATER LOSSES: 352.758 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: ? 394.570 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+ ?	9	273.4	miles
Number of active AND inactive service connections:	+ ?	9	16,206	
Service connection density:	?		59	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: + ? (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	+ ?	9	60.0	psi

COST DATA

Total annual cost of operating water system:	+ ?	10	$6,221,146	$/Year
Customer retail unit cost (applied to Apparent Losses):	+ ?	9	$1.79	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+ ?	8	$537.68	$/Million gallons

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 71 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Billed metered
3: Customer metering inaccuracies

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

Click to access definition | Water Audit Report for: City of Porterville (54-10010)
Click to add a comment | Reporting Year: 2018 | 1/2018 - 12/2018

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or

<---------- Enter grading in column 'E' and 'J' ---------->

Master Meter and Supply Error Adjustments

WATER SUPPLIED					Pcnt:	Value:	
Volume from own sources:	+	7	3,514.000	MG/Yr	3		MG/Yr
Water imported:	+	n/a	0.000	MG/Yr			MG/Yr
Water exported:	+	n/a	0.000	MG/Yr			MG/Yr
WATER SUPPLIED:			**3,514.000**	MG/Yr			

Enter negative % or value for under-registration
Enter positive % or value for over-registration

AUTHORIZED CONSUMPTION					Pcnt:	Value:	
Billed metered:	+	6	3,078.800	MG/Yr			
Billed unmetered:	+	10	30.406	MG/Yr			
Unbilled metered:	+	n/a	0.000	MG/Yr			
Unbilled unmetered:	+		43.925	MG/Yr	1.25%		MG/Yr
AUTHORIZED CONSUMPTION:			**3,153.131**	MG/Yr			

Click ? for help using option buttons

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

Use buttons to select percentage of water supplied **OR** value

WATER LOSSES (Water Supplied - Authorized Consumption)					Pcnt:	Value:	
			360.869	MG/Yr			
Apparent Losses							
Unauthorized consumption:	+		8.785	MG/Yr	0.25%		MG/Yr
Customer metering inaccuracies:	+	4	46.885	MG/Yr	1.50%		MG/Yr
Systematic data handling errors:	+		7.697	MG/Yr	0.25%		MG/Yr
Apparent Losses:			**63.367**	MG/Yr			

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:	**297.502**	MG/Yr
WATER LOSSES:	**360.869**	MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER:	**404.794**	MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+	9	274.3	miles
Number of active AND inactive service connections:	+	9	16,687	
Service connection density:			61	conn./mile main
Are customer meters typically located at the curbstop or property line?			Yes	
Average length of customer service line:	+			

(length of service line, beyond the property boundary, that is the responsibility of the

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	+	9	60.0	psi

COST DATA

Total annual cost of operating water system:	+	10	$6,195,223	$/Year
Customer retail unit cost (applied to Apparent Losses):	+	9	$1.83	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+	9	$555.00	$/Million gallons

☐ Use Customer Retail Unit Cost to value real

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 73 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Customer metering inaccuracies
3: Billed metered

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

American Water Works Association
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? Click to access definition
+ Click to add a comment

Water Audit Report for: City of Porterville (54-10010)
Reporting Year: 2019 | 1/2019 - 12/2019

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

<---------- Enter grading in column 'E' and 'J' ---------->

								Pcnt:	Value:	
Volume from own sources:	+ ?	7	3,422.000	MG/Yr	+ ?	3				MG/Yr
Water imported:	+ ?	n/a	0.000	MG/Yr	+ ?					MG/Yr
Water exported:	+ ?	n/a	0.000	MG/Yr	+ ?					MG/Yr
WATER SUPPLIED:			**3,422.000**	MG/Yr						

Enter negative % or value for under-registration
Enter positive % or value for over-registration

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

					Pcnt:	Value:	
Billed metered:	+ ?	6	2,990.000	MG/Yr			
Billed unmetered:	+ ?	10	23.000	MG/Yr			
Unbilled metered:	+ ?	n/a	0.000	MG/Yr			
Unbilled unmetered:	+ ?		42.775	MG/Yr	1.25%		MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION:	?	**3,055.775**	MG/Yr

Use buttons to select percentage of water supplied **OR** value

WATER LOSSES (Water Supplied - Authorized Consumption)

366.225 MG/Yr

Apparent Losses

					Pcnt:	Value:	
Unauthorized consumption:	+ ?		8.555	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+ ?	5	92.474	MG/Yr	3.00%		MG/Yr
Systematic data handling errors:	+ ?		7.475	MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses:	?	**108.504**	MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:	?	**257.721**	MG/Yr
WATER LOSSES:		**366.225**	MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER:	?	**409.000**	MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+ ?	9	275.8	miles
Number of active AND inactive service connections:	+ ?	9	16,863	
Service connection density:	?		61	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: + ? (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	+ ?	9	60.0	psi

COST DATA

Total annual cost of operating water system:	+ ?	10	$6,195,222	$/Year
Customer retail unit cost (applied to Apparent Losses):	+ ?	9	$1.87	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+ ?	8	$569.93	$/Million gallons

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 73 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Billed metered
3: Customer metering inaccuracies

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

American Water Works Association.
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? Click to access definition
+ Click to add a comment

Water Audit Report for: City of Porterville (54-10010)
Reporting Year: 2020 | 1/2020 - 12/2020

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

<---------- Enter grading in column 'E' and 'J' ---------->

Master Meter and Supply Error Adjustments

WATER SUPPLIED

Volume from own sources:	7	3,647.000	MG/Yr	3	Pcnt:	Value:	MG/Yr
Water imported:	n/a	0.000	MG/Yr				MG/Yr
Water exported:	n/a	0.000	MG/Yr				MG/Yr

Enter negative % or value for under-registration
Enter positive % or value for over-registration

WATER SUPPLIED: 3,647.000 MG/Yr

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

				Pcnt:	Value:	
Billed metered:	6	3,243.000	MG/Yr			
Billed unmetered:	10	21.000	MG/Yr			
Unbilled metered:	n/a	0.000	MG/Yr			
Unbilled unmetered:		45.588	MG/Yr	1.25%		MG/Yr

Use buttons to select percentage of water supplied **OR** value

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: 3,309.588 MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

337.413 MG/Yr

Apparent Losses

				Pcnt:	Value:	
Unauthorized consumption:		9.118	MG/Yr	0.25%		MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	5	100.299	MG/Yr	3.00%		MG/Yr
Systematic data handling errors:		8.108	MG/Yr	0.25%		MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

Apparent Losses: 117.524 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 219.889 MG/Yr

WATER LOSSES: 337.413 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 383.000 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	9	291.3	miles
Number of active AND inactive service connections:	9	17,063	
Service connection density:		59	conn./mile main

Are customer meters typically located at the curbstop or property line? Yes

Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:	9	60.0	psi

COST DATA

Total annual cost of operating water system:	9	$6,951,412	$/Year
Customer retail unit cost (applied to Apparent Losses):	9	$1.87	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	9	$534.76	$/Million gallons

☐ Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 73 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources
2: Billed metered
3: Customer metering inaccuracies

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Appendix F

SBX7-7 VERIFICATION FORMS

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SB X7-7 Table 0: Units of Measure Used in 2020 UWMP* *(select one from the drop down list)*
Million Gallons
**The unit of measure must be consistent throughout the UWMP, as reported in Submittal Table 2-3.*
NOTES:

SB X7-7 Table 2: Method for 2020 Population Estimate		
Method Used to Determine 2020 Population (may check more than one)		
	1. Department of Finance (DOF) or (ACS)	**American Community Survey**
	2. Persons-per-Connection Method	
X	**3. DWR Population Tool**	
	4. Other DWR recommends pre-review	
NOTES:		

SB X7-7 Table 3: 2020 Service Area Population	
2020 Compliance Year Population	
2020	74,907
NOTES:	

SB X7-7 Table 4: 2020 Gross Water Use							
Compliance Year 2020	**2020 Volume Into Distribution System** *This column will remain blank until SB X7-7 Table 4-A is completed.*	**2020 Deductions**					**2020 Gross Water Use**
		Exported Water *	**Change in Dist. System Storage*** (+/-)	**Indirect Recycled Water** *This column will remain blank until SB X7-7 Table 4-B is completed.*	**Water Delivered for Agricultural Use***	**Process Water** *This column will remain blank until SB X7-7 Table 4-D is completed.*	
	3,647	-	-	-	-	-	**3,647**
*** Units of measure (AF, MG , or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.							
NOTES:							

SB X7-7 Table 4-A: 2020 Volume Entering the Distribution System(s), Meter Error Adjustment Complete one table for each source.			
Name of Source	Tule Subbasin Groundwater		
This water source is *(check one)***:**			
X	The supplier's own water source		
	A purchased or imported source		
Compliance Year 2020	Volume Entering Distribution System [1]	Meter Error Adjustment [2] *Optional* *(+/-)*	Corrected Volume Entering Distribution System
	3,647	-	3,647
*[1] **Units of measure (AF, MG , or CCF)** must remain consistent throughout the UWMP, as reported in SB X7-7 Table 0 and Submittal Table 2-3.* *[2] **Meter Error Adjustment** - See guidance in Methodology 1, Step 3 of Methodologies Document*			
NOTES			

SB X7-7 Table 5: 2020 Gallons Per Capita Per Day (GPCD)		
2020 Gross Water ***Fm SB X7-7 Table 4***	**2020 Population** ***Fm SB X7-7 Table 3***	**2020 GPCD**
3,647	74,907	**133**
NOTES:		

SB X7-7 Table 9: 2020 Compliance							
Actual 2020 GPCD[1]	Optional Adjustments to 2020 GPCD					2020 Confirmed Target GPCD [1, 2]	**Did Supplier Achieve Targeted Reduction for 2020?**
	Enter "0" if Adjustment Not Used			TOTAL Adjustments[1]	Adjusted 2020 GPCD [1] *(Adjusted if applicable)*		
	Extraordinary Events[1]	Weather Normalization[1]	Economic Adjustment[1]				
133	-	-	-	-	133	156	**YES**
[1] All values are reported in GPCD *[2] **2020 Confirmed Target GPCD** is taken from the Supplier's SB X7-7 Verification Form Table SB X7-7, 7-F.*							
NOTES:							

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Appendix G

EASTERN TULE GSA GROUNDWATER SUSTAINABILITY PLAN

A copy of the Eastern Tule Groundwater Sustainability Agency's Groundwater Sustainability Plan can be downloaded at the link below:

https://www.easterntulegsa.com/gsp

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Appendix H

2020 WATER QUALITY CCR

City of Porterville Consumer Confidence Reports can be downloaded at the link below:

https://www.ci.porterville.ca.us/departments/public_works/field_services_division/water___sewer_ma intenance.php#outer-161

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Appendix I

WATER CONSERVATION PLAN

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Version 4.0

WATER CONSERVATION PLAN

EVERY DROP COUNTS.

PRESENTED BY: FIELD SERVICES DIVISION
PUBLIC WORKS DEPARTMENT

CITY OF PORTERVILLE
555 N. PROSPECT ST., PORTERVILLE, CA 93257

REVISED BY:

JOHN LOLLIS,
CITY MANAGER

MICHAEL K. REED,
ACTING PUBLIC WORKS DIRECTOR

BRYAN B. STYLES,
DEPUTY PUBLIC WORKS DIRECTOR
& FIELD SERVICES MANAGER

MICHAEL KNIGHT,
WATER UTILITIES SUPERINTENDENT

ROMAN FERRO,
WATER SYSTEMS SPECIALIST

DENYS THOMPSON,
ADMINISTRATIVE AIDE

TABLE OF CONTENTS

Preface 4

City Water System **5**

Conservation Phasing 7

- Water Conservation Phase I 7
- Drought Response Phase II 9
- Drought Response Phase III 12
- Drought Response Phase IV 14
- Emergency Response Phase V 16

PREFACE

The City of Porterville water system is municipally-owned with more than 15,299 service connections, 97% of which are metered, serving a population of 55,490, with approximately 1,100 service connections outside the city limits. Water supplies for the City system are produced entirely from groundwater underlying the city, which is recharged from rainfall and runoff of the Western Sierra Nevada. The major stream contributing to the recharge of the Tule Basin Aquifer underlying Porterville is the Tule River.

Storage capacity represents over ten million gallons within the distribution system and five hillside reservoirs, three with a capacity of three million gallons, one with a capacity of three hundred and five thousand gallons, one with the capacity of five hundred and fifty thousand gallons.

A telemetry system controls the operation of 23 of the City's 35 active well pumps to maintain system pressure under varying loads. The water levels in the reservoirs are also monitored and controlled by the computerized telemetry control system.

Water conservation and awareness have always been areas of concern for the Porterville community. Less than normal rainfall and runoff makes efforts to promote water conservation a high priority. In addition to the benefits of conserving water as a limited natural resource, additional benefits accrue to the community in the form of a reduced impact on the Wastewater Treatment Plant and a reduction in energy costs when water supplies are conserved.

It is vitally important that the Water Conservation Plan be a joint partnership between the City and the General Public in order to achieve optimal effect. The Plan has been developed in five phases with each phase defined in terms of the available water supply.

Well Storage Levels and Drought Phase Triggers

Water Conservation Phase I	**Water Conservation Phase I:** Applies during periods when a normal water supply is available.
Drought Response Phase II	**Drought Response Phase II:** Applies during period when there is a water supply storage.
Drought Response Phase III	**Drought Response Phase III:** Applies during period when there is a significant water supply storage.
Drought Response Phase IV	**Drought Response Phase IV:** Applies during period when there is a more significant water supply storage.
Emergency Response Phase V	**Emergency Response Phase V:** Applies during periods when there is a critical water supply shortage.

Actions within each phase have been defined as either actions to be undertaken by the City or by the General Public. Due to the number of variables which affect the water conditions in existence at any one point in time, a City staff analysis of those variables will be utilized in determining the transition of the City from one phase to a more (or less) stringent phase. At such time as staff determines that water supply conditions warrant a phase change, staff will present the request to the City Council for their approval.

This plan differs from other valley community plans because the city of Porterville is in a more favorable position of having almost all of its water customers metered, which allows the City to basically control the water conservation program.

CITY WATER SYSTEM

The City has always been diligent in its efforts to provide sufficient safe and affordable drinking water to the residents of the community. Water conservation has long been a permanent part of the City's water resource management program. Efforts to that end include:

- NEW WELLS:

Over the past five years new wells have been added to the City water system in order to serve the needs of the community. Additional wells are planned for completion within the next few years.

- TELEMETRY SYSTEM:

This system controls the operation of the well pumps to maintain system pressure under varying loads. Water levels in the reservoirs are also monitored and controlled by the computerized telemetry control system. Water is usually pumped to the reservoirs during the off peak usage hours for later use by consumers. This system was designed to

operate the City wells in the most efficient and productive way possible with additional benefits of energy cost savings.

- RESERVOIRS:

The City currently operates and maintains five (5) hillside reservoirs, three (3) with a capacity of three million gallons, one (1) with a capacity of 305,000 gallons, and one (1) with a capacity of 550,000. The three largest reservoirs are usually filled during off peak hours and then release water during the high usage hours. There is also a 300,000 gallon reservoir located at the Airport which is also part of the City system. The reservoirs increase the City's ability to maintain system pressure during peak demand and fire flow situations.

- METERIZATION PROGRAM:

With over 97% of all service connections metered, the City has a goal of 100% meterization. All new connections are required to have meters.

- UTILITY BILLING NOTICE:

The City's computerized utility billing system provides consumers with their current and past water usage history for comparison purposes. While variations may be attributable to a change known to the consumer (i.e. additional persons in the home, addition of a swimming pool), it may also be the result of an undetected leak or other controllable occurrence.

- WATER AUDIT/LEAKAGE DETECTION & REPAIR PLAN:

The City will continue in its proactive plan to audit water supply usage. Upon detection of the source of any leakage, corrective action will be taken immediately in order to promote the efficient use of the existing water supply and in turn reduce the energy required to operate the system.

- NEW WATER LINE TESTING:

The City requires full pressure and leak testing of all newly constructed water lines.

- FIRE HYDRANT TESTING:

The City Fire Department schedules their annual fire hydrant testing program during the early spring and late fall to avoid the peak water use season. Such testing is required to maintain the integrity of the fire protection system.

CONSERVATION PHASING

The effectiveness of any voluntary plan ultimately depends on the public's awareness of the need for the plan. Local residents have a history of commitment to their community and support of the public welfare. It is a reliance upon this tradition that makes the distribution of public information the cornerstone of the City's Water Conservation Plan.

WATER CONSERVATION PHASE I: NORMAL WATER SUPPLY

The Water Conservation Phase I applies during periods when a normal water supply is available.

ACTIONS BY THE CITY:

Public Information Program	• Distribution of suggestions for residential, commercial, and industrial water conservation and awareness. • Coordination of public information with the local news media. • City participation in Water Awareness Month (May). • Lawn and Landscape Watering Guides will be made available upon request. • City staff will coordinate with local nurseries to compile a list of low water using trees and plants. The list will be made available at City Hall, the Corporation Yard, and the Parks & Leisure Services Department for local residents. • Coordination with local schools to encourage young people to become aware of local water issues and conditions. • Advise against outdoor watering within forty-eight (48) hours of a measurable rainfall. Measurable rainfall is defined by the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) as 1/100th of one inch.
Project Review Committee	• The City's Project Review Committee (PRC) will include the evaluation of all submitted projects for water use and conservation efforts. The goal of City staff in cooperation with the developer will be to voluntarily reduce consumption of water used in the project. • City staff will assist the developer in familiarization with the Xeriscape Concept, combining creative landscaping and efficient irrigation to save water and promote attractive alternatives to traditional, high water use landscapes.
City Landscapes and Watering Schedules	• City parks, median islands, and landscaped public facilities will be watered during late night or early morning hours to the greatest extent possible. • All new landscaping projects undertaken by the City will incorporate conservation design.

Retrofit Bathroom Facilities	Water saving kits which contain toilet water conservation and low flow shower head devices will be made available to City water consumers, both residential and commercial, upon request, as funds are available.
Fire Hydrant Testing	The City's fire hydrant testing program will be scheduled during non-peak water usage times to the greatest extent possible without impairing the integrity of the City's fire protection service.

ACTIONS BY THE GENERAL PUBLIC:

Mindful Water Use	The general public will be encouraged to utilize those water conservation measures contained within the City's Public Information Program.
Voluntary Odd/Even Watering Schedule	• This schedule is encouraged, but not mandated. This plan is designed to minimize water usage and requests that the public water their lawn and shrubs according to their street address, per Exhibit 1 below. • Addresses ending in an odd number (1, 3, 5, 7, or 9) water on Tuesday, Thursday, and Saturday. Addresses ending in an even number (0, 2, 4, 6, or 8) water on Wednesday, Friday, and Sunday. There is no watering on Monday. **Watering should be avoided between the hours of 5:00 AM to 10:00 AM and 5:00 PM to 10:00 PM.**

Voluntary Odd/Even Water Schedule

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
DO NOT WATER	OK TO WATER	OK TO WATER	OK TO WATER	OK TO WATER	OK TO WATER	OK TO WATER
---	ODD	EVEN	ODD	EVEN	ODD	EVEN

Odd Address Even Address

Exhibit 1

DROUGHT RESPONSE PHASE II: WATER SUPPLY SHORTAGE

Drought Response Phase II applies during periods when there is a water supply shortage. When water supply conditions start to deteriorate, the City is mandated to implement more stringent water conservation provisions for the benefit of its community. In addition to upholding the programs and provisions outlined in Phases I, the City must be diligent in its water conservation efforts by issuing penalties for non-compliance.

ACTIONS BY THE CITY:

Adoption and Enforcement of Stricter Water Regulations and Restrictions	• The City of Porterville will enforce an odd/even watering schedule for all residents. Watering is prohibited between the hours of 5:00 AM to 10:00 AM and 5:00 PM to 10:00 PM. Watering shall only occur on designated watering days. Excessive run-off is prohibited, as is outdoor watering within forty-eight (48) hours of a measurable rainfall. Measurable rainfall is defined by the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) as 1/100th of one inch. • Per Section 25-5.1 of the City Municipal Code, Non-compliance with the City of Porterville's water conservation regulations will result in one written warning from the City of Porterville before the issuance of a citation. A second violation within a 12 month period will result in the issuance of a citation with a fine of $100.00; a second citation will result in a fine of $200.00; a third citation will result in a fine of $500.00. Willful and egregious violations will result in issuance of a citation without a warning. Each day that a violation continues shall be regarded as a new and separate offense. • Per Section 25-5 of the City Municipal Code, "The consumer shall use reasonable care to prevent the waste of water, shall not allow water to run or waste from his property onto streets or highways, shall not use water in washing sidewalks, building entrances or lobbies or other properties to such excess that water shall flow in street gutters beyond the frontage of the properties occupied by them."
Public Information Program	The City will pursue a more aggressive distribution of information than its efforts initiated in the initial Water Conservation Phase to promote public awareness of the need to conserve water with a stronger emphasis on the water shortage condition.
Water System Pressure Reduction	The City's water system may experience reduced water pressures during high usage periods. This may deter water use for nonessential activities and encourage scheduling of landscape watering to late nights or early mornings.
City Landscapes and Watering Schedules	All City parks, median islands, and public facility landscapes will be watered during the late night or early morning hours to reduce impact on the water system during peak usage hours.
Leak Detection Water Waste	The City will continue in its proactive plan to audit water supply usage. All City staff will be reminded of the necessity of reporting any evidence of

	leaks or water waste for immediate action. There will be an emphasis on coordinated community efforts to reduce water waste.
"Waste of Water" Notices	City staff will be equipped to issue "Waste of Water" notices to consumers identified as misusing water.
Mandatory Odd/Even Watering days	Increase public education on the mandatory watering schedule program. Public outreach will emphasize changes from the Water Conservation Phase I (Voluntary) to Phase II (Mandatory).
Continuation of all Conservation Programs Established in Phase I	See Phase I

ACTIONS BY THE GENERAL PUBLIC:

Mandatory Odd/Even Watering Schedule	• Addresses ending in an odd number (1, 3, 5, 7, or 9) water on Tuesday, Thursday and Saturday. Addresses ending in an even number (0, 2, 4, 6, or 8) water on Wednesday, Friday and Sunday. There is no watering on Monday. See Exhibit 2 below. • Watering is prohibited between the hours of 5:00 AM to 10:00 AM and 5:00 PM to 10:00 PM. Watering shall only occur on designated watering days. • Excessive runoff is prohibited.
Ornamental Water Features	• Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life. • The operation of ornamental fountains or other structure making similar use of water is prohibited unless the fountain uses a recycling system.
Conservation Efforts	The general public will be strongly encouraged to utilize those water conservation measures contained within the City's public information program.
Restaurants	Notices will be sent to all restaurants within the city limits requesting support of water conservation efforts by serving water to customers upon request only.
Lawn and Landscaping Watering	Mandatory implementation of the Odd/Even Watering Program initiated in the Water Conservation Phase I, all residential, commercial, and industrial landscape watering scheduled times.

Vehicle Washing and Sidewalk Hosing	• The washing of sidewalks, driveways, parking areas, patios or other paved areas is prohibited, unless it is necessary for the health and safety of the public. • The washing of automobiles, trucks, trailers, boats, and airplanes is only permitted on designated watering days. Such washing, when allowed, shall be done either by automatic car washes that recycle water or with a hand held bucket, or hand held hose equipped with a positive shutoff nozzle for quick rinses. • Per Section 25-5 of the City Municipal Code, "The consumer shall use reasonable care to prevent the waste of water, shall not allow water to run or waste from his property onto streets or highways, shall not use water in washing sidewalks, building entrances or lobbies or other properties to such excess that water shall flow in street gutters beyond the frontage of the properties occupied by them."

Mandatory Odd/Even Water Schedule

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
DO NOT WATER	OK TO WATER	OK TO WATER	OK TO WATER	OK TO WATER	OK TO WATER	OK TO WATER
---	ODD	EVEN	ODD	EVEN	ODD	EVEN

Odd Address Even Address

Exhibit 2

DROUGHT RESPONSE PHASE III: SIGNIFICANT WATER SUPPLY SHORTAGE

Drought Response Phase III applies during periods when there is a significant water supply shortage. In addition to upholding the programs and provisions outlined in Phases I and II, the City must be diligent in its water conservation efforts by issuing penalties for non-compliance.

ACTIONS BY THE CITY:

Adoption and Enforcement of Stricter Water Regulations and Restrictions	• The City of Porterville will enforce a two day a week odd/even watering schedule for all residents. Watering is prohibited between the hours of 5:00 AM to 10:00 AM and 5:00 PM to 10:00 PM. Watering shall only occur on designated watering days. Excessive run-off is prohibited, as is outdoor watering within forty-eight (48) hours of a measurable rainfall. Measurable rainfall is defined by the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) as 1/100th of one inch. • Per Section 25-5.1 of the City Municipal Code, Non-compliance with the City of Porterville's water conservation regulations will result in one written warning from the City of Porterville before the issuance of a citation. A second violation within a 12 month period will result in the issuance of a citation with a fine of $100.00; a second citation will result in a fine of $200.00; a third citation will result in a fine of $500.00. Willful and egregious violations will result in issuance of a citation without a warning. Each day that a violation continues shall be regarded as a new and separate offense. • Per Section 25-5 of the City Municipal Code, "The consumer shall use reasonable care to prevent the waste of water, shall not allow water to run or waste from his property onto streets or highways, shall not use water in washing sidewalks, building entrances or lobbies or other properties to such excess that water shall flow in street gutters beyond the frontage of the properties occupied by them."
Public Information Program	The utility billing system will begin to notify customers of restrictions on water use. The program to promote public awareness will be intensified with emphasis placed on communicating the mandatory water conservation requirements to the public.
City Landscapes and Watering Schedules	All City parks, median islands, and public facility landscapes will adopt a two-day watering schedule. If it becomes necessary, watering of City parks and median islands will be suspended and evaluated each day.
Continuation of all Conservation Programs and Regulations Established in Phases I and II	See Phases I and II

ACTIONS BY THE GENERAL PUBLIC:

Mandatory Reduction in Watering Days Durations	• Addresses ending in an odd number (1, 3, 5, 7, or 9) water on Tuesday and Saturday. Addresses ending in an even number (0, 2, 4, 6, or 8) water on Wednesday and Sunday. There is no watering on Monday, Thursday, or Friday. See Exhibit 3 below. • Watering is prohibited between the hours of 5:00 AM to 10:00 AM and 5:00 PM to 10:00 PM. Watering shall only occur on designated watering days. • Excessive runoff is prohibited.
Ornamental Water Features	• Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life. • The operation of ornamental fountains or other structure making similar use of water is prohibited unless the fountain uses a recycling system.
Vehicle Washing and Sidewalk Hosing	• The washing of sidewalks, driveways, parking areas, patios or other paved areas is prohibited, unless it is necessary for the health and safety of the public. • The washing of automobiles, trucks, trailers, boats, and airplanes is only permitted on designated watering days. Such washing, when allowed, shall be done with a hand held bucket, or hand held hose equipped with a positive shutoff nozzle for quick rinses. • Per Section 25-5 of the City Municipal Code, "The consumer shall use reasonable care to prevent the waste of water, shall not allow water to run or waste from his property onto streets or highways, shall not use water in washing sidewalks, building entrances or lobbies or other properties to such excess that water shall flow in street gutters beyond the frontage of the properties occupied by them."
Water Leaks	All leaks must be treated as a priority upon discovery and repaired at the safest scheduled opportunity.

Mandatory Odd/Even Water Schedule

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
DO NOT WATER	OK TO WATER	OK TO WATER	DO NOT WATER	DO NOT WATER	OK TO WATER	OK TO WATER
---	ODD	EVEN	---	---	ODD	EVEN

Odd Address Even Address

Exhibit 3

DROUGHT RESPONSE PHASE IV: SIGNIFICANT WATER SUPPLY SHORTAGE

Drought Response Phase IV applies during periods when there is a significant water supply shortage. In addition to upholding the programs and provisions outlined in Phases I, II and III, the City must be diligent in its water conservation efforts by issuing penalties for non-compliance.

ACTIONS BY THE CITY:

Adoption and Enforcement of Stricter Water Regulations and Restrictions	• The City of Porterville will enforce a one day a week odd/even watering schedule for all residents. Watering is prohibited between the hours of 5:00 AM to 10:00 AM and 5:00 PM to 10:00 PM. Watering shall only occur on designated watering days. Excessive run-off is prohibited, as is outdoor watering within forty-eight (48) hours of a measurable rainfall. Measurable rainfall is defined by the National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) as 1/100th of one inch. • Per Section 25-5.1 of the City Municipal Code, Non-compliance with the City of Porterville's water conservation regulations will result in one written warning from the City of Porterville before the issuance of a citation. A second violation within a 12 month period will result in the issuance of a citation with a fine of $100.00; a second citation will result in a fine of $200.00; a third citation will result in a fine of $500.00. Willful and egregious violations will result in issuance of a citation without a warning. Each day that a violation continues shall be regarded as a new and separate offense. • Per Section 25-5 of the City Municipal Code, "The consumer shall use reasonable care to prevent the waste of water, shall not allow water to run or waste from his property onto streets or highways, shall not use water in washing sidewalks, building entrances or lobbies or other properties to such excess that water shall flow in street gutters beyond the frontage of the properties occupied by them."
Public Information Program	The utility billing system will begin to notify customers of restrictions on water use. The program to promote public awareness will be intensified with emphasis placed on communicating the mandatory water conservation requirements to the public.
City Landscapes and Watering Schedules	All City parks, median islands, and public facility landscapes will adopt a two-day watering schedule. If it becomes necessary, watering of City parks and median islands will be suspended and evaluated each day.
Continuation of all Conservation Programs and Regulations Established in Phases I, II and III	See Phases I, II and III

ACTIONS BY THE GENERAL PUBLIC:

Mandatory Reduction in Watering Days Durations	• Addresses ending in an odd number (1, 3, 5, 7, or 9) water on Saturday. Addresses ending in an even number (0, 2, 4, 6, or 8) water on Sunday. There is no watering Monday through Friday. See Exhibit 3 below. • Watering is prohibited between the hours of 5:00 AM to 10:00 AM and 5:00 PM to 10:00 PM. Watering shall only occur on designated watering days. • Excessive runoff is prohibited.
Ornamental Water Features	• Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life. • The operation of ornamental fountains or other structure making similar use of water is prohibited unless the fountain uses a recycling system.
Vehicle Washing and Sidewalk Hosing	• The washing of sidewalks, driveways, parking areas, patios or other paved areas is prohibited, unless it is necessary for the health and safety of the public. • The washing of automobiles, trucks, trailers, boats, and airplanes is only permitted on designated watering days. Such washing, when allowed, shall be done with a hand held bucket, or hand held hose equipped with a positive shutoff nozzle for quick rinses. • Per Section 25-5 of the City Municipal Code, "The consumer shall use reasonable care to prevent the waste of water, shall not allow water to run or waste from his property onto streets or highways, shall not use water in washing sidewalks, building entrances or lobbies or other properties to such excess that water shall flow in street gutters beyond the frontage of the properties occupied by them."
Water Leaks	All leaks must be treated as a priority upon discovery and repaired at the safest scheduled opportunity.

Mandatory Odd/Even Water Schedule

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
DO NOT WATER	DO NOT WATER	DO NOT WATER	DO NOT WATER	DO NOT WATER	OK TO WATER	OK TO WATER
-	-	-	-	-	ODD	EVEN

Odd Address Even Address

Exhibit 4

EMERGENCY RESPONSE PHASE V: CRITICAL WATER SUPPLY SHORTAGE

Applies during periods when there is a severe water supply shortage as determined by California State mandate, City Manager, system outage, equipment failure, contamination of water supply, or other emergency. In addition to upholding the programs and provisions outlined in Phases I, II, III and IV, the City must be diligent in its water conservation efforts by issuing penalties for non-compliance.

ACTIONS BY THE CITY:

Rate Structure Enhancement	A 20% water rate increase on all residential and landscape accounts will go into effect. This rate increase will encourage water conservation and will also serve as a provision to recover the lost revenues from water conservation.
City Landscapes and Watering Schedules	Watering of City parks and median islands will be suspended and evaluated each day.
Continuation of all Conservation Programs and Regulations Established in Phases I, II, III and IV	See Phases I, II, III and IV

ACTIONS BY THE GENERAL PUBLIC:

Lawn and Landscaping Watering	Lawn and landscaping watering is prohibited.
Vehicle Washing	Vehicle washing should be accomplished either by automatic car washes that recycle water or with buckets and hoses equipped with a shut-off nozzle.
Continuation of all Conservation Programs and Regulations Established in Phases I, II, III and IV	See Phases I, II, III and IV

Appendix J

DROUGHT RISK ASSESSMENT

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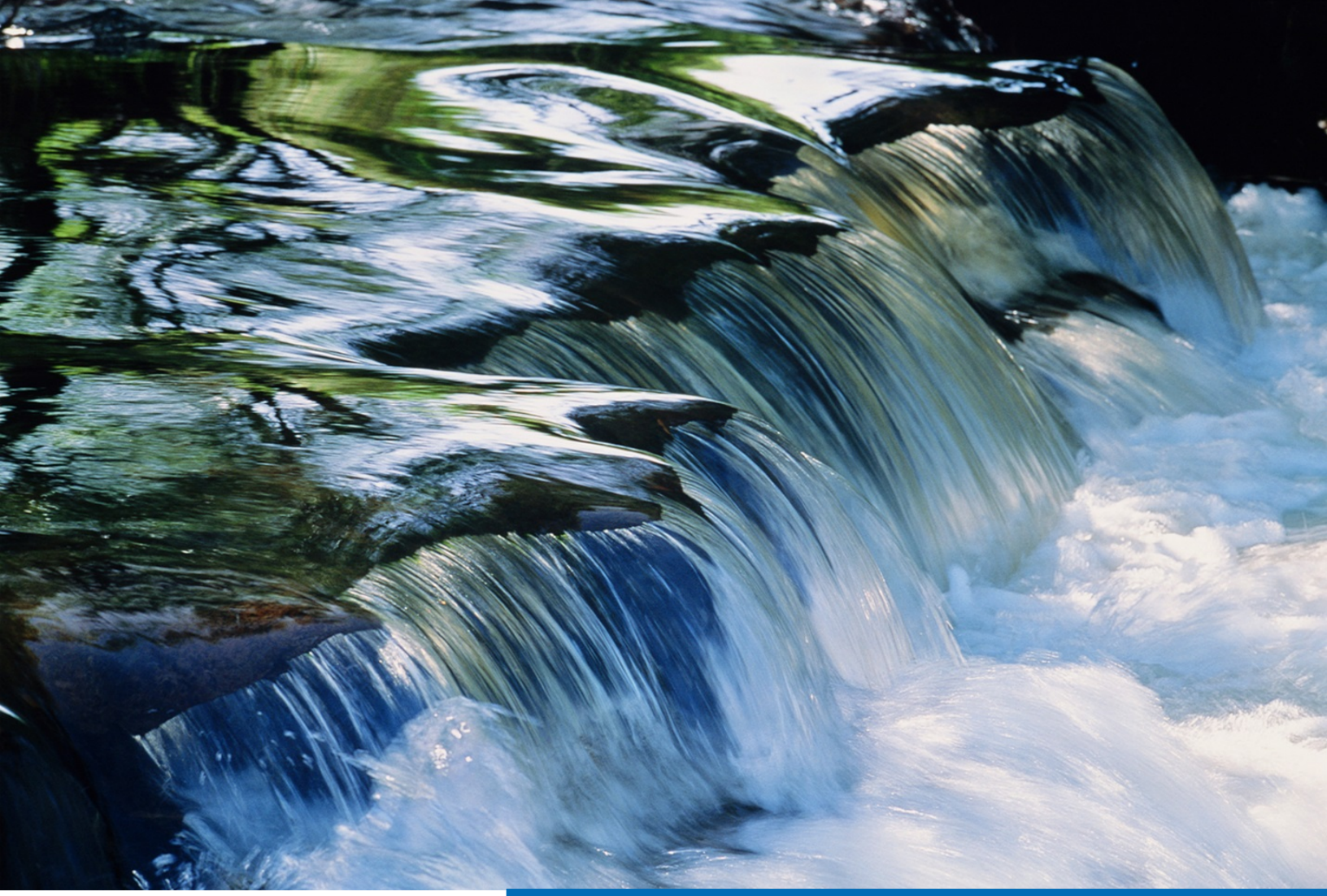

City of Porterville
2020 Urban Water Management Plan

DROUGHT RISK ASSESSMENT

DRAFT FINAL | JANUARY 2022

City of Porterville
2020 Urban Water Management

DROUGHT RISK ASSESSMENT

DRAFT FINAL | JANUARY 2022

This document is released for the purpose of information exchange review and planning only under the authority of Anthony M. Cemo, JANUARY 2022, State of California, P.E. No. 87929.

Contents

Drought Risk Assessment 1

1.0 Purpose and Objectives 1

2.0 New Legislation for Drought Resilience 1

3.0 Water System Overview 3

3.1 Historical and Projected Population 3

3.2 Local Water Supply 4

3.3 Existing and Projected Demands 5

3.4 Supply and Demand Balance 5

3.5 Commitment to Water Use Efficiency 7

4.0 Drought Risk Assessment 8

4.1 Five-Year Drought Risk Assessment 8

4.2 Drought and Water Shortage Risk and Vulnerability Assessment 10

4.2.1 Exposure to Hazard 10

4.2.2 Vulnerability 11

4.2.3 Water Shortage Record 11

4.2.4 Drought and Water Shortage Risk Score 12

4.3 Climate Change Considerations 12

4.4 Seismic Risk Assessment and Mitigation Plan 13

5.0 Water Shortage Response Action 13

6.0 Conclusion and Recommended Next Steps 14

Appendices

Appendix A Risk and Vulnerability Assessment

Tables

Table 1 Water Service Population – Current and Projected 4

Table 2 Water Service Population – Current and Projected 5

Table 3 Normal Year Supply and Demand Balance 5

Table 4 Multi-Dry Year Water Balance 6

Table 5 Five-Year Drought Risk Assessment Tables to Address CWC Section 10635(b) 9

Table 6 Extended Drought Scenario Projections 13

Figures

Figure 1 New Legislation Resulting from California Drought 2

Figure 2 Historical and Projected Water Service Population 4

Figure 3 Historical Per Capita Demand 7

Figure 4 Grouping of Risk Indicators 10

Abbreviations

AB	California Assembly Bill
ac-ft	acre-feet
AFY	acre-feet per year
BG	block group
CDFA	California Department of Food and Agriculture
CEC	California Energy Commission
CPUC	California Public Utilities Commission
DRA	Drought Risk Assessment
DWR	California Department of Water Resources
ETGSA	Eastern Tule Groundwater Sustainability Agency
°F	Fahrenheit
FKC	Friant-Kern Canal
gpcd	gallons per capita day
GQ	Group Quarters
GSAs	groundwater sustainability agencies
GSPs	groundwater sustainability plans
IMP	2020 Integrated Master Plan
FKC	Friant-Kern Canal
MG	million gallons
MHI	Median Household Income
MJLHMP	Multi-Jurisdictional Local Hazard Mitigation Plan
RC	Risk Component
SB	California Senate Bill
SGMA	Sustainable Groundwater Management Act
State Water Board	State Water Resources Control Board
UWMP	Urban Water Management Plan
WCP	water conservation plant
WSCP	water shortage contingency plan

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DROUGHT RISK ASSESSMENT

1.0 Purpose and Objectives

As part of the latest guidance under Water Code Section 10635(b), suppliers are required to prepare a Drought Risk Assessment (DRA) with descriptions of data and methods used, basis for supply shortage conditions, determination of the reliability of sources, and a comparison of the total water supplies and uses during the drought. The key sections of the DRA are a combination of sections from the Urban Water Management Plan (UWMP) and the Water Shortage Contingency Plan (WSCP). The DRA will be submitted every five years with the UWMP and will assist the City of Porterville with future annual water supply and demand reporting. At this time, the California Department of Water Resources (DWR) has not established the annual reporting requirements.

The DRA contains the following:

1. New legislation that triggered the need for the DRA.
2. Water system overview, which includes a summary of the population, demand, and supply forecast through the year 2040.
3. Drought risk assessment and vulnerability considerations.
4. Response actions during supply shortage conditions.
5. Next steps.

2.0 New Legislation for Drought Resilience

As a result of the historic California drought from 2012 through 2016, Executive Order B-37-16 was issued by Governor Brown to establish a long-term framework for water conservation and drought planning. The initial framework to implement Executive Order B-37-16 was prepared in 2017 by DWR, the State Water Resources Control Board (State Water Board), the California Public Utilities Commission (CPUC), the California Department of Food and Agriculture (CDFA), and the California Energy Commission (CEC). It outlined actions that could be implemented by existing authorities as well new actions that could be expanded with a new legislature. The framework focused on using water more wisely, eliminating water waste, strengthening local drought resilience, and improving agricultural water use efficiency and drought planning. The framework also informed the development of Senate Bill (SB) 606 (Hertzberg) and Assembly Bill (AB) 1668 (Friedan) in 2018.

The key elements from the new legislation that impact the UWMP are eliminating water waste and strengthening local drought resilience. As part of the new requirements for strengthening local drought resilience, a DRA must be performed every 5-years in addition to conducting an annual water supply and demand assessment. The annual reporting will start in July 2022 and will include information relating to anticipated shortages, triggered actions, compliance and enforcement actions, and communication actions as outlined in the WSCP as outlined in Chapter 8.

An overview of the events that led to the new legislation is shown on Figure 1.

Source: (DWR - Making Water Conservation a California Way of Life, 2018)

Figure 1 New Legislation Resulting from California Drought

3.0 Water System Overview

The City's water service area encompasses approximately 18.6 square miles, which includes, the airport, agricultural/conservation land in the south east and the limits of the City proper. The City is located in central California on the east side of the San Joaquin Valley. The City is adjacent to the Sequoia National Forest and the Sierra Nevada Foothills in Tulare County. Porterville is approximately 70 miles southeast of the City of Fresno and 50 miles north of the City of Bakersfield. The City's service area climate is a semi-arid, Mediterranean environment with cold winters, warm summers, and moderate rainfall (11.6 inches/year average). Temperatures average mid 50's in the winter and high 90's in the summer months with peaks upward to 110 degrees Fahrenheit (°F). The City's urban development boundary is primarily residential land use contributes approximately 60 percent of the total water demand with the remaining water demand made up by commercial, institutional, industrial, and landscape irrigation demands throughout the City.

The City's water distribution system consists of approximately 258 miles of pipelines ranging in diameters from 4 to 16-inches, 36 active wells (2 of which are stand-by), and six active water storage tanks totaling 10.15 million gallons (MG).

3.1 Historical and Projected Population

The water service population from 2001 to 2010 was taken from the City's 2015 UWMP. At the time, the growth rate was calculated at approximately 2.5 percent. As identified in the 2015 UWMP, the future growth rate from 2005 to 2020 is consistent over time and continues to be approximately 2.3 percent on average which is shown in Figure 2. The water service population from 2015 to 2018 was prepared by the 2020 Integrated Master Plan (IMP). The projected water service populations were calculated using a growth rate of 2.5 percent. The historical and projected population is shown in Figure 2. The water service population in 2020 is estimated at 77,692 from the City's IMP. Table 1 shows the current and projected water service population for the City. The Porterville IMP shows a population of 127,307 at 2040 based on the 2020 water service population

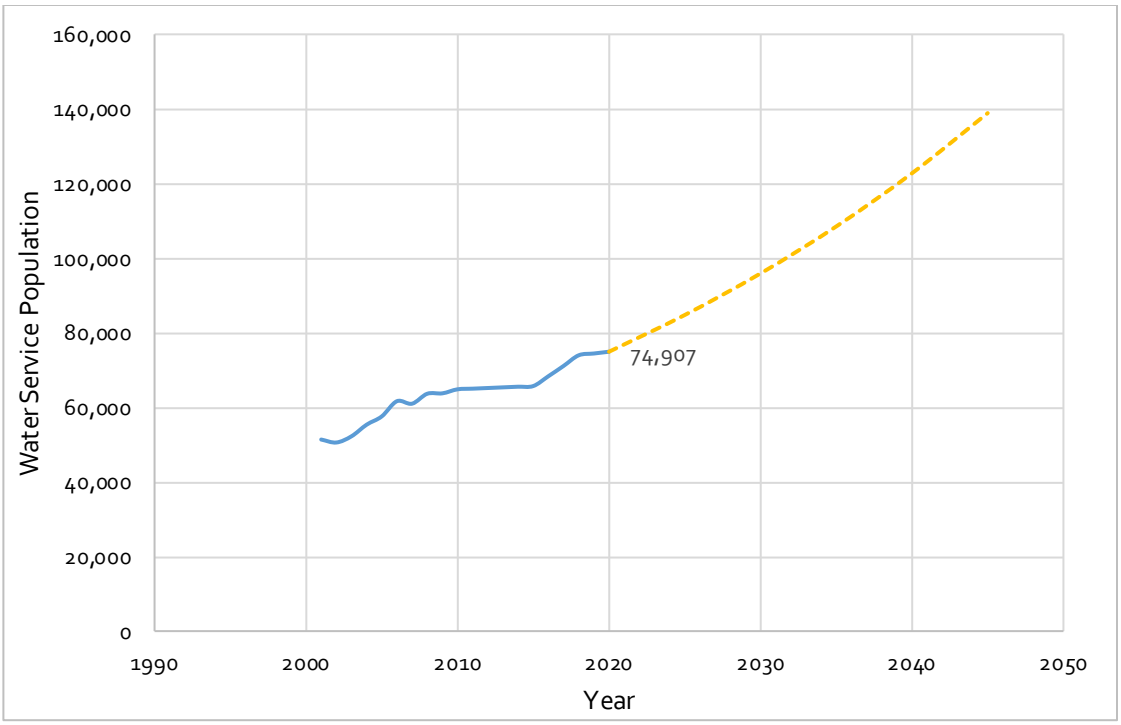

Figure 2 Historical and Projected Water Service Population

Table 1 Water Service Population – Current and Projected

	2020	2025	2030	2035	2040
Population Served(1)	74,907	87,901	99,452	112,521	127,307

Notes:
(1) Growth rate set at 2.5 percent, consistent with City's 2020 Integrated Master Plan.

3.2 Local Water Supply

The City drinking water supply is solely from groundwater extraction wells. The City's groundwater supply is extracted using 36 active wells scattered throughout the water service area that pump directly into the water distribution system and surrounding above ground water storage tanks. Extracted groundwater is chlorinated at the wellheads to provide disinfectant residual in the distribution system.

The City's groundwater system is supplied from the east side of the Tule Sub-basin. The Tule sub-basin sits on a series of overlapping alluvial fan sedimentary deposits sourced from runoff from the Sierra Nevada mountain range east of the City. Near the City, the natural waterways that promote supply to the groundwater basin are Deer Creek and the Tule River. Tule River flow is managed by Lake Success for flood control and recreation at Lake Success located just east of the City. The Sustainable Groundwater Management Act (SGMA classifies groundwater basins into four various categories of prioritization (very low, low, medium, and high. Basins that are classified as medium or high priority are required to develop groundwater sustainability agencies (GSAs, develop groundwater sustainability plans (GSPs and manage groundwater for long-term sustainability. The Tule Subbasin is considered high priority basin within SGMA and the Eastern Tule Groundwater Sustainability Agency (ETGSA completed their GSP in 2019. DWR records indicate that the groundwater elevation is approximately 300 feet below ground surface.

3.3 Existing and Projected Demands

The City's water demand is primarily residential which consist of both single family and multi-family residential land uses. The City currently has a total of 17,063 water service connections with 97 percent of those connections metered. The 2020 water use was 3,647 MG (11,192 acre-feet [ac-ft]), this demand was approximately 1,200 MG less than what was projected in the 2015 UWMP. The City's projected demands to 2040 are included in Table 2. The 2025 - 2040 demands take into consideration, population growth, development by land use within the City's UDB, capital improvement developments, as well as consumer consumption behavior.

Table 2 Water Service Population – Current and Projected

Use type	Projected Water Use (MG)				
	2020	2025	2030	2035	2040
Single Family Residential	2,025	3,182	3,607	4,074	4,621
Multi-Family Residential	390	612	694	784	889
Commercial/Institutional	448	704	798	901	1022
Industrial	10	16	18	20	23
Landscape Irrigation	223	351	398	449	509
Other	148	232	263	297	337
Losses	403	634	719	811	920
Agricultural Irrigation	0	0	0	0	0
Total	**3,647**	**5,731**	**6,497**	**7,337**	**8,322**

The supply and demand balance for the multi-dry year scenario considers the fluctuation in demands reacting to dry conditions in the first three years and then significantly reduce demands to reflect conservation efforts for the third, fourth, and fifth consecutive drought years. It is assumed that the surface water allocations via the Friant-Kern Canal (FKC) are 100 percent the first year, 75 percent the second year, 50 percent the third year, and 25 percent the fourth and fifth years. As discussed, the City will meet their entire demand with groundwater.

3.4 Supply and Demand Balance

The City's sustainable yield from the Tule groundwater basin is estimated to be 5,655 MG (17,355 acre-feet per year [AFY]). The City presently and historically meets all water demand, regardless of hydrologic conditions, with groundwater, however during periods of drought, the City does implement water conservation efforts in addition to passive savings from consumer behavior over the last five years. Table 3 lists the supply and demand balance under normal hydrologic conditions and utilizing conservative per capita demand estimates as indicated in the City's IMP.

Table 3 Normal Year Supply and Demand Balance

Use Type	Projected Water Use (MG)			
	2025	2030	2035	2040
Demand Total	5,731	6,497	7,337	8,322
Water Supply	8,549	8,841	9,173	9,546
Difference	**2,819**	**2,344**	**1,836**	**1,224**

The supply and demand balance for the multi-dry year scenario is shown in Table 4. Chapter 7 of the UWMP describes in detail the demands for the consecutive dry-years in addition to the fluctuation in demand over the course of the period. Compared to Table 3, the groundwater recharge volume progressively decreases throughout the drought due in part to reduced annual surface water allocations to FKC contractors and the City, therefore available surface water for groundwater recharge is reduced.

Table 4 Multi-Dry Year Water Balance

Consecutive Dry-Year	Use Type	Projected Water Use (MG)			
		2025	2030	2035	2040
First Year	**Demand**	**4430**	**4961**	**5556**	**6223**
	Sustainable Yield	5655	5655	5655	5655
	Groundwater Recharge	2230	2522	2854	3227
	Surface Water Exchange	664	664	664	664
	Total Supply	**8550**	**8842**	**9174**	**9546**
	Difference	4120	3881	3617	3323
Second Year	**Demand**	**4726**	**5294**	**5929**	**6640**
	Sustainable Yield	5655	5655	5655	5655
	Groundwater Recharge	1784	2018	2283	2581
	Surface Water Exchange	580	580	580	580
	Total Supply	**8019**	**8253**	**8518**	**8816**
	Difference	**3293**	**2959**	**2589**	**2176**
Third Year	**Demand**	**4789**	**5364**	**6007**	**6728**
	Sustainable Yield	5655	5655	5655	5655
	Groundwater Recharge	1673	1892	2141	2420
	Surface Water Exchange	559	559	559	559
	Total Supply	**7886**	**8105**	**8354**	**8634**
	Difference	**3097**	**2741**	**2347**	**1905**
Fourth Year	Demand	4342	4863	5447	6101
	Sustainable Yield	5655	5655	5655	5655
	Groundwater Recharge	1115	1261	1427	1613
	Surface Water Exchange	453	453	453	453
	Total Supply	**7223**	**7369**	**7535**	**7721**
	Difference	**2881**	**2505**	**2088**	**1620**
Fifth Year	**Demand**	**3491**	**3910**	**4379**	**4905**
	Sustainable Yield	5655	5655	5655	5655
	Groundwater Recharge	1115	1261	1427	1613
	Surface Water Exchange	453	453	453	453
	Total Supply	**7223**	**7369**	**7535**	**7721**
	Difference	**3732**	**3459**	**3156**	**2816**

3.5 Commitment to Water Use Efficiency

The City of Porterville has been successful at implementing conservation measures to reduce water use within their service area. Figure 3 shows the City's per capita demand from 2000 to 2020. The City has reduced water demands by approximately 27 percent between 2010 and 2015 and have maintained an average 130 gallons per capita per day (gpcd) demand between 2015 and 2020. The most significant reduction in demand was between 2013 and 2015 from 179 gpcd to 130 gpcd.

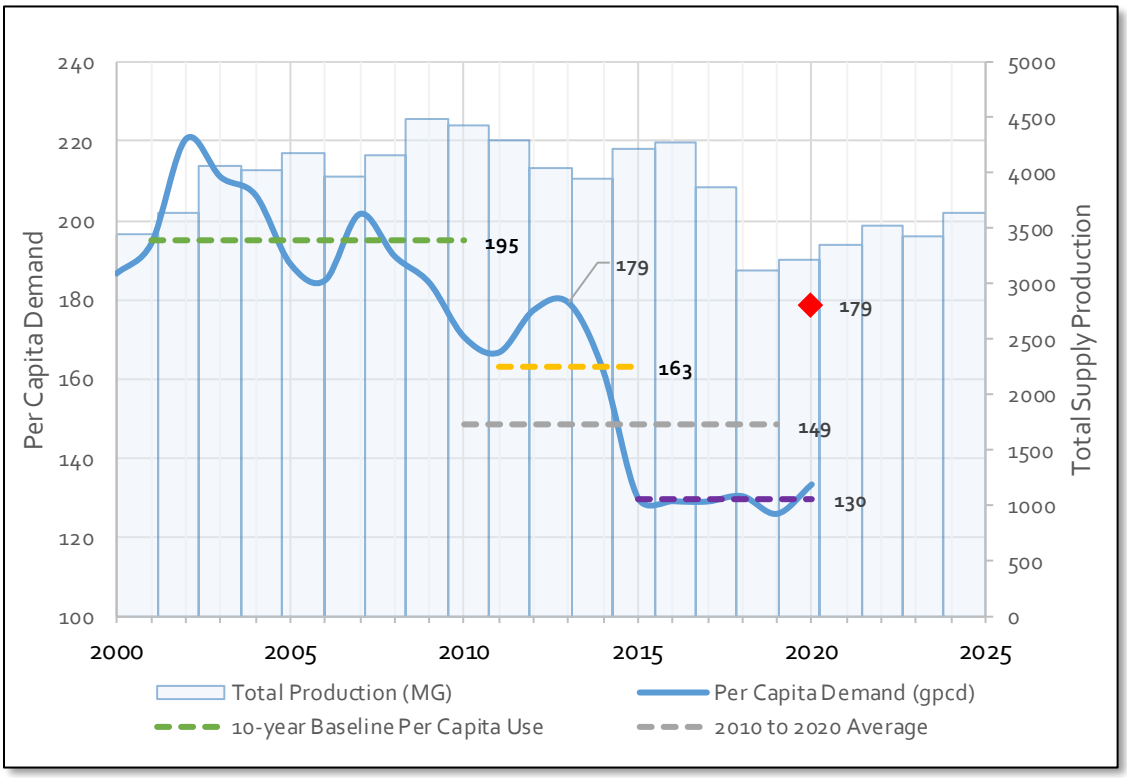

Figure 3 Historical Per Capita Demand

Water conservation measures are included in the City's existing water conservation plan (WCP) adopted in 2015. The WCP is included in Appendix I and the Water Shortage Contingency plan water shortage response actions are outlined in Chapter 8 of this UWMP. Chapter 8 crosswalks the five WCP water supply shortage levels to the six WSCP levels listed in Chapter 8. The WCP water use policies have been implemented in the recent past to prevent water waste and to encourage conservation measures throughout the City. The following water supply shortage response measures are included in the WSCP.

- Public Information Program:
  - City staff organize and provide communication between public and City Council to effectively communicate water conservation phasing, awareness, landscape irrigation techniques, system changes, and coordination with City forces throughout each shortage response action.

- Upgrade and Maintenance of Distribution System:
  - Since the WCP was adopted in 2015, the City has installed additional new wells to augment the water supply in order to meet drought demands. The continually monitors, well pump pressure and flow and water storage reservoir volumes to operate the City wells in the most efficient and productive way possible with additional benefits of energy cost savings. Additionally, the City has continued to upgrade its water distribution system with the recent completion of capital improvement plan.
- Conservation Measures:
  - The most effective conservation measure the City utilizes is their water meter program. The majority of the City's water services are metered and all new water service connections are required to be metered. As water shortage response actions of the WSCP are implemented, watering schedules are implemented to promote effective landscape irrigation for City parks, median islands, landscaped public facilities. Additionally, landscape irrigation schedules are implemented for residents based on even/odd addresses. Stricter conservation efforts prohibit ornamental water features, vehicle washing, sidewalk hosing is restricted. For the Critical water supply shortage, the City implements a 20 percent rate increase on all residential and landscape water service accounts. This increase both encourages water conservation as well as serves as a mean to recover loss revenues from water conservation.
- Water Audit/Leakage Detection and Repair Plan:
  - The City continues a proactive to audit water supply usage. Upon detection of any leakage, corrective action is immediately taken by City forces. This promotes efficient use of the existing water supply, protects the distribution system components, maintains the water quality, and reduces energy to operate the system. As new water lines are installed, the City requires full pressure and leak testing of all newly constructed water lines.

4.0 Drought Risk Assessment

4.1 Five-Year Drought Risk Assessment

A summary of the City's water supply drought risk assessment from 2021 through 2025 is summarized in Table 5. The City presently and historically has met all of their demands from groundwater and actively uses surface water allocations for groundwater recharge throughout the year. Groundwater recharge is not assumed to be a WSCP planned action since it's the City's status quo. Additionally, the City is still well below their sustainable yield value as indicated in the ETGSP therefore, there is sufficient supply to meet projected demands within the next five years.

Table 5 Five-Year Drought Risk Assessment Tables to Address CWC Section 10635(b)

2021	Total
Gross Water Use	3,738
Total Supplies	7,890
Surplus/Shortfall without WSCP Action	4,151
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	N/A
WSCP - use reduction savings benefit	N/A
Revised Surplus/(shortfall)	N/A
Resulting percent Use Reduction from WSCP action	4,151
2022	Total
Gross Water Use [Use Worksheet]	3,832
Total Supplies [Supply Worksheet]	7,844
Surplus/Shortfall without WSCP Action	4,012
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	N/A
WSCP - use reduction savings benefit	N/A
Revised Surplus/(shortfall)	N/A
Resulting percent Use Reduction from WSCP action	4,012
2023	Total
Gross Water Use [Use Worksheet]	3,927
Total Supplies [Supply Worksheet]	7,863
Surplus/Shortfall w/o WSCP Action	3,936
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	N/A
WSCP - use reduction savings benefit	N/A
Revised Surplus/(shortfall)	N/A
Resulting percent Use Reduction from WSCP action	3,936
2024	Total
Gross Water Use [Use Worksheet]	4,026
Total Supplies [Supply Worksheet]	7,798
Surplus/Shortfall without WSCP Action	3,773
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	N/A
WSCP - use reduction savings benefit	N/A
Revised Surplus/(shortfall)	N/A
Resulting percent Use Reduction from WSCP action	3,773
2025	Total
Gross Water Use [Use Worksheet]	4,126
Total Supplies [Supply Worksheet]	7,223
Surplus/Shortfall without WSCP Action	3,0976
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	N/A
WSCP - use reduction savings benefit	N/A
Revised Surplus/(shortfall)	N/A
Resulting percent Use Reduction from WSCP action	3,096

4.2 Drought and Water Shortage Risk and Vulnerability Assessment

Water Code Division 6 Part 2.55 Section 8 Chapter 10 (Assembly Bill 1668) requires DWR, in consultation with other agencies and an advisory group, to identify small water suppliers and rural communities that are at risk of drought and water shortage. DWR defines the City of Porterville as a rural community that is self-supplied since its supply is solely from groundwater. This assessment is the first statewide effort to systematically consider water shortage risks to rural communities and should be continuously observed as better datasets and scoring methods become available. Findings are to be shared within counties, GSA's, the public, and other relevant regional groups.

Using the rural community risk scores public dataset provided by DWR, Porterville was examined and received a numeric risk score, which is derived from a set of indicators developed from a stakeholder process. Indicators include five components relating to risk of drought and water shortage vulnerability. These five components are classified into three general categories representing vulnerability, as seen in Figure 4 and discussed below. The output risk score ranges from 0 to 100, where 100 is the highest risk. This is a rescaled risk score, which means that all numeric scores are relative to the other communities examined in California.

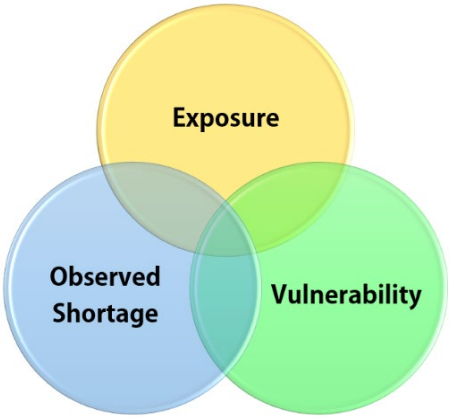

Figure 4 Grouping of Risk Indicators

4.2.1 Exposure to Hazard

As defined by DWR for the dataset provided, exposure represents the degree to which a water supplier's service area and/or a community is exposed to various hazardous environmental conditions and events that could lead to drought and/or water shortage. The risk scoring includes the likelihood of the intensity, severity, duration, and frequency for water shortage and drought in a given location. For the purpose of this DRA, this includes risks based on modeled future projections with climate change impacts (Risk Component 1, RC1) and recent hazardous conditions and events (Risk Component 2, RC2). Appendix A provides a detailed description and score specifically for Porterville for each risk indicator listed below:

- Climate change vulnerability uses three primary risk factors as indicators for scoring:
  - Temperature Shift: Projected change in heat by mid century
  - Wildfire: Projected severe or high sever risk for each system boundary or community
  - Saline Intrusion Risk: Susceptibility to sweater intrusion
- Recent hazardous conditions and events use ten primary risk factors as indicators for scoring:
  - Drought Early Warning: Annual updated early drought risk warning.
  - Wildfire Risk: Modelled current risk maximum for each census block group.
  - Fractured Rock Area: Fractured rock area (within the groundwater basin).
  - Population Growth: Projected population growth

- Water Quality Index: Domestic well water quality risk (includes areas outside of alluvial basins).
- Subsidence Presence: Record of subsidence.
- Salt Presence: Record of salts in groundwater basin.
- Over drafted Basin: Critically over drafted groundwater basin.
- Declining Water Levels: Declining groundwater levels.
- Surrounding Irrigated Agriculture: Presence of irrigated agriculture in surrounding basin.

The City of Porterville Scored a 26 for climate change vulnerability, RC1, which is equivalent to the average score for rural communities. The City scored a Recent Hazardous Conditions Score, RC2, of 47 which is just slightly below the statewide average score of 48.

4.2.2 Vulnerability

As defined by DWR for the dataset provided, vulnerability is the propensity or predisposition to be adversely affected. Such predisposition constitutes an internal characteristic of the affected element, whereas exposure to a hazard is a condition or event to which the affected element (i.e., a water supplier) is subjected. Vulnerability is quantified by a series of social and physical factors as they relate to groups of self-supplied residences. These groupings spatially are represented by US Census Block Groups. As done for the small water supplier vulnerability, self-supplied community vulnerability is quantified using (Risk Component 3, RC3) physical and (Risk Component 4, RC4) organizational vulnerability factors.

Self-supplied community vulnerability uses two risk indicators for scoring:

- Well Depth Flag: Portion of groundwater unit(s) that intersect with the census block group have relative shallow domestic wells.
- Well Depth Proportion: Proportion of Public Lands Survey Sections in block group where the max depth of domestic wells is 10 percent of more shallow than max of public wells.

Organizational vulnerability is a single aggregate indicator including 14 separate indicators, which are listed in Appendix A with description and individual average score. This risk indicator in summary considers demographic variables, population characteristics including age, residence type, income, and education.

The City did not receive a score for the self-supplied community vulnerability which represents the City's wells are not considered shallow with respect to the Census Block Group. Additionally, the City provides water to most areas within their water service area. The statewide average for self-supplied community vulnerability is 87. The City's organization vulnerability risk score is 77 whereas the statewide average score is 45.

4.2.3 Water Shortage Record

Recent history of shortage and drought impacts are incorporated into the vulnerability assessment (Risk Component 5, RC5), which include risk indicators of reported household outages in domestic wells and private wells. Records of these recent outages are kept by the State and managed by DWR. This is used to identify vulnerable areas that are prone to repeat outages due to well level fluctuation or other sensitivities.

Water Shortage Record vulnerability uses two risk indicators for scoring:

- Reported Household Outages on Domestic Wells: Presence of one or more households with reported outages (supplies from domestic well) in Census Block Group.
- Reported Household outages on Private Well: Proportion of households with reported outages (supplied from private well) in Census Block Group.

The average score for water shortage record vulnerability for self-supplied communities is 81, whereas the City scored a 56.

4.2.4 Drought and Water Shortage Risk Score

Calculations provided in the public dataset for risk scores and indicators are in accordance with California Water Code Section 10609.42 and completed through a stakeholder evaluation process between the years 2018 and 2020. Approximately 5,000 Census Block Groups were analyzed for the method of aggregation for scoring communities. For each selection, variables or components were rescaled between 0 and 100 then combined using the equation provided in Appendix A. Scores are then calculated for each component and added together, allowing for identification of the risk level and weight of risk factors. Additional details regarding the risk scoring and methodology used to assess the BBLDWP service area are located in Appendix A.

A total of eleven census blocks or "geoids" were identified in the rural and self-supplied communities' dataset that include City's service area. These eleven geoids were averaged to provide a summary of each component representing the City's system and are as follows:

- Score RC1: 26 = Exposure to climate change.
- Score RC2: 47 = Exposure to recent hazardous conditions and episodic events.
- Score RC3: 0 = Physical vulnerability.
- Score RC4: 77 = Organizational vulnerability.
- Score RC5: 56 = Record of drought impacts.

The final risk score assessed for all five components equated to 60.4 out of 100 for Porterville. This score is above average the rural and self-supplied communities final score of 41.8. This demonstrates that the City is considered to have a higher-than-normal drought and water shortage risk.

4.3 Climate Change Considerations

Cal-Adapt Extended Drought tool displays hydrologic data projected to specific date ranges of this upcoming century. Early Century is considered 2023 to 2042 and late century 2051 to 2070. This tool explores data for two 20-year drought scenarios, earlier and latter part of the century, derived from meteorological and hydrological simulations. Cal Adapt includes projected max/min temperatures, precipitation, evapotranspiration, snow water equivalent, and runoff values for a period of an extended drought period of up to 20 years Data from the Cal-Adapt Extended Drought Tool was analyzed to summarize the potential impacts on water supplies related to climate change with respect to historical data. A summary of the tool outputs is summarized in Table 6 below.

As mentioned, the City and much of the California Central Valley is completely reliant upon groundwater from the Tule subbasin for its drinking water supply. The California Water Resiliency Portfolio summaries the effects of climate change on these supplies as listed below:

- Rising winter temperature will reduce mountain snowpack in the Sierra Nevada mountain range, thus reducing spring/summer runoff and increasing winter floods.
- Increasing temperatures will mean higher risk of wildfire to fire-prone areas, decreasing watershed health and habitat thus reducing water runoff quality in reservoirs, streams, and rivers.
- Increased frequency and intensity of periods of drought.
- Stresses on existing infrastructure may not meet supply expectations of communities and agriculture.
- Current health of natural ecosystems tends to force species to migration potentially affecting other habitats.
- Increased demand with decreasing supplies from both population and economic growth.

Maximum temperatures are shown to increase approximately 5.8 percent and 9.8 percent from the observed historical for both the early and late century drought conditions, respectively. The precipitation depth is shown to decrease approximately 43 to 45 percent for the entire extended drought condition, therefore reduce runoff between 48 percent to 59 percent between both the early and late drought conditions, respectively. The snow water equivalent is 0-inches since it rarely snows in Porterville, therefore this is not a measured value.

Table 6 Extended Drought Scenario Projections

Hydrologic Parameter	Early Century Drought	Late Century Drought	Observed Historical
Max. Temperatures (°F)	82.0	85.6	77.2
Min. Temperatures (°F)	53.1	56.3	49.0
Precipitation (inches)	7.7	7.6	11.0
Evapotranspiration (inches)	5.5	6.6	9.4
Snow Water Equivalent (inches)	0.0	0.0	0.0
Runoff (inches)	0.5	0.5	0.8

4.4 Seismic Risk Assessment and Mitigation Plan

The City of Porterville is included in the Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHMP). Chapter 7 describes in detail the mitigation actions and goals the County is striving towards specifically for earthquake hazards. The entire County MJLHMP is included in Appendix L of the UWMP for reference.

5.0 Water Shortage Response Action

The City municipal code section 25-32A.27: City Water Conservation Plan states, "The City's Water Conservation Plan is deemed to be the City's "water shortage contingency plan" as per applicable state law". As discussed in Chapter 8 of this UWMP, the City's current WCP five water supply shortage levels correspond to the six water shortage levels outlined in the water code by a crosswalk authorized by Water Code Section 10632(a)(3)(B). Therefore, the City's WCP levels are further expanded to meet the DWR guidelines and provide water shortage response actions to the six levels identified in the water code.

The goal of water shortage response actions outlined in Chapter 8 are to have a procedure for managing and mitigating shortages that allow the City to adequately respond in an efficient and effective manner. A summary of the shortage levels and response actions are included in Chapter 8 of this UWMP. If there is a shortfall of supply while performing the drought risk assessment, the City should consult the water shortage response actions to use as a baseline to identify possible water conservation measures to mitigate supply shortages.

6.0 Conclusion and Recommended Next Steps

The City's DRA outlines the performance of the City's water supply during multiple hydrologic conditions; normal, single-dry, and multi-dry year period. It's concluded that the City has sufficient supplies to meet the anticipated demands to the year 2040. Using the dataset provided by the DWR to assess the City's vulnerability for rural and self-supplied communities, Porterville is considered as an above average risk for drought and water shortage when compared to other water supplies statewide. The City continues to diligently secure and expand future groundwater augmentation supplies in the near future to meet anticipated demand and continues to investigate diverse water supplies to diversify their supply portfolio.

As part of the new 2018 legislation for UWMPs, annual water shortage reporting will be required starting July 2022. Therefore, the information listed in Table 5 should be reviewed, updated, and revised on an annual basis and for significant changes in the City's water system supply and demand.

Appendix A

RISK AND VULNERABILITY ASSESSMENT

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Table A.1 RC1 – Exposure to Climate Change

Risk Factor	Risk Factor Measure Description	City of Porterville Average Score	Self-Supplies Communities Average Score
RC1a - Temperature Shift	Projected change in max temperatures by mid-century (averaged across models)	59	49
RC1b - Wildfire Risk	Projected area burned (averaged across all GCMs) by 2035-2064, RCP8.5; spatial join with Block groups	0	1
RC1c - Saline Intrusion Risk	Spatial extent of projected SLR under RCP 8.5 by 2040 (1 m) into coastal aquifers; spatial join with Block groups	18	23
	Total Component Score	**26**	**24**

Notes:

(1) Risk Factor descriptions and codes are provided in Part 2: Appendix 1 Drought and Water Shortage Risk Scoring: California's Small Water Supplier and Self-Supplied Communities (DWR).

(2) Average of the 28 Geoids located within Porterville and East Porterville/

Table A.2 RC2 – Exposure to Recent Hazardous Conditions and Episodic Events

Risk Factor	Risk Factor Measure Description	City of Porterville Average Score	Self-Supplies Communities Average Score
RC2a - Drought Early Warning	Annual Updated Early Drought Risk Warning: Less than 70 percent of average precipitation by January 31st for that water year = high risk of drought	100	100
RC2b - Wildfire Risk	Modelled current risk maximum for each Census Block Group: Use CalFire Scoring HAZ_CODE: Moderate (1)= .33; High (2)= .67; Very High (3) =1; no score =0 (no or low risk); Took max for each Census BG with spatial join in ArcGIS	13	85
RCdc - Geology	Communities in Fractured Rock Areas (1) or not (0)	14	100
RC2d - Basin Subsidence	Documented Impacts #7.b Subsidence Points; recoded to 0,.5,1 from original points of 0,3,10, then associated to Block groups	4	4
RC2e - Basin Salts	Documented Impacts #7.c Salt Intrusion Points	0	100
RC2f – Over Drafted Basin	Yes (1)/no (0) of whether area is in critical over drafted basin	100	100
RC2g - Chronic Declining Water Levels	Declining groundwater levels: Documented Impacts #7.a - Declining GW levels Points	100	100
Rc2h - Projected Population Growth	Census data estimates of growth rate between 2016 to 2021, estimated by service area	16	23
RC2i - Water Quality in Shallow Aquifer	Domestic well water quality risk (includes areas outside of alluvial basins): Indication of likelihood that groundwater likely accessed by domestic wells may contain concentrations of constituents above regulatory levels.	50	53
RC2j - Surrounding Land use	Presence of irrigated agriculture in surrounding basin: Irrigated Acres Priority Points	26	43
	Total Component Score	**49**	**48**

Notes:

(1) Risk Factor descriptions and codes are provided in Part 2: Appendix 1 Drought and Water Shortage Risk Scoring: California's Small Water Supplier and Self-Supplied Communities (DWR).

(2) Average of the 28 Geoids located within Porterville and East Porterville

Table A.3 RC3 – Physical Vulnerability

Risk Factor	Risk Factor Measure Description	City of Porterville Average Score	Self-Supplies Communities Average Score
RC3a - Well Depth Flag	Well-depth flag – if any portion of the groundwater unit(s) that intersect with the Census BG has relatively shallow domestic wells, marked whole BG as '1' (high risk) (0,1)	0.00	75
RC3b - Well Depth Proportion	Proportion of Public Land Survey Sections in Block Group where the max depth of domestic wells is 10 percent or more shallow than max of public wells (0-1)	0	100
	Total Component Score	**0**	**87**

Notes:
(1) Risk Factor descriptions and codes are provided in Part 2: Appendix 1 Drought and Water Shortage Risk Scoring: California's Small Water Supplier and Self-Supplied Communities (DWR).
(2) Average of the 28 Geoids located within Porterville and East Porterville

Table A.4 RC4 – Organization Vulnerability

Risk Factor	Risk Factor Measure Description	City of Porterville Average Score	Self-Supplies Communities Average Score
Per Capita Income 2016	Average per capita income for all block groups (BG).	16,730	33,623
Mean Household Income	Average Median Household Income (MHI) for all BGs.	43,439	72,335
Percent Persons 65 years of age or older	Percentage of population of 65 and older of all BGs.	12	17
Percent persons 5 year of age or younger	Percentage of population of under 5 years age of all BGs.	0	6
percent renters	Percentage of households that are renters.	44	34
percent mobile homes	Percentage of mobile households of all BGs.	9	15
No vehicle available	Percentage of households with no vehicles of all BGs.	6	6
Percent of Population with single parent	Percentage of population with single parent with children under 18 years old of all BGs.	1	42
Percent of Population unemployed	Percentage of population of civilian unemployed of all BGs	11	10
Percent of population who speak English less than well	Percentage of population who speak English less than well of all BGs	16	8
Percent of Population in poverty	Percentage of population living at or below poverty level	28	12
Percent of population in group quarters	Percentage of all census block group population with Group Quarters (GQ).	1	5
	Total Component Score	**77**	**45**

Notes:

(1) Risk Factor descriptions and codes are provided in Part 2: Appendix 1 Drought and Water Shortage Risk Scoring: California's Small Water Supplier and Self-Supplied Communities (DWR).

(2) Average of the 28 Geoids located within Porterville and East Porterville

Table A.5 RC5 – Record of Drought Impacts

Risk Factor	Risk Factor Measure Description	City of Porterville Average Score	Self-Supplies Communities Average Score
RC5a - Reported Household Outages on Domestic Well	Presence of one or more households with reported outages in Census Block Group	75	100
RC5b - Reported Household Outages on Private Well	Proportion of households with reported outages in Census BG (compared to total households in BG) (0-1 scalar)	5	1
	Total Component Score	**64**	**81**

Notes:
(1) Risk Factor descriptions and codes are provided in Part 2: Appendix 1 Drought and Water Shortage Risk Scoring: California's Small Water Supplier and Self-Supplied Communities (DWR).
(2) Average of the 28 Geoids located within Porterville and East Porterville

Table A.6 RC5 – Record of Drought Impacts

Geoid ID	Place Name
061070039022	East Porterville
061070039021	East Porterville
061070039015	East Porterville
061070039023	East Porterville
061070039014	East Porterville
061070039013	East Porterville
061070039012	East Porterville
061070033001	Porterville City
061070034005	Porterville City
061070041021	Porterville City
061070041014	Porterville City
061070035022	Porterville City
061070033005	Porterville City
061070038011	Porterville City
061070035011	Porterville City
061070034003	Porterville City
061070037001	Porterville City
061070034004	Porterville City
061070035021	Porterville City
061070041011	Porterville City
061070035024	Porterville City
061070041013	Porterville City
061070038023	Porterville City
061070036021	Porterville City
061070038012	Porterville City
061070036023	Porterville City
061070036013	Porterville City
061070035023	Porterville City

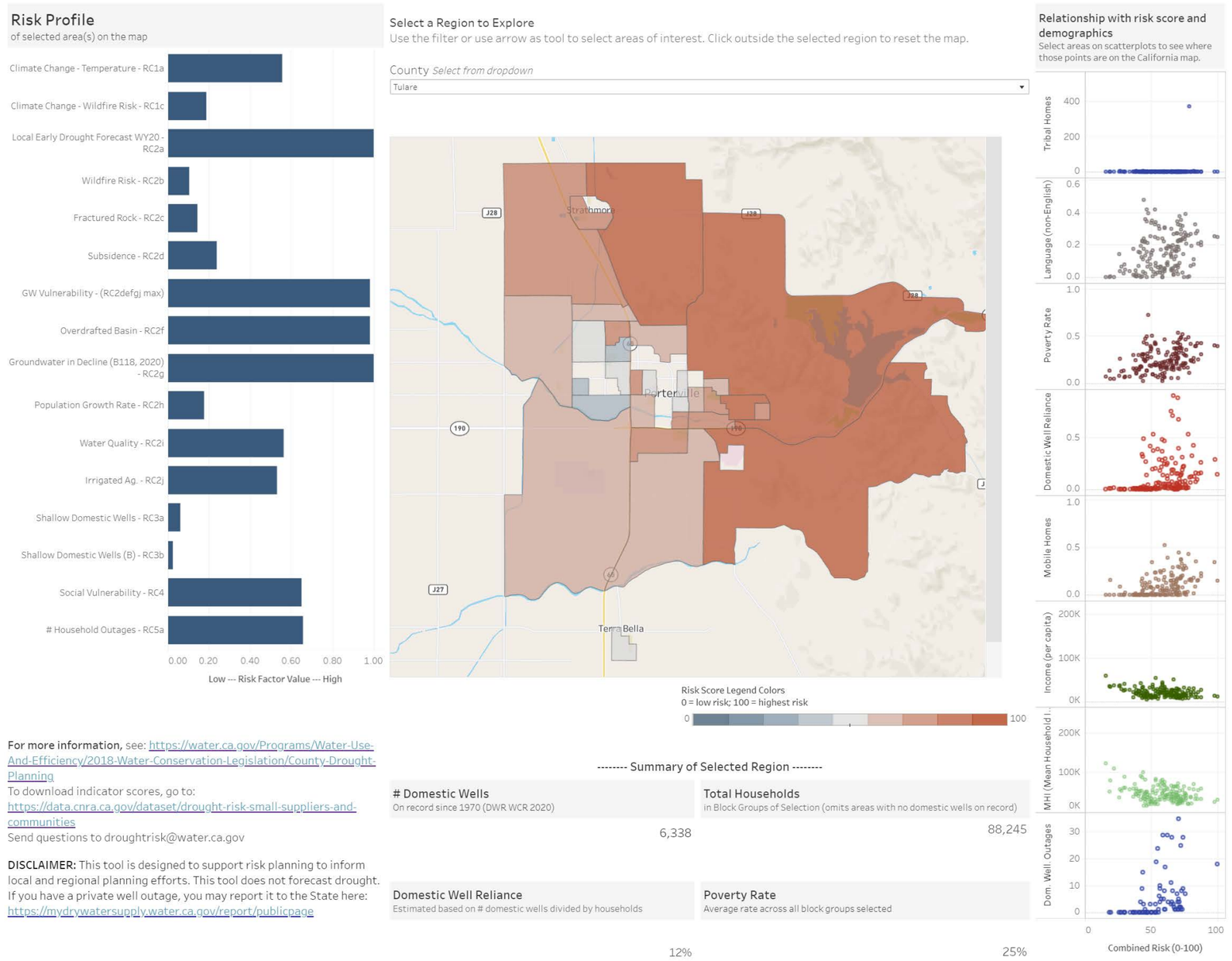

Figure A.1 Porterville Risk Map

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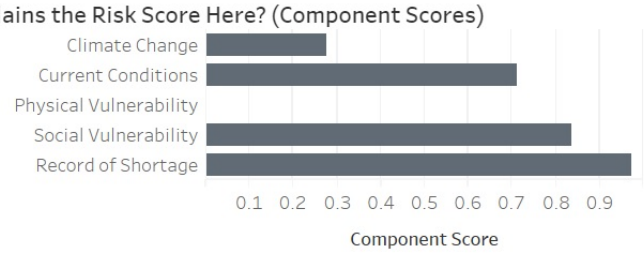
GEOID: 061070039022

Risk Score (0-100): 87
US Census ID (Block Group):: 061070039022
Surrounding or Nearby Place: East Porterville
This area is located in: Tulare County

Tribal Homes: 0
Domestic Well Reliance: 16%

This community has 449 households, according to the US Census estimates (ACS 2012-2016). State records indicate 16% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

For more details on the individual indicators, click the map to view the results on the right chart. For more details on the methods and data sources, view Appendix 1 of Part 2 of the report here: https://water.ca.gov/Programs/Water-Use-And-Efficiency/2018-Water-Conservation-Legislation/County-Drought-Planning .

All information reported according to state and federal data records and may not be as updated as local records.

✓ Keep Only ⊘ Exclude

GEOID: 061070039021

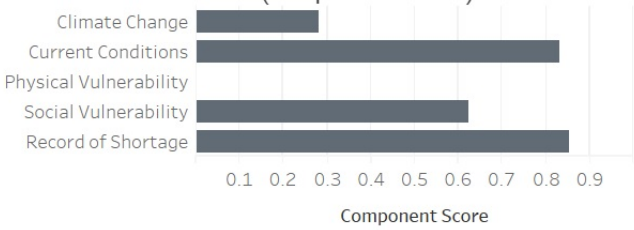
✓ Keep Only ⊘ Exclude

Risk Score (0-100): 82
US Census ID (Block Group):: 061070039021
Surrounding or Nearby Place: East Porterville
This area is located in: Tulare County

Tribal Homes: 1
Domestic Well Reliance: 12%

This community has 731 households, according to the US Census estimates (ACS 2012-2016). State records indicate 12% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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All information reported according to state and federal data records and may not be as updated as local records.

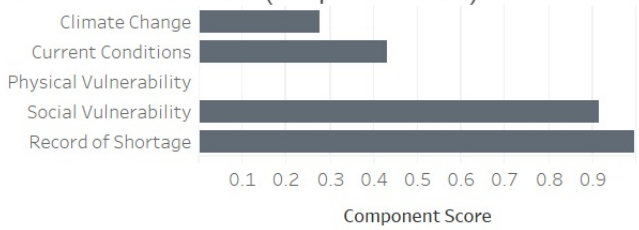
GEOID: 061070039015

Risk Score (0-100): 76
US Census ID (Block Group):: **061070039015**
Surrounding or Nearby Place: East Porterville
This area is located in: Tulare County

Tribal Homes: 2
Domestic Well Reliance: 4%

This community has 581 households, according to the US Census estimates (ACS 2012-2016). State records indicate 4% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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✓ Keep Only ⊘ Exclude

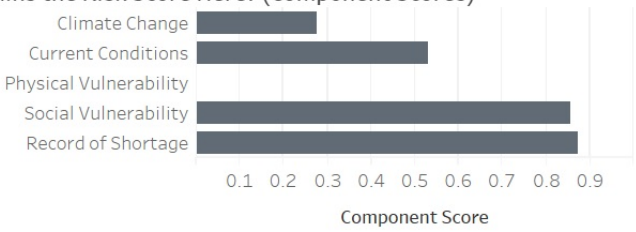
GEOID: 061070039023

Risk Score (0-100): 76
US Census ID (Block Group):: 061070039023
Surrounding or Nearby Place: East Porterville
This area is located in: Tulare County

Tribal Homes: 0
Domestic Well Reliance: 1%

This community has 333 households, according to the US Census estimates (ACS 2012-2016). State records indicate 1% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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✓ Keep Only ⊘ Exclude

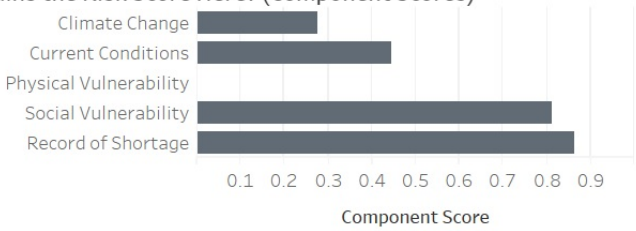
GEOID: 061070039014

Risk Score (0-100): 69
US Census ID (Block Group):: 061070039014
Surrounding or Nearby Place: East Porterville
This area is located in: Tulare County

Tribal Homes: 0
Domestic Well Reliance: 6%

This community has 561 households, according to the US Census estimates (ACS 2012-2016). State records indicate 6% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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All information reported according to state and federal data records and may not be as updated as local records.

✓ Keep Only ⊘ Exclude

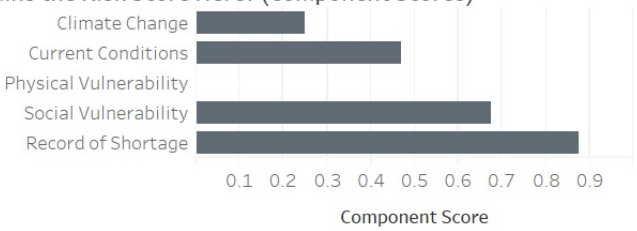
GEOID: 061070039013

Risk Score (0-100): 65
US Census ID (Block Group):: 061070039013
Surrounding or Nearby Place: East Porterville
This area is located in: Tulare County

Tribal Homes: 0
Domestic Well Reliance: 1%

This community has 229 households, according to the US Census estimates (ACS 2012-2016). State records indicate 1% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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✓ Keep Only ⊘ Exclude

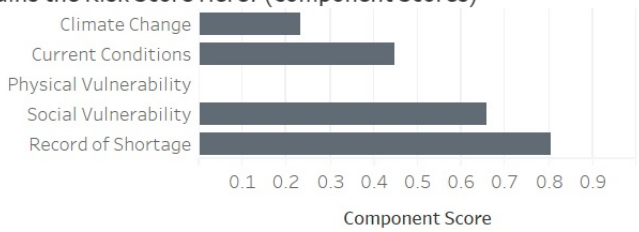
GEOID: 061070039012

Risk Score (0-100): 61
US Census ID (Block Group):: 061070039012
Surrounding or Nearby Place: East Porterville
This area is located in: Tulare County

Tribal Homes: 0
Domestic Well Reliance: 1%

This community has 215 households, according to the US Census estimates (ACS 2012-2016). State records indicate 1% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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All information reported according to state and federal data records and may not be as updated as local records.

✓ Keep Only ⊘ Exclude

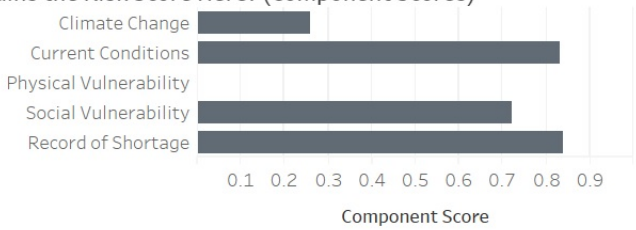
GEOID: 061070033001

Risk Score (0-100): **85**
US Census ID (Block Group):: **061070033001**
Surrounding or Nearby Place: **Porterville city**
This area is located in: **Tulare County**

Tribal Homes: 0
Domestic Well Reliance: 15%

This community has 435 households, according to the US Census estimates (ACS 2012-2016). State records indicate 15% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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All information reported according to state and federal data records and may not be as updated as local records.

✓ Keep Only ⊘ Exclude

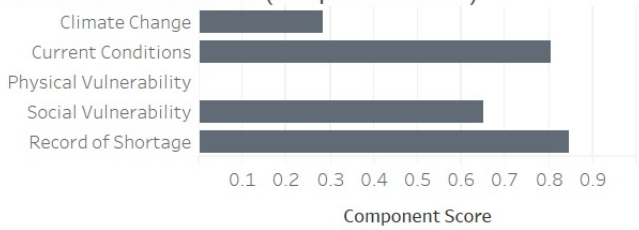
GEOID: 061070034005

Risk Score (0-100): 82
US Census ID (Block Group):: 061070034005
Surrounding or Nearby Place: Porterville city
This area is located in: Tulare County

Tribal Homes: 4
Domestic Well Reliance: 43%

This community has 176 households, according to the US Census estimates (ACS 2012-2016). State records indicate 43% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

For more details on the individual indicators, click the map to view the results on the right chart. For more details on the methods and data sources, view Appendix 1 of Part 2 of the report here: https://water.ca.gov/Programs/Water-Use-And-Efficiency/2018-Water-Conservation-Legislation/County-Drought-Planning .

All information reported according to state and federal data records and may not be as updated as local records.

✓ Keep Only ⊘ Exclude

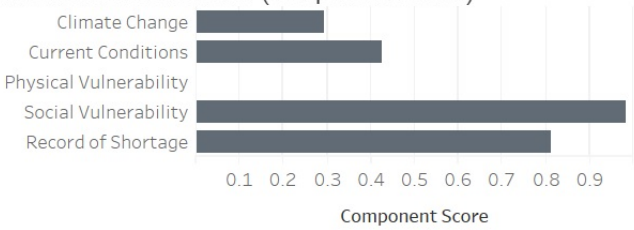
GEOID: 061070041021

Risk Score (0-100): 74
US Census ID (Block Group):: 061070041021
Surrounding or Nearby Place: Porterville city
This area is located in: Tulare County

Tribal Homes: 1
Domestic Well Reliance: 2%

This community has 600 households, according to the US Census estimates (ACS 2012-2016). State records indicate 2% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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All information reported according to state and federal data records and may not be as updated as local records.

✓ Keep Only ⊘ Exclude

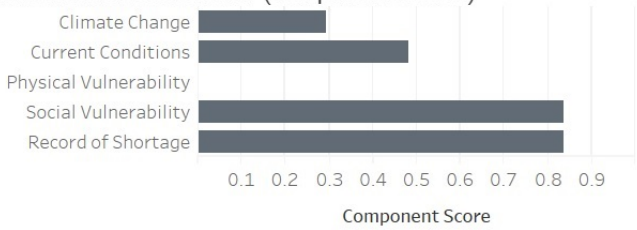
GEOID: 061070041014

Risk Score (0-100): 72
US Census ID (Block Group):: 061070041014
Surrounding or Nearby Place: Porterville city
This area is located in: Tulare County

Tribal Homes: 0
Domestic Well Reliance: 1%

This community has 546 households, according to the US Census estimates (ACS 2012-2016). State records indicate 1% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

For more details on the individual indicators, click the map to view the results on the right chart. For more details on the methods and data sources, view Appendix 1 of Part 2 of the report here: https://water.ca.gov/Programs/Water-Use-And-Efficiency/2018-Water-Conservation-Legislation/County-Drought-Planning .

All information reported according to state and federal data records and may not be as updated as local records.

✓ Keep Only ⊘ Exclude

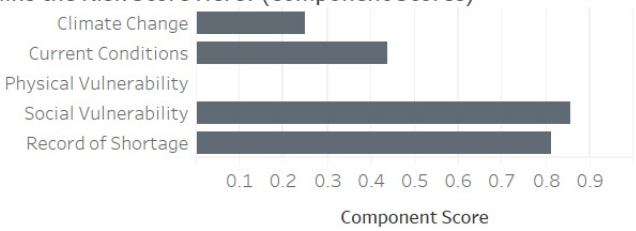
GEOID: 061070035022

Risk Score (0-100): 69
US Census ID (Block Group):: 061070035022
Surrounding or Nearby Place: Porterville city
This area is located in: Tulare County

Tribal Homes: 0
Domestic Well Reliance: 0%

This community has 614 households, according to the US Census estimates (ACS 2012-2016). State records indicate 0% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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✓ Keep Only ⊘ Exclude

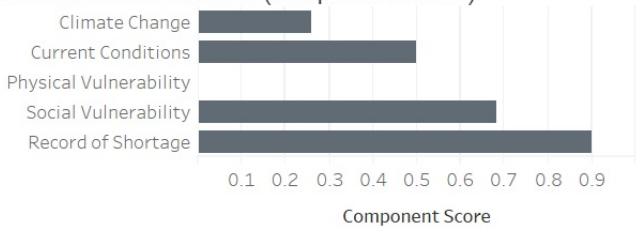
GEOID: 061070033005

Risk Score (0-100): 68
US Census ID (Block Group):: 061070033005
Surrounding or Nearby Place: Porterville city
This area is located in: Tulare County

Tribal Homes: 0
Domestic Well Reliance: 25%

This community has 385 households, according to the US Census estimates (ACS 2012-2016). State records indicate 25% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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✓ Keep Only ⊘ Exclude

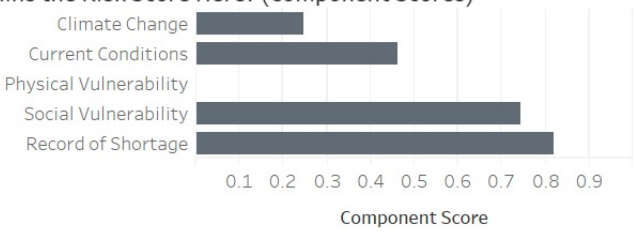
GEOID: 061070035011

Risk Score (0-100): 66
US Census ID (Block Group):: 061070035011
Surrounding or Nearby Place: Porterville city
This area is located in: Tulare County

Tribal Homes: 0
Domestic Well Reliance: 4%

This community has 944 households, according to the US Census estimates (ACS 2012-2016). State records indicate 4% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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✓ Keep Only ⊘ Exclude

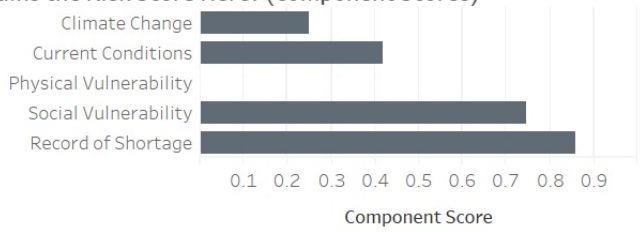
GEOID: 061070034003

Risk Score (0-100): 65
US Census ID (Block Group):: 061070034003
Surrounding or Nearby Place: Porterville city
This area is located in: Tulare County

Tribal Homes: 0
Domestic Well Reliance: 30%

This community has 250 households, according to the US Census estimates (ACS 2012-2016). State records indicate 30% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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✓ Keep Only ⊘ Exclude

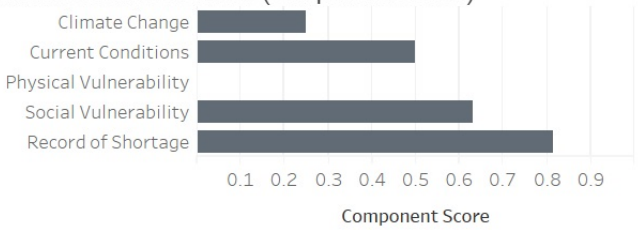
GEOID: 061070037001

Risk Score (0-100): 64
US Census ID (Block Group):: 061070037001
Surrounding or Nearby Place: Porterville city
This area is located in: Tulare County

Tribal Homes: 0
Domestic Well Reliance: 5%

This community has 458 households, according to the US Census estimates (ACS 2012-2016). State records indicate 5% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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✓ Keep Only ⊘ Exclude

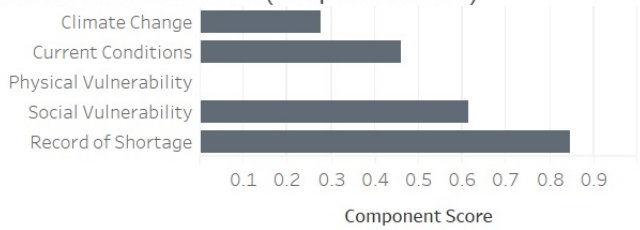
GEOID: 061070034004

Risk Score (0-100): 62
US Census ID (Block Group):: 061070034004
Surrounding or Nearby Place: Porterville city
This area is located in: Tulare County

Tribal Homes: 0
Domestic Well Reliance: 13%

This community has 605 households, according to the US Census estimates (ACS 2012-2016). State records indicate 13% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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✓ Keep Only ⊘ Exclude

GEOID: 061070035021

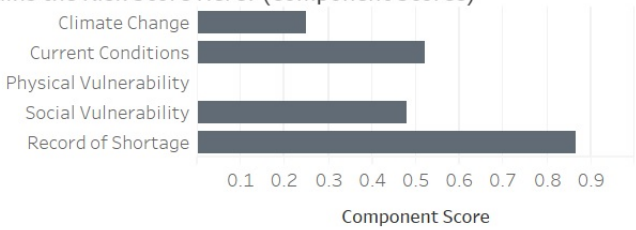
✓ Keep Only ⊘ Exclude

Risk Score (0-100): 60
US Census ID (Block Group):: 061070035021
Surrounding or Nearby Place: Porterville city
This area is located in: Tulare County

Tribal Homes: 0
Domestic Well Reliance: 29%

This community has 263 households, according to the US Census estimates (ACS 2012-2016). State records indicate 29% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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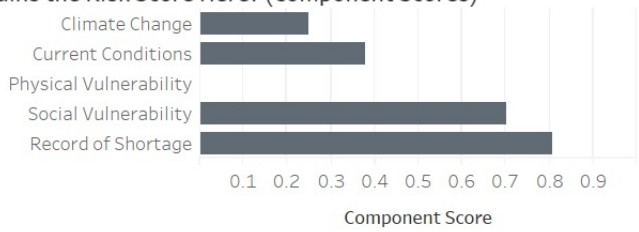
GEOID: 061070041011

Risk Score (0-100): 60
US Census ID (Block Group):: 061070041011
Surrounding or Nearby Place: Porterville city
This area is located in: Tulare County

Tribal Homes: 1
Domestic Well Reliance: 1%

This community has 848 households, according to the US Census estimates (ACS 2012-2016). State records indicate 1% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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✓ Keep Only ⊘ Exclude

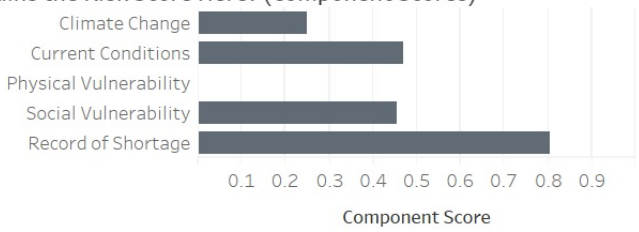
GEOID: 061070035024

Risk Score (0-100): **55**
US Census ID (Block Group):: **061070035024**
Surrounding or Nearby Place: **Porterville city**
This area is located in: **Tulare County**

Tribal Homes: 0
Domestic Well Reliance: 1%

This community has 1,621 households, according to the US Census estimates (ACS 2012-2016). State records indicate 1% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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✓ Keep Only ⊘ Exclude

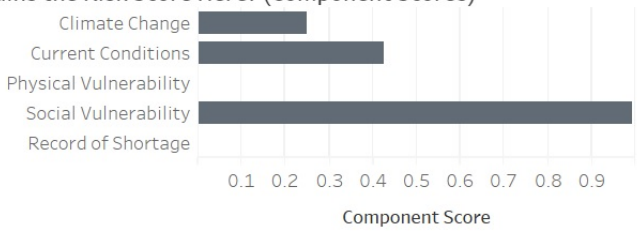
GEOID: 061070041013

Risk Score (0-100): **53**
US Census ID (Block Group):: **061070041013**
Surrounding or Nearby Place: **Porterville city**
This area is located in: **Tulare County**

Tribal Homes: 0
Domestic Well Reliance: 2%

This community has 545 households, according to the US Census estimates (ACS 2012-2016). State records indicate 2% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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✓ Keep Only ⊘ Exclude

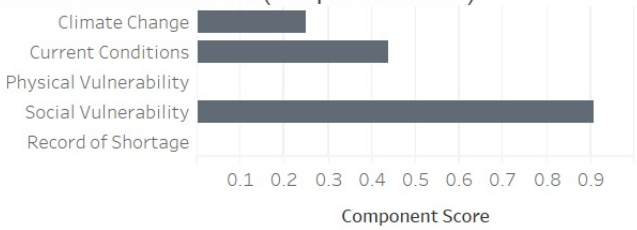
GEOID: 061070038023

Risk Score (0-100): 50
US Census ID (Block Group):: 061070038023
Surrounding or Nearby Place: Porterville city
This area is located in: Tulare County

Tribal Homes: 1
Domestic Well Reliance: 1%

This community has 511 households, according to the US Census estimates (ACS 2012-2016). State records indicate 1% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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✓ Keep Only ⊘ Exclude

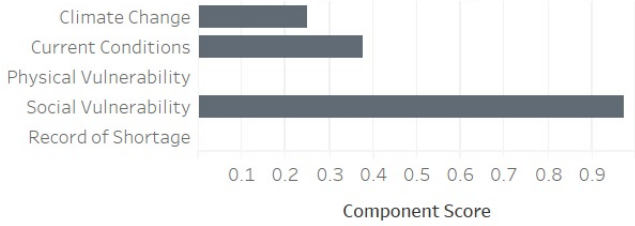
GEOID: 061070036021

Risk Score (0-100): 49
US Census ID (Block Group):: 061070036021
Surrounding or Nearby Place: Porterville city
This area is located in: Tulare County

Tribal Homes: 1
Domestic Well Reliance: 0%

This community has 639 households, according to the US Census estimates (ACS 2012-2016). State records indicate 0% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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✓ Keep Only ⊘ Exclude

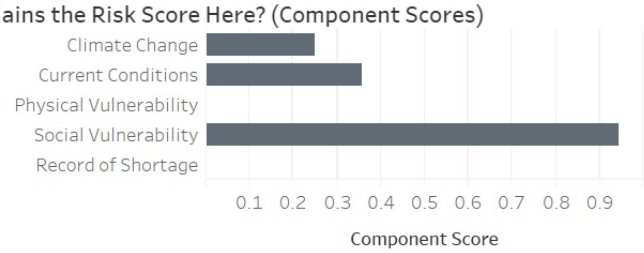
GEOID: 061070038012

Risk Score (0-100): 47
US Census ID (Block Group):: 061070038012
Surrounding or Nearby Place: Porterville city
This area is located in: Tulare County

Tribal Homes: 2
Domestic Well Reliance: 1%

This community has 582 households, according to the US Census estimates (ACS 2012-2016). State records indicate 1% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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✓ Keep Only ⊘ Exclude

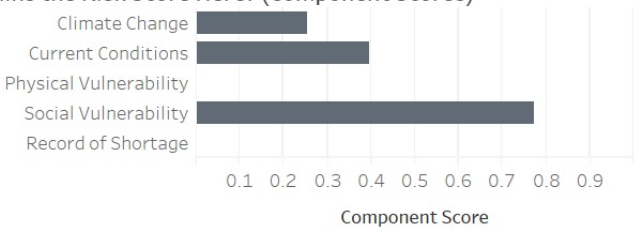
GEOID: 061070036023

Risk Score (0-100): 42
US Census ID (Block Group):: 061070036023
Surrounding or Nearby Place: Porterville city
This area is located in: Tulare County

Tribal Homes: 0
Domestic Well Reliance: 0%

This community has 1,091 households, according to the US Census estimates (ACS 2012-2016). State records indicate 0% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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✓ Keep Only ⊘ Exclude

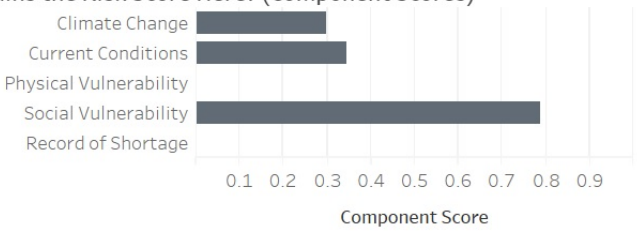
GEOID: 061070036013

Risk Score (0-100): 41
US Census ID (Block Group):: 061070036013
Surrounding or Nearby Place: Porterville city
This area is located in: Tulare County

Tribal Homes: 1
Domestic Well Reliance: 0%

This community has 307 households, according to the US Census estimates (ACS 2012-2016). State records indicate 0% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



Indicators used to estimate drought and water shortage risk were grouped in the categories in the bar chart. The bars are longer for those components that contribute more to the risk score. Bars are shorter (or closer to zero) for those than contribute less to the risk score. Those bars that are absent indicate they do not drive risk for this area (based on available data) or no data was available.

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✓ Keep Only ⊘ Exclude

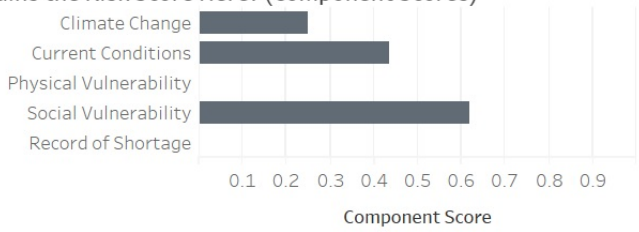
GEOID: 061070035023

Risk Score (0-100): 38
US Census ID (Block Group):: 061070035023
Surrounding or Nearby Place: Porterville city
This area is located in: Tulare County

Tribal Homes: 0
Domestic Well Reliance: 1%

This community has 587 households, according to the US Census estimates (ACS 2012-2016). State records indicate 1% of households rely on domestic wells in this area.

What Explains the Risk Score Here? (Component Scores)



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Appendix K

POPULATION TOOL MODIFICATION PRINTOUT

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The population tool calculates the 2020 Persons per Connection by creating a trend line of the Persons per Connection from 2000 to 2010 and continues that trend to the year 2020. For example, if there were a decline in the Persons per Connection from 2000 to 2010, the tool continues that declining trend to the year 2020. If this does not represent the actual trend for your water supplier, the calculated population for 2020 may not be accurate.

ACCEPTABLE MODIFICATION

The user will use the results from the population tool, but will modify the Persons per Connection and population for the year 2020. Instead of using the Persons per Connection for 2020 as calculated by the tool, the user will use the Persons per Connection that the tool calculated for the year 2010. The user will then multiply the 2010/2020 Persons per Connection by the number of connections for 2020 to arrive at their 2020 population. ***THE UWMP PREPARER MUST INCLUDE THE TABLES FROM THE POPULATION TOOL AND DOCUMENT THE MODIFICATION IN THE 2020 UWMP.***

$$4.39\ \frac{Persons}{Connection} \times 17{,}063\ connections = 74{,}907\ persons$$

This page performs the following actions:

a. **Displays the population for each census year,** based on the electronic maps uploaded to the tool and US Census data at the block level AND
b. **Calculates the persons per connection for every non-census year,** based on "Number of Connections" data input by the user. Persons-per-connection is used to estimate population for the non-census years, including 2020.

Enter "Number of Connections" for each of the census years available. The minimum connection data required is number of connections for the year 2010. If connection data is available for the year 1990 and 2000, it must be entered to obtain the most accurate population estimate. The tool will automatically calculate the Persons per Connection for all other years.

NOTE: This page will be included when the user selects "Print Confirmation" or "Export to Excel" on the next page.

Year	Census Block Level Total Population	Number of Connections *	Persons per Connection
1990	45,050	Not Available	3.20
1991	-	-	3.26
1992	-	-	3.32
1993	-	-	3.38
1994	-	-	3.44
1995	-	-	3.50
1996	-	-	3.56
1997	-	-	3.62
1998	-	-	3.67
1999	-	-	3.73
2000	57,004	15027	3.79
2001	-	-	3.85
2002	-	-	3.91
2003	-	-	3.97
2004	-	-	4.03
2005	-	-	4.09
2006	-	-	4.15
2007	-	-	4.21
2008	-	-	4.27
2009	-	-	4.33
2010	66,760	15217	4.39
2011	-	-	3.79
2012	-	-	3.79
2013	-	-	3.79
2014	-	-	3.79
2015	-	-	3.79
2020	-	-	4.98 **

** Number of Connections may be either All Residential Connections (Single Family and Multi-Family combined) or All Service Connections. This will depend on the data available from the water supplier's records, but must remain consistent throughout the table.*

*** If the 2020 Persons per Connection or 2020 Total Population seems inaccurate, please click here.*

Appendix L

TULARE COUNTY MULT-JURISDICTIONAL LOCAL HAZARD MITIGATION PLAN

The Tulare County MJLHMP can be downloaded at the link below:

https://oes.tularecounty.ca.gov/oes/index.cfm/mitigation/tulare-county-mjlhmp/

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