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# Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan

March, 2018

Tulare County Office of Emergency Services  
5957 S. Mooney Blvd.  
Visalia, CA 93277  
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2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan

**Record of Reviews and Revisions**

Revision #	Date	Sections Reviewed or Revisions Made	Entered by

# 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan

# 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan

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# 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Section 1

## 1. Introduction

Tulare County (County)<sup>1</sup> has prepared the 2017 Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHMP) to assess the natural, technological, and human-caused risks to County communities, to reduce the potential impact of the hazards by creating mitigation strategies. The 2017 MJLHMP represents the County's commitment to create a safer, more resilient community by taking actions to reduce risk and by committing resources to lessen the effects of hazards on the people and property of the County.

This plan complies with The Federal Disaster Mitigation Act of 2000 (DMA 2000), Federal Register 44 CFR Parts 201 and 206, which modified the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) by adding a new section, 322 - Mitigation Planning. This law, as of November 1, 2004, requires local governments to develop and submit hazard mitigation plans as a condition of receiving Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Program (HMGP) and other mitigation project grants. The County; the Cities of Dinuba, Exeter, Farmersville, Lindsay, Porterville, Tulare, Visalia, and Woodlake; the Tule River Tribe; and Tulare County Office of Education staffs have coordinated preparation of the MJLHMP in cooperation with stakeholders, partner agencies and members of the public, will seek MJLHMP approval and adopt their appropriate sections.

This introduction to the MJLHMP provides a brief description of hazard mitigation planning, local mitigation plan requirements, and an outline of the 2017 MJLHMP. There is also an overview of FEMA programs and grants related to hazard mitigation.

### 1.1 Background

The DMA 2000 provides the legal basis for the FEMA mitigation planning requirements for local, State, and Indian Tribal governments as a condition of mitigation grant assistance. The DMA 2000 mitigation planning provisions, along with other sections of the Act, provide a significant opportunity to reduce disaster losses across the nation. The language in DMA 2000, taken as a whole, emphasizes the importance of strong State, Tribal, and local planning processes, and comprehensive mitigation program management at the State level. FEMA strongly believes that with hazard mitigation planning, as with most similar efforts, the actual process of planning is as important as the resultant plan. Therefore, we consider the plan as the written record, or documentation, of the planning process or development of a product (such as goals, or hazard identification).

The development, approval, and implementation of this MJLHMP can dramatically reduce future risk and loss by evaluating risk and identifying mitigation actions. The MJLHMP will also assist the County in qualifying for several types of funding offered by FEMA including Pre-Disaster Mitigation (PDM) funds (funding for projects that are implemented before a disaster occurs), and HMGP (post-disaster funds funding for hazard reduction projects). In addition, the MJLHMP improves the County's access to other types of Federal disaster assistance, including funds for permanent repairs. This increased eligibility for

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<sup>1</sup> The term County refers to the term Operational Area and is inclusive of the unincorporated County and its departments and offices, cities, special districts and Tribes located within the County.

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grant programs affords the County an opportunity to prepare for the future and work with neighbors to protect the local community.

### 1.2 Disaster Mitigation Act of 2000

The County's MJLHMP has been developed to provide a living document that meets the requirements of DMA 2000 that will reduce risks posed by hazards in order to protect the community. Regular updates to the MJLHMP are required to comply with the guidance of DMA 2000. Completion of this updated MJLHMP and approval by FEMA will support efforts to reduce hazards to County communities, and to apply for HMGP funding. Both pre- and post-disaster hazard mitigation grants are available. Post-disaster funding, which can be used to enhance the resiliency of facilities, is governed by Section 406 of the Stafford Act, 42 U.S.C. 5172. The Stafford Act provides FEMA with the authority to fund cost-effective mitigation measures under the Public Assistance program in conjunction with the repair of disaster-damaged public facilities.

As the costs of damage from natural disasters continue to increase, governmental and local agencies, as well as the general public, have come to realize the importance of identifying effective ways to reduce vulnerability and losses. The MJLHMP assists entities and jurisdictions in reducing impacts from hazards by recognizing vulnerability in relation to risk, identifying resources, creating an orderly data collection process and developing strategies for risk reduction, while helping to guide and coordinate mitigation activities. The resources and information within the MJLHMP:

- Establish a basis for coordination and collaboration among agencies and the public
- Assist in the integration of mitigation goals and objectives with other County and community plans
- Identify existing mitigation projects and prioritize future projects
- Assist in meeting the requirements of Federal mitigation programs
- Lay the foundation for future MJLHMP updates and MJLHMP maintenance

In addition, the MJLHMP is designed to ensure the long-term values of the community are not compromised in the course of preparing for, responding to or recovering from, natural and manmade hazards.

### 1.3 General Plan Safety Element

Assembly Bill 2140 (AB 2140) (Stats. 2006, Ch. 739, AB 2140, S. 1) - The California Disaster Assistance Act (CDAA) limits the State share for any eligible project to no more than 75% of total State-eligible costs, except that the State share shall be up to 100% of total State-eligible costs connected with certain events. AB 2140 prohibits the State share for any eligible project from exceeding 75% of total State-eligible costs unless the local agency is located within a city, county, or city and county that has adopted a local hazard mitigation plan in accordance with DMA 2000 as part of the safety element of its general plan, in which case the State may exceed the State share of 75% for total state eligible costs.

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Section 1

AB 2140 the California Government Code, Sections 8685.9 and 65302.6, which authorizes the Legislature to provide for a State share of local costs that exceeds 75% of total state eligible costs where the local agency is located within a city, county, or city and county that has adopted a local hazard mitigation plan in accordance with DMA 2000 as part of the safety element of its general plan adopted pursuant to subdivision (g) of Section 65302.

The County adopts the 2017 County of Tulare Multi-Jurisdictional Hazard Mitigation Plan into the Safety Element of the general plan in accordance with the County Board of Supervisors Resolution on \_\_\_\_\_ 2017. Specific sections of the MJLHMP that correlate to and support the general plan safety element are contained in **Table 1-1**.

<b>Table 1-1: General Plan Safety Element Crosswalk</b>		
<b>General Plan Safety Element</b>	<b>MJLHMP Section</b>	<b>Pages</b>
General 10.1	Throughout	
Specific Hazards 10.2-10.6	5.3	17-46
Emergency Response 10.7		
Noise 10.8		
Healthy Communities 10.9	Throughout	
Work Plan/ Implementation Measures	6.3-6.4	57

### 1.4 Authority and Adoption

<b>FEMA REGULATION CHECKLIST: PLAN ADOPTION</b>
<p><b>Adoption by the Local Governing Body</b></p> <p><b>44 CFR § 201.6(c)(5):</b> The local hazard mitigation plan shall include “[d]ocumentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commissioner, Tribal Council).”</p> <p><b>Element</b></p> <p><b>E1.</b> Does the Plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval?</p> <p>Source: FEMA, <i>Local Mitigation Plan Review Tool</i>, March 2013.</p>

The requirements for adoption of this MJLHMP by all local Participating governing bodies, as set forth in the Stafford Act and as amended by DMA 2000 and its implementing regulations, are described below. The County Board of Supervisors approved this MJLHMP on March 20, 2018. The following cities, special districts, and Tribes approved their appropriate sections of the MJLHMP as noted below. The local and tribal mitigation planning requirements are identified in their appropriate sections throughout the 2011 MJLHMP and in **Appendix A, FEMA Local HMP Crosswalk Tool**. This is documented in the governing body meeting resolutions contained in Appendix K.

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- Tulare County
- City of Dinuba
- City of Exeter
- City of Farmersville
- City of Lindsay
- City of Porterville
- City of Tulare
- City of Visalia
- City of Woodlake
- Tulare County Office of Education (participating on behalf of the various County school districts)
- Tule River Tribe

### 1.5 Grant Programs with Mitigation Plan Requirements

Currently, five FEMA grant programs provide funding to local entities that have a FEMA-approved local mitigation plan meeting Federal hazard mitigation plan requirements. Two of the grant programs are authorized under the Stafford Act. The remaining three programs are authorized under the National Flood Insurance Act and the Bunning-Bereuter-Blumenauer Flood Insurance Reform Act.

#### 1.5.1 Stafford Act Grant Programs

Funding is provided to local, State, and tribal governments that have an approved hazard mitigation plan through the following programs.

##### **Hazard Mitigation Grant Program**

The Hazard Mitigation Grant Program (HMGP) provides grants to implement long-term hazard mitigation measures after declaration of a major disaster. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. To qualify for HMGP funding, projects must provide a long-term solution to a problem, and the project's potential savings must exceed the cost of implementing the project.

HMGP funds may be used to protect either public or private property, or to purchase property that has been subjected to, or is in danger of, repetitive damage. The amount of funding available for the HMGP under a particular disaster declaration is limited. Under the program, the Federal Government may provide a State or tribe with up to 20% of the total disaster grants awarded by FEMA under Stafford Act programs, and may provide up to 75% of the cost of any projects approved under the program.

##### **Pre-Disaster Mitigation Program**

The Pre-Disaster Mitigation (PDM) Program provides funds to local, State, and tribal entities for hazard mitigation planning and mitigation projects before a disaster event. PDM grants are awarded on a nationally-competitive basis. The cost benefit of a PDM project must be more than the cost of implementing the project. Funds may be used to protect either public or private property or to purchase property that has been subjected to repetitive damage. For 2016 Congress appropriated \$90 million for the PDM program. The Federal Government provides up to 75% of the cost of projects approved under the PDM program.

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### **1.5.2 National Flood Insurance Act Grant Programs**

The Flood Mitigation Assistance (FMA) Grant Program was created as part of the National Flood Insurance Reform Act (NFIRA) of 1994 with the goal of reducing or eliminating claims under the National Flood Insurance Program (NFIP). Consistent with Biggert-Waters Flood Insurance Reform Act of 2012 (Public Law 112-141), the FMA Grant Program is focused on mitigating repetitive loss (RL) properties and severe repetitive loss (SRL) properties.

#### **Flood Mitigation Assistance Grant Program**

The primary source of funding for the FMA program is the National Flood Insurance Fund. For 2016, Congress appropriated \$199 million for FMA programs. Grant funding is available for planning, project, and technical assistance. Project grants are awarded to local entities to apply mitigation measures to reduce flood losses to properties insured under the NFIP. The cost-share for this grant is 75% federal and 25% nonfederal. However, a cost share of 90% federal and 10% nonfederal is available in certain situations to mitigate SRL properties.





## 2. Planning Process

The planning process began with the County establishing the planning area and inviting jurisdictions within the planning area to participate in the process. In addition, the County identified the financial and technical resources require to update the MJLHMP. Once all the participating jurisdictions' financial and technical resources were identified, the County developed the planning team and a schedule for the process.

### 2.1 Overview of Hazard Mitigation Planning

The purpose and benefit of the hazard mitigation process is to conduct long-term, comprehensive planning to protect the County and jurisdictions within it from a disaster before a disaster occurs. Specifically, the County has identified hazards, risks and vulnerabilities, community capabilities and stakeholders during the planning process. Once these were recognized, the jurisdictions identified and prioritized actions for risk reduction to focus resources towards the greatest risks and vulnerabilities. Including stakeholders and the public throughout this process helped identify vulnerabilities and create partnerships, and education opportunities for the community to understand how and why actions are prioritized.

Having a multi-jurisdiction LHMP allows the jurisdictions to combine capabilities and pool resources to recognize synergies and mitigate vulnerabilities on a greater scale. In addition, similar jurisdictions generally have comparable risks and can jointly identify and prioritize mitigation actions.

### 2.2 Preparing the 2017 Update – Procedure for the Plan Update

The 2011 County MJLHMP was the starting point for updating the MJLHMP. All participating jurisdictions used their previous hazards, assets, capabilities and mitigation actions as the basis for this update. Activity to update the MJLHMP included:

- Review of material on various Federal and State websites such as the National Weather Service the California Governor's Office of Emergency Services (Cal OES) hazard mitigation pages
- Review of progress since the last Plan update
- Review of existing County plans such as the General Plan
- Identification of critical assets
- Hazards identification and risks assessment
- Mitigation strategies development
- Engagement with community in the planning process
- Solicitation and incorporation of feedback from external stakeholders and the public

The most significant changes resulting from this effort include several items. Primarily, new hazards were identified and old hazards revised. The process to update the MJLHMP began with application by the County and award by Cal OES for a Hazard Mitigation Grant. The update process progressed through selection of a consultant who had supported development of the previous plan. Additional activity

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included creation of the MJLHMP planning team. Invitations were sent to the following representatives in **Table 2-1**

<b>Table 2-1: MJLHMP Planning Team Invitees: Cities and County Agencies that Regulate Development</b>			
<b>Jurisdiction</b>	<b>Agency/Department</b>	<b>Name</b>	<b>Position/Title</b>
City of Exeter	Police Department	Cliff Bush	Police Chief
City of Lindsay	Department of Public Safety	Mari Carillo	
Tulare County	County Administrative Office	Eric Coyne	Deputy CAO
Tulare County	County Administrative Office	Mike Spata	County Administrative Officer
Tulare County	General Services	John Hess	
Tulare County	Office of Emergency Services	Andrew Lockman	Manager
Tulare County	Office of Emergency Services	Cheryl Duerkson	Agency Director
Tulare County	Office of Emergency Services	Dave Lee	OES Specialist
Tulare County	Office of Emergency Services	Sabrina Bustamante	OES Specialist
Tulare County	Office of Emergency Services	Timothy Lutz	Fiscal Operations Director
Tulare County	Information & Communications Tech.	Bob Irvine	Division Manager
Tulare County	Resource Management Agency	Ben Ruiz	Interim RMA Director
Tulare County	Sheriff's Office	Larry Micari	Captain
Tulare County	Sheriff's Office	Mike Boudreaux	Sheriff
Tulare County	Sheriff's Office	Robin Skiles	Undersheriff
Tulare County	Sheriff's Office	Sue Gunderman	Administrative Secretary
City of Dinuba	Administration	Luis Patlan	City Manager
City of Dinuba	Fire Department	Chad Thompson	Fire Chief
City of Dinuba	Fire Department	Sean Doyle	Battalion Chief
City of Dinuba	Police Department	Devon Popovich	Chief
City of Dinuba	Public Works	Blanca Beltran	Public Works Director
City of Exeter	Administration	Randy Groom	City Manager
City of Exeter	Police Department	Brett Inglehart	Sergeant
City of Exeter	Public Works	Daymon Qualls	Public Works Director
City of Farmersville	Administration	John Jansons	City Manager
City of Farmersville	Fire Department	John Crivello	Fire Chief

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Section 2

City/County	Agency	Invitee Name	Invitee Title
City of Farmersville	Public Works	Dake Wyckoff	Public Works Director
City of Lindsay	Administration	Bill Zigler	City Manager
City of Lindsay	Department of Public Safety	Chris Hughes	Chief
City of Lindsay	Public Works	Mike Camarena	City Services Director
City of Porterville	Administration	John Lollis	City Manager
City of Porterville	Fire Department	Glenn Irish	Fire Chief
City of Porterville	Public Works	Mike Reed	Public Works Director
City of Tulare	Administration	Don Dorman	City Manager
City of Tulare	Fire Department	Cameron Long	Chief
City of Tulare	Fire Department	Willard Epps	Fire Chief
City of Tulare	Public Works	Joseph Carlini	Public Works Director
City of Visalia	Administration	Mike Olmos	City Manager
City of Visalia	Fire Department	Danny Wristen	Chief
City of Visalia	Fire Department	Doug McBee	Fire Chief
City of Visalia	Natural Resources	Lupe Garcia	
City of Visalia	Public Works	Norm Goldstrom	Public Works Manager
City of Woodlake	Administration	Ramon Lara	City Manager
City of Woodlake	Fire Protection District	Anthony Perez	Fire Chief
City of Woodlake	Public Works	Adrian Ornelas	Public Works Supervisor
Tulare County	Agriculture	Marilyn Kinoshita	Ag-Commissioner/Sealer
Tulare County	County Counsel	Jennifer Takehana	Deputy County Counsel
Tulare County	County Counsel	Robyn Henry	Risk Manager
Tulare County	Fire Department	Charles Norman	Fire Chief
Tulare County	Fire Department	Clay Smith	Chief
Tulare County	Fire Department	Jeffery McLaughlin	Chief
Tulare County	General Services	Mike Dickerson	
Tulare County	General Services	Neil Pilegard	Parks Manager
Tulare County	Health and Human Services Agency	Carrie Amador	Staff Services Analyst
Tulare County	Health and Human Services Agency	David Rozell	Manager
Tulare County	Health and Human Services Agency	Jason Britt	Public Health Director
Tulare County	Health and Human Services Agency	Karen Haught	Health Officer
Tulare County	Health and Human Services Agency	Nilsa Gonzalez	Env. Health Director

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Section 2

<b>Table 2-1: MJLHMP Planning Team Invitees: Cities and County Agencies that Regulate Development</b>			
Tulare County	Information & Communications Tech.	Mark Clark	
Tulare County	Resource Management Agency	Bryce Howard	Director
Tulare County	Resource Management Agency	Dave Bryant	Chief Planner
Tulare County	Resource Management Agency	Dennis Lehman	Manager
Tulare County	Resource Management Agency	Johnny Wong	Engineer
Tulare County	Resource Management Agency	Mike Washam	Director
Tulare County	Resource Management Agency	Reed Schenke	Chief Engineer
Tulare County	Resource Management Agency	Ross Miller	Engineer
Tulare County	Sheriff's Office	Robert Schimpf	Lieutenant
<b>MJLHMP Planning Team Invitees: Special Districts and Tribes</b>			
College of the Sequoias	Police Department	Kevin Mizner	Police Chief
Tulare County Office of Ed	TCOE	Adam Valencia	
Tulare County Office of Ed	General Services	Jeff Ramsay	Director
Tulare County Office of Ed	TCOE	John Caudle	Assistant Superintendent
Tule River Indian Tribe	Administration	Victor Silvas	Tribal Administrator
Tule River Indian Tribe	Emergency Services	Joe Boy Perez	Director of Emergency Services
<b>MJLHMP Planning Team Invitees: Review by Neighboring Counties</b>			
Fresno County	Office of Emergency Services	Ken Austin	Emergency Manager
Kern County	Office of Emergency Services	Georgina Armstrong	Emergency Services Manager
Kings County	Office of Emergency Management	Amanda Verhaege	Emergency Services Coordinator

- The MJLHMP planning team first met on September 1, 2016 for a project kickoff and initial planning team meeting. Details of the meeting are included in **Appendix D**.
- Each participating organization and County agencies were provided with a set of 4 data collection templates. All replied or provided the data at one of the planning team meetings. A representative set of the data collection templates is contained in **Appendix D**.
- The MJLHMP planning team met again on November 29, 2016 to conduct a second group meeting. The meeting focused on reviewing the hazards within the County, confirming/selecting additional hazards and providing an analysis of the selected hazards. Details of the meeting are included in **Appendix D**.
- A third meeting of the MJLHMP planning team was conducted in Visalia on January 17, 2017. The meeting focused on selecting mitigation goals, objectives and activities. Details of the meeting are included in **Appendix D**.

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Section 2

- A fourth meeting of the MHLHMP planning team was conducted in Visalia on March 17, 2017. The meeting reviewed jurisdiction annexes and addressed the process to prioritize County mitigation activities. Details of the meeting are included in **Appendix D**.
- Once the draft MJLHMP was reviewed by Cal OES and FEMA and prior to adoption, an email was sent to neighboring counties to request their review and comment. Comments are pending, and those that are applicable, will be included in the draft MJLHMP presented for adoption. A copy of the email is included in **Appendix D**.

### 2.3 Community Engagement Process

Once the planning process commenced, the County provided public notification through its website, and Facebook and Twitter accounts. Additionally, the County conducted an online survey to solicit input on the hazards that the communities face and the types of mitigation activities the County and cities should undertake. The draft MJLHMP was placed on the County and cities websites for public review and comment. Finally, notification of the draft MJLHMP review and adoption by the County Board of Supervisors and City Councils was advertised.

The public survey input from the 12 responders was used to select hazards and rank their affects. Earthquake and energy emergency were ranked as the two top hazards. This input was also used to inform the Hazard Identification and Prioritization Summary contained in **Table 5-13**. Finally, survey input was used to select mitigation actions. Input from posting the draft MJLHMP was used to refine the Plan and prepared it for submission for review. **Appendix E** provides documentation of community outreach efforts and public participation.

The Tule River Tribe recognizes the “public” as all members present on the Tule River Reservation, Off-Reservation Trust Lands, and other tribally owned properties. The Tule River Tribes involvement in the 2017 HMP planning process facilitated adjacent jurisdictions involvement, participation and review. This process assured that the Tule River Tribe’s mitigation actions and projects were viable for all stakeholders.

The 2017 HMP was internally reviewed by various Tribal Departments throughout the document’s development and upon completion, including the Environmental Department, the Community Planning and the Fire Department.



### 3. Capability Assessment

Assessing the capabilities of the County and the jurisdictions within the County are critical to understanding what resources are available to achieve mitigation goals and actions. The community uses the capabilities to achieve mitigation strategies as well as identify where capabilities can be improved or where they may expose risk. A MJLHMP such as this one is especially advantageous here because the communities can integrate, borrow and/or share resources to achieve broader mitigation strategies. Capabilities are generally categorized as planning and regulatory, administrative and technical, financial, and educational and outreach.

Individual jurisdictions will identify their capabilities in **Annexes A** through **I**. This section will highlight overarching capabilities and identify potential risk.

#### 3.1 Legal and Regulation Capabilities

It is important that the planning team have members from many communities. Each community should bring recent, current, and future projects to the planning table. This will provide both background for planning purposes as well as points of insertion for hazard mitigation strategies. Examples of plans include general plans, capital improvement plans, and emergency preparedness and response plans. Regulatory capabilities include building codes and zoning ordinances. It is important to note these plans and regulations specifically include information for hazard mitigation. Also, this is an opportunity to identify where plans and regulations do not identify mitigation for hazards and could pose a risk to the community.

**Table 3-1** outlines the County legal and regulatory capabilities.

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Table 3-1: Legal & Regulatory Capabilities					
Regulatory Tool	Name	Description	Hazards Addressed	Mitigation, Preparedness, Response, or Recovery	Affects development in hazard areas?
Plan	General Plan, Community Safety Element	<p>Describes hazard areas and regulates current and future development based on known hazard areas. The General Plan Safety Element incorporates the MJLHMP by formal adoption by the County Board of supervisors.</p> <p>The MJLHMP will be adopted as part of the Safety Element by the County Board of Supervisors. The General Plan and the MJLHMP will be correlated with respect to climate change and the impacts of planned growth. As the Safety Element is updated, revised hazard analysis from the MHLHMP will be incorporated. Safety Element actions will be aligned with MJLHMP mitigation measures.</p>	Earthquake, Hazardous Materials, Flooding, Fire	Mitigation, Preparedness	Yes
Plan	OES, Emergency Operations Plan (EOP)	<p>Describes what the local jurisdiction’s actions will be during a response to an emergency. Includes annexes that describe in more detail the actions required of the local jurisdiction’s departments/agencies. Further, this plan describes the role of the Emergency Operation Center (EOC) and the coordination between the EOC and the local/tribal jurisdictions. Lastly, the EOP describes how the EOC serves as the point of coordination between local, tribal, State, and Federal agencies during a disaster. The MJLHMP provides the basis for the hazards included and described in the EOP.</p> <p>The MJLHMP will be used as an essential tool to update the County EOP. Cal OES requires that EOPs describe applicable hazards as part of the Plan. The latest MJLHMP hazards descriptions will be included. Mitigation actions that are preparedness and response in nature will be analyzed for</p>	All-hazard	Response	No



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Table 3-1: Legal & Regulatory Capabilities					
		applicability to include in the description of EOP processes and procedures.			
Plan	CAL FIRE <sup>1</sup> Tulare Unit Strategic Fire Plan	<p>The Plan is a local road map to create and maintain defensible landscapes in order to protect vital assets. It 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.</p> <p>The MJLHMP fire hazard analysis and fire related mitigation measures will be provided to Cal Fire to support the Tulare Unit Strategic Fire Plan.</p>	Fire	Response	Yes
Plan	County Resource Conservation District – Sequoia Fire Safe Council Community Wildfire Protection Plan (CWPP)	<p>The objective of the CWPP is to heighten cooperation, collaboration and commitment to watershed protection and fire prevention through the CWPP planning effort. MJLHMP mitigation actions related to wildfire can enhance the CWPP.</p> <p>The MJLHMP fire hazard analysis and fire related mitigation measures will be provided to the Sequoia Fire Safe Council to support the CWPP.</p>	Fire	Mitigation	No
Policy	County Flood Prevention Ordinance (Ordinance Code of Tulare County, Part VII, Chapter 27)	<p>The objective of this policy is to minimize the impacts floods through building restrictions in flood zones and specifically in special flood hazard areas.</p> <p>The MJLHMP contains several specific flood mitigation measures in support of the Flood Prevention Ordinance. Inclusion of the new dam inundation data developed as part</p>	Flooding	Mitigation	Yes

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<b>Table 3-1: Legal &amp; Regulatory Capabilities</b>					
		of the MJLHMP planning process will be included in updates to the Ordinance.			
Plan	County Flood Control Master Plan	<p>This element of the General Plan addresses issues particularly related to flood control along natural watercourses in the County. This adopted Element is incorporated into this General Plan Update document as Chapter 15.</p> <p>The MJLHMP contains several specific flood mitigation measures in support Flood Control Master Plan. Inclusion of the new dam inundation data developed as part of the MJLHMP planning process will be included in updates to the County Flood Control Master Plan.</p>	Flooding	Mitigation	Yes
Plan	Hazardous Waste Management Plan	<p>The County has a hazardous materials management plan to protect the health and safety of all citizens within the County and minimize the risk associated with hazardous materials through the development of policies and procedures.</p> <p>The MJLHMP contains several specific mitigation measures to address hazardous material releases. These mitigation measures will be reviewed for applicability as the Hazardous Material Management Plan is updated.</p>	Hazardous Materials	Mitigation	Yes
Policy	County Ordinance Code Part VII: -Chapter 1, Article 3 -Chapter 19, Articles 1, 3	This policy regulates minimum road width for the emergency vehicle access and egress. Supports fire mitigation actions by setting road width standards to support population evacuation. The MJLHMP contains specific actions that reinforce this requirement.	Fire	Mitigation	Yes
Policy	California Code of Regulations Title 14 Division 1.5 Chapter 7 Subchapter 2 Article 2 § 1273.01	Minimum road width for the emergency vehicle access and egress. Supports fire mitigation actions by setting road width standards to support population evacuation. The MJLHMP contains specific actions that reinforce this requirement.	Fire	Mitigation	Yes

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Table 3-1: Legal & Regulatory Capabilities					
Plan	County Climate Action Plan	<p>Incorporates climate adaptation and resiliency strategies identified in California Government Code 65302 (g)(4). The 2017 MJLHMP adds climate change as a hazard and includes several mitigation measures that advance the objectives of the Climate Action Plan. The MJLHMP contains specific actions that support addressing climate change which can be included in updates to the County Climate Action Plan.</p> <p>The updated MJLHMP addresses climate change as a hazard. Several climate change mitigation activities are included in the MHLHMP. As the Climate Action Plan is updated the information in the MJLMP will be used as a reference to analyze the impacts of climate change and to provide concrete measures to address climate change effects.</p>	Fire, Flooding, Drought	Mitigation	Yes
Plan	Stormwater Quality Management Program (SWQMP)	<p>Describes measures that the local jurisdiction will take to minimize stormwater pollution. The SWQMP is required by the National Pollutant Discharge Elimination System Phase II regulations, which became effective in March 2003.</p> <p>The MJLHMP provides flooding mitigation measures that support implementing the SWQMP. As the SWQMP is updated, the most recent MJLHMP will be used to address flooding mitigation measures as flood incidents often result in storm water discharges that contain pollutants.</p>	Stormwater	Mitigation, Preparedness	Yes

1 California Department of Forest and Fire

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### 3.2 Administrative and Technical Capabilities

Mitigation actions need to be implemented through administrative and technical capabilities; specifically, staff and their skills to achieve them. The County and all jurisdictions have identified not only government administrative capabilities but contractor and private partner capabilities. The County’s administrative and technical capabilities are also resources for all jurisdictions within the planning area. **Table 3-2** represents administrative and technical capabilities either within or available to all jurisdictions within the County.

<b>Table 3-2: Administrative &amp; Technical Capabilities</b>		
<b>Staff/Personnel Resources</b>	<b>Department or Agency</b>	<b>Principle Activities Related to Hazard Mitigation</b>
Planners and Engineers	Resource Management Agency (RMA)	Develops and maintains the General Plan, including the Community Safety Element.
Emergency managers	County Office of Emergency Services (OES)	Maintains the Emergency Operation Plan and other emergency-related plans for the county. Provides support to local response and relief activities within the Emergency Operation Center, and works closely with regional, State, tribal, and Federal partners to provide information and coordinate assistance.
Public Preparedness Education	County Fire, County Sheriff, CAL FIRE, RMA	The 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 non-English speaking persons.
Geographic Information System (GIS)	RMA	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.
Floodplain Manager	RMA	Reviews and ensures that new development proposals do not increase flood risk, and that new developments are not located below the 100-year flood level. In addition, the Floodplain Administrator is responsible for planning and managing flood risk reduction projects throughout the plan participant or tribal area.
Disaster Service Workers	Human Resources & Development	The County maintains a program for training County staff in disaster preparedness and response.

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<b>Table 3-2: Administrative &amp; Technical Capabilities</b>		
Emergency Operations Centers (EOCs) and Department Operations Centers (DOCs)	The County, all Cities, Tule River Tribe, all special districts, and critical departments within the County and cities	Within the Tulare Operational Area (OA), the local government Emergency Management Organization (EMO) level encompasses these EOCs and DOCs, which activate and direct their respective resources in accordance with their individual needs and priorities.
Field Response Units	Law enforcement, fire and rescue, hazardous materials, emergency medical services, public health, environmental health, public works and utility personnel	Assess, secure and mitigate the effects of the incident.
Multi-Agency Coordination Group	Tulare County Operational Area Emergency Council members	Provides incident and resource prioritization, and coordinates response to the incident by all local units and jurisdictions.
Schools and non-government organizations	Schools, American Red Cross, Salvation Army, religious institutions	Critical support services.

### **3.3 Financial Capabilities**

The County and included jurisdictions as well as State and Federal agency programs may provide resources to fund mitigation actions. Each mitigation action must be analyzed for costs and whether funding is available for its implementation. The analysis supports prioritizing of mitigation actions. An aggregated assessment of financial capabilities will assist the County and jurisdictions in selecting mitigation actions. For the 2017 MJLHMP, the County has identified resources for several large-scale mitigation projects. **Table 3-3** outlines the County's financial capabilities.

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**Table 3-3: Financial Capabilities**

Type	Name	Administrator	Purpose	Amount/Availability
Local	General Fund	Auditor-Controller, Treasurer-Collector	Program operations and specific projects	Variable
Local	General Obligation (GO) Bonds	Auditor-Controller, Treasurer-Collector	GO Bonds are appropriately used for the construction and/or acquisition of improvements to real property broadly available to residents and visitors. Such facilities include, but are not limited to, libraries, hospitals, parks, public safety facilities, and cultural and educational facilities.	Variable
Local	Lease Revenue Bonds	Auditor-Controller, Treasurer-Collector	Lease revenue bonds are used to finance capital projects that (1) have an identified budgetary stream for repayment (e.g., specified fees, tax receipts, etc.); (2) generate project revenue but rely on a broader pledge of general fund revenues to reduce borrowing costs; or (3) finance the acquisition and installation of equipment for the plan participant’s general governmental purposes.	Variable
Local	Public-Private partnerships	County Administrator, Various Departments	Includes the use of local professionals, business owners, residents, and civic groups and trade associations, generally for the study of issues and the development of guidance and recommendations.	Variable
Federal	Hazard Mitigation Grant Program (HMGP)	Federal Emergency Management Agency (FEMA)	Support post-disaster mitigation plans and projections.	Available to communities after a Presidentially declared disaster has occurred. Grant award based on specific projects as they are identified.
Federal	Pre-Disaster Mitigation (PDM) grant program	FEMA	Support pre-disaster mitigation plans and projects.	Available on an annual basis, nationally-competitive grant. Grant award based on specific projects as they are identified.

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**Table 3-3: Financial Capabilities**

Table 3-3: Financial Capabilities				
			The MJLHMP will be used to develop PDM grant applications using the prioritized mitigation actions that are included.	
Federal	Flood Mitigation Assistance (FMA) grant program	FEMA	Mitigate repetitively-flooded structures and infrastructure.	Available on an annual basis, distributed by California Governor's Office of Emergency Services (Cal OES). Grant award based on specific project as they are identified.
Federal	Assistance to Firefighters Grant (AFG) Program	FEMA/U.S. Fire Administration (USFA)	Provides equipment, protective gear, emergency vehicles, training, and other resources needed to protect the public and emergency personnel from fire and related hazards.	Available to fire departments and nonaffiliated emergency medical services. Grant award based on specific projects as they are identified.
Federal	Community Action for a Renewed Environment (CARE)	U.S. Environmental Protection Agency (EPA)	Through financial and technical assistance, offers a way for a community to organize and act to reduce toxic pollution locally. Through CARE, a community creates a partnership that implements solutions to reduce releases of toxic pollutants and minimize human exposure.	Competitive grant program. Grant award based on specific projects as they are identified.
Federal	Clean Water State Revolving Fund (CWSRF)	EPA	A loan program that provides low-cost financing to eligible entities within State land for water quality projects, including all types of non-point source, watershed protection or restoration, estuary management projects, and more traditional municipal wastewater treatment projects.	Through CWSRF, the EPA has provided more than \$5 billion annually to fund water quality protection projects for wastewater treatment, nonpoint source pollution control, and watershed and estuary management.
Federal	Public Health Preparedness Cooperative Agreement	US Centers for Disease Control and Prevention (CDC)	Funds are intended to upgrade State and local public health jurisdictions' preparedness and response to bioterrorism, outbreaks of infectious diseases, and other public health threats and emergencies.	Competitive grant program. Grant award based on specific projects as they are identified.



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### 3.4 Education and Outreach Capabilities

The County and jurisdictions within the planning area have integrated the following education and outreach capabilities through the hazard mitigation 5-year planning cycle.

**Table 3-4: Education and Public Outreach Capabilities**

Type	Name	Description	Hazards Addressed	Mitigation, Preparedness, Response, or Recovery	Audience
Education	Tulare County Resource Management Agency Web Site	A user-friendly source of Tulare County Flood hazard information. It includes quick links to the Federal Emergency Management Agency's floodplain map website and the California Department of Water Resources floodplain map website. In addition, it contains user friendly links to flood information contained in existing, updated or newly adopted Community Plans.	Flood	Mitigation, Preparedness	Unincorporated County Communities
Education	OES Website	A user-friendly source of preparedness information on a variety of hazards. It includes links to California's MyHazards portal and the Hazard Mitigation Plan, Tulare County Disaster Preparedness Guide, and other preparedness resources, as well as incident-specific Response and Recovery information.	All	Mitigation Preparedness Response Recovery	Entire Operational Area
Education	2011 Tulare County Preparedness Guide	A resource for the public to learn about local hazards, available resources, and personal, family, and business preparedness measures.  Information from the updated MJLHMP will be reviewed for inclusion the County Preparedness Guide as it is updated.	All	Preparedness	Entire Operational Area
Outreach	Tulare County Social Media	Tulare County social media accounts, including the main Tulare County account and those operated by the Fire Department, Sheriff's Department, Health & Human Services Agency, and others are utilized to disseminate mitigation (i.e. fuel reduction), preparedness (i.e. emergency kit), response (i.e. evacuation / shelter information), and recovery (i.e. available	All	Mitigation Preparedness	Entire Operational Area

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Table 3-4: Education and Public Outreach Capabilities					
		<p>assistance programs) information at relevant phases within the disaster cycle. (same as above).</p> <p>The updated MJLHMP will be posted to County media sites. As the planned is reviewed annually and new updates made, information on the planning process will be included on web sites and announced on social media.</p>			
Outreach	Town Hall / Town Council Meetings	<p>Tulare County participates in a variety of regular town hall / council meetings in unincorporated communities. Topics of meetings include public safety issues and mitigation activities. Tulare County RMA has conducted over 200 such public meetings in the past 5 years, a majority of which included mitigation topics, and has incorporated the feedback from these meetings into planning documents such as the General Plan and MJLHMP.</p> <p>Information on the availability and contents will be provided during RMA public meetings.</p>	All	Mitigation Preparedness	Entire Operational Area

**3.5 Previously Implemented Mitigation Measures.**

Table 3.5 contains the status of the 2011 MJLHMP County-wide mitigation actions. Those that were not completed or are ongoing have been included in the 2017 MJLHMP where applicable and so noted. Items cited as ongoing in the 2017 Plan are located in Tables 6.2 and 6.3.

Table 3.5: Previously Plan Mitigation Actions Status				
No.	Description	Mitigation	Hazard	Status
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 as high and/or very high wildfire areas.	Property Protection	All	Ongoing. Include in 2017 Plan as action 1-1.
2	Integrate the Tulare County HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	Property Protection	All	Ongoing. Included in 2017 Plan as action 1-2.

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3	Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency.	Property Protection, Structural Project	Earthquake	Ongoing. Included in 2017 Plan as action 1-9.
4	Seismically retrofit or replace County and local ramps and bridges that are categorized as structurally deficient by Caltrans, are located in a high ground shaking areas, and/or are necessary for first responders to use during and/or immediate after a disaster or emergency.	Property Protection, Structural Project	Earthquake	Ongoing: The County has been replacing structurally deficient bridges. Currently, about 30 bridges have been identified for replacement
5	Develop a public outreach program that informs property owners located in the dam or levee inundation areas about voluntary flood insurance.	Public Outreach	Flood	Ongoing. Included in 2017 Plan as action 2-2. See RMA Website. <a href="http://tularecounty.ca.gov/rma/index.cfm/public-works/flood-hazard-information/">http://tularecounty.ca.gov/rma/index.cfm/public-works/flood-hazard-information/</a>
6	Create a database that accounts for all levees in Tulare County and their condition.	All	Flood	Incomplete. Carried over in 2017 Plan as action 1-22.
7	Acquire, relocate, or elevate residential structures, in particular those that have been identified as Repetitive Loss (RL) properties that are located within the 100-year floodplain.	Property Protection	Flood	Continuing. Included in 2017 Plan as action 1-23.

No.	Description	Mitigation Category	Hazard Addressed	Status
8	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	Property Protection	Flood	Continuing. Included in 2017 Plan as action 1-24.
9	Reinforce County and local ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	Property Protection, Structural Project	Flood	Ongoing. The County has been reviewing bridges for hydraulic issues. This is part of the 30 bridges to be replaced.
10	Work with FEMA Region IX to address any floodplain management issues that may have arisen/arise from the countywide Digital Flood Insurance Rate Map (DFIRM), Community Assessment Visits, and/or the Department of Water Resources (DWR).	All	Flood	Ongoing. Included in 2017 Plan as action 1-26.

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11	Increase participation in the National Flood Insurance Program (NFIP) by entering the Community Rating System program which through enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	Prevention, Property Protection	Flood	Ongoing. Included in 2017 Plan as action 1-27. Needs to be addressed by individual jurisdictions.
12	Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about severe valley fog conditions*.	Prevention	Fog	Ongoing. Included in 2017 Plan as action 4-5. Incorporated into Alert Tulare County mass notification warning system.
13	Implement post-fire debris flow hill-slope and channel treatments, such as seeding, mulching, and checking dams and debris racks, as needed.	Prevention, Property Protection	Post-Fire Debris Flow	Ongoing. Ongoing. Included in 2017 Plan as action 1-39.
14	Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid creation of wind acceleration corridors within vegetated areas.	Prevention, property protection, natural resource protection	Severe Winter Storm	Ongoing. Have been clearing rights of way of vegetation and dead trees. Included in 2017 Plan as action 1-40.
15	Develop a free annual tree chipping and tree pick-up day that encourages residents living in wind hazard areas to manage trees and shrubs at risk to falling on nearby structures.	Property Protection	Severe Winter Storm	Ongoing. Included in 2017 Plan as action 1-41.

No.	Description	Mitigation Category	Hazard Addressed	Status
16	Bolt down the roofs of critical facilities in wind gust hazard areas in order to prevent wind damage.	Property Protection	Severe Winter Storm	Ongoing. Included in 2017 Plan as action 1-42.
17	Implement a fuel reduction program, such as the collection and disposal of dead fuel, within open spaces and around critical facilities and residential structures located within a high and very high wildfire zones.	Prevention, property protection, natural resource protection	Wildfire	Ongoing. County is included in State Tree Mortality Proclamation. Included in 2017 Plan in actions 1-17 and 1-22.

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18	Create a vegetation management program that provides vegetation management services to elderly, disabled, or low-income property owners who lack the resources to remove flammable vegetation from around their homes.	Property Protection	Wildfire	Ongoing. Scope broadened and included in 2017 Plan as action 1-17.
19	Develop a community wildfire mitigation plan that identifies and prioritizes areas for hazard fuel reduction treatments, and recommend the types of methods of treatments.	Prevention, Property Protection	Wildfire	Incomplete. Included in 2017 Plan in actions 1-16 and 1-17.
20	Implement a fuel modification program, which also includes residential maintenance requirements and enforcement, plan submittal and approval process, guidelines for planting, and a listing of undesirable plant species. Require builders and developers to submit their plans, complete with proposed fuel modification zones, to the local fire department for review and approval prior to beginning construction.	Prevention, Property Protection	Wildfire	Ongoing. Included in 2017 Plan as actions 1-18 through 1-20



### 4. Community Profiles

This section describes the community profiles for each jurisdiction that participated in the development and adoption of the 2017 MJLHMP. Participating jurisdictions include:

- Tulare County
- City of Dinuba
- City of Exeter
- City of Farmersville
- City of Lindsay
- City of Porterville
- City of Tulare
- City of Visalia
- City of Woodlake
- Tulare County Office of Education (participating on behalf of the various County school districts)
- Tule River Tribe

#### 4.1 Geography and History

The County, located in central California, is geographically diverse. Nearly half of the land in the County lies within national parks or national forests. Overall, the County is divided into three general topographical zones: a valley region, a foothill region, and a mountain region. The eastern portion (approximately 50%) of the County lies in the Sierra Nevada mountain range, and the western half of the County is situated on the San Joaquin Valley floor. The County is bordered by Fresno County to the north, Kings County to the west, Kern County to the south, and Inyo County to the east. The County is approximately 22 miles from the larger city of Fresno (to the north) and 33 miles from the larger city of Bakersfield (to the south), about 275 miles from San Francisco, and 175 miles from Los Angeles. The County has an area of 4,839 square miles; approximately 15 square miles in the County are covered by water and the remaining 4,824 square miles are occupied by land. Elevations in the County range from 207 feet above sea level to Mount Whitney at 14,505 feet above sea level, the highest summit in the contiguous U.S. (situated at the boundary between the County and Inyo County).

The County's climate varies by location and elevation. The majority of the population in the County lives in the valley region, where the climate is warm and dry, with hot summers (temperatures in July normally reach 100 degrees Fahrenheit) and fairly mild winters. In the mountain communities, winters are colder and summers not quite as hot. Above 7,000 feet, winters can be severe, with year-round snow at the highest elevations. The rainy season lasts from October through April. Average rainfall is 10.5 inches per year. Although ice and snow are rare on the valley floor, the snowpack in the mountains often measures more than 200 inches. Fog is common in the County, particularly in the winter months, although it can also occur in the summer.

The original inhabitants of the County were Yokut-speaking tribes, who populated much of the San Joaquin Valley. In 1772, while exploring the Tulare area, a Spanish commander discovered a great lake surrounded by marshes and filled with rushes. He named this lake Los Tules (the tules), from which the name Tulare is derived. Settlers first inhabited the present-day area of Visalia. The County was established

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in 1852; originally, the County encompassed a much larger area. Over the years, territory was taken from the County to create Fresno, Mono, Kern, Inyo and Kings Counties. It was not until 1893 that the present boundaries of the County were established. The County has eight incorporated cities (Dinuba, Exeter, Farmersville, Lindsay, Porterville, Tulare, Visalia, and Woodlake); 39 unincorporated communities; and the Tule River Indian Reservation.

### **4.2 Government:**

The County government consists of five county supervisors and one County Administrative Officer. The Board of Supervisors serves as both the legislative and executive governing body of the County. The Board hires the County Administrative Officer, who is responsible for carrying out the policy decisions made by the Board and for the day to day operations of the County. The Board also hires the County Counsel, who is the County's legal advisor.

### **4.3 Economy:**

Tulare County, like many agricultural areas in the San Joaquin Valley, finds itself facing the first half of the 21<sup>st</sup> 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 U.S. 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.

The County and cities have undertaken a major effort to promote Tulare County as a location for new and expanded industry. Targeted industries include recreation and tourism, computer products and software, electronics, apparel, insurance, agricultural equipment, food processing, transportation and logistics (warehousing, transportation, and call centers), and commercial retail establishments. The historical balance between housing and jobs in the region is not expected to be disrupted by this effort.

The largest category of all wage and salary employment in the County is within education, health care and social services, accounting for 31,085 jobs, which represent 19.5% of the total civilian labor force. Following closely in second is agriculture with 27,075 jobs at 17%, and retail is third providing 17,001 jobs. Agriculture continues to be a dominant industry in the County. Major growth is expected to continue in the fields of agri-business and service industries in future years.

The County is one of the most productive farming areas in the world, with exports to more than 89 countries worldwide. Local farmers and ranchers produced food and fiber products with a wholesale value of \$6.98 billion in 2015. This represents a 13.7% decrease above 2014's value. These production values are based on 120 different crops grown locally; 45 crops exceed \$1 million in annual commodity value. The County is the number one county for annual milk production in the State and nation, totaling more than \$1.7 billion, according to the 2015 County Agricultural Crop and Livestock Report. The dairy industry and its primary customer, cheese manufacturers, support year-round and permanent job placement, thus adding to the stability and sustainability of pervasive agricultural activity.



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The second-largest industry in the County is manufacturing, which employed 8% of the working population. Although the agricultural and the manufacturing industries are vital to the County's economy, "local support industries" are the fastest growing industries in the County. Local support industries are described as those industries whose fortunes are closely tied to population growth. Within the County, these industries are finance-insurance-real estate, construction, and government. As the population increases in the Central San Joaquin Valley, local support industries (e.g., real estate) will do more business (e.g., sell more homes) and thus create more jobs in other population-dependent local support industries such as construction.

### 4.4 Demographics:

With 459,863 people, (U.S. Census Bureau, QuickFacts 2015) the County is the 18th most populated county in California out of 58 counties. Metropolitan areas include Visalia with a population of 130,104; Tulare with 61,867 people; and Porterville with 55,466 people. While the County had one of the higher population growth rates in the State between the 2000 and 2010 census with population increasing by 20.2%, population growth between 2010 and 2015 was just 4%. Hispanic and Latinos are the largest ethnic group in the County, representing 63.6% of the population, with Non-Hispanic Whites accounting for 29.6% of the population. Asians, Native Americans and Blacks who make up 4%, 2.8% and 2.2% respectively, constitute the remainder of the population. Just below 50% of the population is under 18 years of age.

There are 132,706 households in the County with an average of 3.36 persons per household. Average household income was \$42,863 per year. The poverty rate was 28.7%. Slightly over 50% of the population spoke a language other than English at home. The high school graduation rate was 68%. Slightly over 13% of the County had a college degree or higher level of education.

### Incorporated Cities:

There are eight incorporated cities in the County:

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

Each of these cities is described separately in the subsequent sections.



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### **Unincorporated Communities:**

The County contains 39 unincorporated communities and census-designated places. Some are little more than place names from past history (often when they had their own post offices), but others are active communities.

- Western Tulare County, Valley communities: Allensworth, Alpaugh, Angiola, Cairns Corner, Calgro, Cutler, Ducor, Earlimart, East Orosi, East Porterville, Goshen, Ivanhoe, Lemon Cove, Lindcove, London, Monson, Okieville, Orosi, Pixley, Poplar-Cotton Center, Richgrove, Seville, Strathmore, Sultana, Terra Bella, Tipton, Traver, Waukena, Woodville, Yetttem, and Zante.
- Eastern Tulare County, Mountain communities: Advance, Badger, Balance Rock, California Hot Springs, Camp Nelson, Johnsdale, Kaweah, Posey, Springville, and Three Rivers.

### **City of Dinuba**

The City of Dinuba (Dinuba) is in the northwestern corner of the County, approximately 20 miles north of the City of Visalia (Visalia), the County seat.

- Area: 6.47 square miles
- Population: 23,702
- % population under age 18: 45.1% (2010 data)
- Labor force age 16 and over: 65%
- Education: High school 57.0%, College level or higher 6.5%
- Income: Median household \$38,509, Poverty level 28.3%
- Housing units: 5,964

Data from US Census QuickFacts 2015

### **City of Exeter**

The City of Exeter (Exeter) is just south of the intersection of State Route (SR) 65 and SR 198, about 7 miles east of Visalia.

- Area: 2.26 square miles
- Population: 10,774
- % population under age 18: 47.4% (2010 data)
- Labor force age 16 and over: 61.9%
- Education: High school 55.4%, College or higher level 3.2%
- Income: Household \$32,455 per year, Poverty level 32.4%
- Housing units: 2,726

Data from US Census QuickFacts 2015

### **City of Farmersville**

The City of Farmersville (Farmersville) is 5 miles east of Visalia.

- Area: 2.3 square miles
- Population: 10,588
- % population under age 18: 36.8% (2010 data)
- Labor force age 16 and older: 58.2%

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- Education: High school 39.8%, College or higher level 2%
- Income: Household \$32,455 per year, Poverty level 30.2%
- Housing units: 2,670

Data from US Census QuickFacts 2015

### **City of Lindsay**

The City of Lindsay (Lindsay) is on SR 65 about 15 miles southeast of Visalia.

- Area: 2.61 square miles
- Population: 13,217
- % population under age 18: 49.9% (2010 data)
- Labor force age 16 and older: 63.2%
- Education: High school 47.4%, College level or higher 6.5%
- Income: Household \$30,198, Poverty level 44.1%
- Housing units: 3,193

Data from US Census QuickFacts 2015

### **City of Porterville**

The City of Porterville (Porterville) is along SR 65, just north of SR 190, about 22 miles southeast of Visalia.

- Area: 17.61 square miles
- Population: 56,058
- % population under age 18: 43.3% (2010 data)
- Labor force age 16 and older: 60.1%
- Education: High school 67.7%, College level or higher 10%
- Income: Household \$41,267, Poverty level 28.8%
- Housing units: 16,734

Data from US Census QuickFacts 2015

### **City of Tulare**

The City of Tulare (Tulare) is along Highway 99 about 11 miles south of Visalia.

- Area: 20.93 square miles
- Population: 62,315
- % population under age 18: 42.7% (2010 data)
- Labor force age 16 and older: 61.5%
- Education: High school 72.6%, College level or higher 10.7%
- Income: Household \$46,387, Poverty level 21.6%
- Housing units: 18,863 (2010 data)

Data from US Census QuickFacts 2015

### **City of Visalia**

The Visalia is the County seat. Visalia is along SR 198, about 230 miles southeast of San Francisco and 190 miles north of Los Angeles.

- Area: 36.25 square miles
- Population: 130,104
- % population under age 18: 38.7% (2010 data)

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- Labor force age 16 and older: 63.3%
- Education: High school 82.4%, College level or higher 21.9%
- Income: Household \$52,262, Poverty level 20.5%
- Housing units: 44,205 (2010 data)

Data from US Census QuickFacts 2015

### **City of Woodlake**

The City of Woodlake (Woodlake) is about 14 miles northeast of Visalia.

- Area: 2.25 square miles
- Population: 7,654
- % population under age 18: 46.7% (2010 data)
- Labor force age 16 and older: 65.9%
- Education: High school 52.6%, College level or higher 7.2%
- Income: Household \$35,509, Poverty level 26.9%
- Housing units: 2,067 (2010 data)

Data from US Census QuickFacts 2015

### **Tule River Tribe**

The Tule River Indian Reservation is approximately 85 square miles. The reservation is located in a remote rural area approximately 20 miles from the nearest town of Porterville. The Tribe also owns 40 acres in the Porterville Airport Industrial Park and 79.9 acres in the foothill scenic development corridor along Highway 190. The tribe consists of Yokut, Western Mono, and Tubatulabal peoples, and as of 2009 the tribal population was approximately 997 people. The Tule River Tribal Council, which was created by the constitution and bylaws of the Tule River Tribe and approved January 15, 1936, conducts executive, legislative, and business functions. The Tribal Council consists of nine council members elected by secret ballot. The elected officials then decide who will perform the functions of chairman, vice chairman, secretary, and treasurer.

## **4.5 Land Use and Developing Trends**

As of 2016, Tulare County encompasses over 4,839 square miles of land. Federal lands including wilderness, national forests, monuments, and parks make up approximately 52.2%, 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% 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.

The population of Tulare County was 442,148 based upon the 2010 census and estimated to be 459,863 in 2015<sup>2</sup>, which is an increase of 17,715 persons, or 4% from 2010 to 2015. Population density was 91.7 persons per square mile. The population resides 85% in urban settings and 15% rural areas. The growth of the population of California during the same period was 9.12%. Slow growth in the County is attributable to the recession of 2009 to 2011 and to the severe drought from 2011 through 2016.

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<sup>2</sup> U.S. Census

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The Tulare County General Plan 2030 Update (General Plan Update) was adopted by the Board of Supervisors in August 2012. The 2015 Housing Element (GPA 15-003) was adopted by Tulare County Board of Supervisors in November 2015 and was approved (certified) by the State Department of Housing and Community Development (HCD) by letter dated December 9, 2015. The Health and Safety Element was updated and adopted by the Board of Supervisors in November 2016. The General Plan Update provides a comprehensive, long-term plan for the physical development of the County. The General Plan Update consists of development policies that set forth the objectives, principles, and standards to guide land use decisions within the County.

The Planning Framework Element modernizes the policies of the Urban Boundary Element around the cities and unincorporated communities in the County and formalizes the Hamlet Development Boundaries and Mountain Service Centers. The effect of this element will be to standardize land use policies to direct new growth to areas near existing growth. The purpose of this policy is to make unincorporated areas economically viable, create mixed land uses that promote jobs-housing balance which in turn reduce work commuting distances to facilitate reductions in greenhouse gas emissions.

One of the highlights of the General Plan Update is that it directs most development toward areas near the incorporated cities but allows for economic development in the unincorporated communities, while protecting and facilitating the development of the County's extensive agricultural, scenic, cultural, historic, and natural resources. This part of the General Plan Update is an important part of the County's desire to raise the quality of life for residents in smaller communities. The General Plan Update also addresses climate change, which is a new and important factor in county planning. The Tulare County Climate Action Plan (CAP) serves as a guiding document for County of Tulare ("County") actions to reduce greenhouse gas emissions and adapt to the potential effects of climate change. The CAP is an implementation measure of the 2030 General Plan Update. The General Plan provides the supporting framework for development in the County to produce fewer greenhouse gas emissions during Plan buildout. The CAP builds on the General Plan's framework with more specific actions that will be applied to achieve emission reduction targets consistent with California legislation. At present, the General Plan Update, The Health and Safety Element Update Tulare County Supplemental Program Environmental Impact Report, The Tulare County General Plan Background Report, and the Draft Tulare County Climate Action Plan are available to the public at the following location: <http://generalplan.co.tulare.ca.us/index.asp>.

### **Tule River Tribe Land Use and Development Trends**

The Tule River Indian Reservation covers almost 85 square miles and is located in the remote rural areas of the Sierra Nevada Mountains. Most of the land on the reservation is underdeveloped and covered by oak woodlands and conifer forests. The Reservation is accessible only by one winding paved road that follows the South Fork of the Tule River. The isolated, rugged setting allows for privacy and development independent from urban or recreational sprawl. The Tribe also owns 40 acres in the Porterville Airport Industrial Park and 79 acres in the foothill scenic development corridor along Highway 190. The Eagle Feather Trading Post, once of the largest convenience stores in Tulare County, is located on Highway 190, but the majority of the Tribe's acreage in the scenic development corridor along Highway 190 remains undeveloped. The 40 acres in the industrial park, referred to as the "Airpark," was the start of the Tule River

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Tribe's economic expansion beginning in the late 1980's. Intended as a diversification from the Tribe's lumbering operations, the Airpark is now home to a variety of businesses and organizations including flood services, Federal agencies and storage/warehouse.

### **Development in Hazard Prone Areas**

Because population growth was less than one percent per year since approval of the 2011 MJLHMP, there has been no development in hazard prone areas that has affected overall vulnerability of the County. Development that did occur, was primarily infill in urban areas where vulnerabilities are well understood and described.

Updated dam inundation maps include a much larger area of the County. While little new development occurred in the expanded inundation zones, vulnerability to dam inundation increased substantially and now includes most of the most populace areas of the County. Updated dam inundation maps for the County and affected cities are included in **Appendix B**.

The new MJLHMP addresses the new hazard of climate change. This hazard impacts the entire County. Development in the County, the State and globally with increased carbon emissions will result in increasing overall vulnerabilities to its impacts.

### **4.6 Assets (Services & Facilities)**

Community assets can be identified and integrated into the MJLHMP. Identifying assets already available to the communities can reduce redundancies (especially in a multi-jurisdictional plan) as well as optimize/reinforce current assets. Each community in this MJLHMP has included an asset inventory in **Annexes A** through **I**.

The individual asset inventory includes the identification of:

- **People** – This includes population estimates, visiting population estimates (migrants, national parks or special events) and persons with disabilities and other access or functional needs population.
- **Economy** – Economic drivers include building assets but also include inventory within buildings, downtime and loss of wages. In addition, primary economic sectors (major employers) where their loss would have a significant impact to the community.
- **Built Environment** – Existing structures, infrastructure systems, critical facilities, cultural resources, and future development.
- **Natural Resources** – Critical habitats and areas that provide protective functions.

County facilities are included in **Tables 4-1** through **4-6**. Due to the extensive number, Department of Transportation bridges and culverts are depicted in **Appendix G**. All County facilities are subject to the effects of climate change. City and other jurisdiction owned facilities are listed in **Appendix J, Annexes A -J**. Contents and furnishings of facilities, vehicles small ancillary structures are not listed.

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<b>Table 4-1: Department of Transportation Road Maintenance Facilities</b>						
<b>District</b>	<b>Name</b>	<b>Location</b>	<b>Associated Hazards</b>	<b>CNG Station</b>	<b>Fuel Station</b>	<b>Replacement Cost</b>
1	Camp Nelson Yard	447 Trails End, Camp Nelson	Drought, Freeze, Winter Storms, Wildfire		\$100,000	\$665,000
1	Porterville Road Yard	1243 W N Grand Ave, Porterville	Drought, Earthquake, Fog, Dam Inundation		\$300,000	\$1,595,081
2	Central Shop	14001 Ave 256, Visalia	Drought, Earthquake, Fog, Dam Inundation	\$500,000	\$300,000	\$10,917,250
2	Pixley Yard	1493 S Airport Dr, Visalia	Drought, Earthquake, Fog, Dam Inundation		\$300,000	\$1,004,000
2	Soil Lab	14001 Ave 256, Visalia	Drought, Earthquake, Fog, Dam Inundation			\$1,738,500
2	Traffic Control	14001 Ave 256, Visalia	Drought, Earthquake, Fog, Dam Inundation			\$1,453,500
2	Visalia Yard	14001 Ave 256, Visalia	Drought, Earthquake, Fog, Dam Inundation			\$6,967,415
4	Badger Road Yard	49494 Whittaker Forest Dr, Badger	Drought, Freeze, Winter Storms, Wildfire		\$100,000	\$456,839
4	Dinuba Yard	1155 E Kamm Ave, Dinuba	Drought, Earthquake, Fog,		\$400,000	\$3,063,250
4	Three Rivers Yard	40127 Pierce Dr, Three Rivers	Drought, Freeze, Winter Storms, Wildfire		\$100,000	\$527,500
5	Terra Bella Road Yard	23689 Camphor Ave, Terra Bella	Drought, Earthquake, Fog, Dam Inundation		\$300,000	\$1,399,081
<b>Total</b>						<b>\$29,787,416</b>

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<b>Table 4-2: County Fire Department Stations</b>			
<b>Station</b>	<b>Address</b>	<b>Associated Hazards</b>	<b>Replacement Cost</b>
Tulare County Fire Administration Building	835 S Akers St, Visalia	Earthquake, Dam Flood, 500-Year Floodplain, Fog	Unknown
Tulare County Fire Communications Center	11871 Ave 272, Visalia	Earthquake, Dam Flood, 500-Year Floodplain, Fog	\$278,118
Tulare County Fire Station #02	3811 Ave 400, Kingsburg	Earthquake, Fog	\$210,872
Tulare County Fire Station #03	40404 Rd 80, Dinuba	Earthquake, 500-Year Floodplain, Dam Flood, Fog, Freezing	\$1,264,942
Tulare County Fire Station #04	40779 Rd 128, Cutler	Earthquake, 100-Year Floodplain, Dam Flood, Fog	\$610,296
Tulare County Fire Station #05	45656 Old Stage Rd, Posey	Freezing, Severe Winter Storm, Wildfire	\$6,224
CAL FIRE Milo Forest Fire Station	360 E Hermosa St, Lindsay	Earthquake, Freezing, Wildfire	Unknown
Tulare County Fire Station #06	45122 Manter Meadow Dr, California Hot Springs	Earthquake, Fog, Wildfire	\$668,274
Tulare County Fire Station #07	30901 Rd 67, Visalia	Dam Flood, Earthquake, Fog	\$59,021
Tulare County Fire Station #08	32868 Hawthorne Rd, Ivanhoe	Earthquake, Dam Flood, Fog	\$617,138
Tulare County Fire Station #09	3939 Ave 54, Alpaugh	Earthquake, Freezing, Fog	\$219,815
Tulare County Fire Station #10	20890 Grove Dr, Richgrove	Dam Flood, Earthquake, Fog	\$280,829
Tulare County Fire Station #11	137 N F St, Exeter	Dam Flood, Earthquake, 500-Year Floodplain, Fog	Unknown
Tulare County Fire Station #12	216 E Naranjo Blvd, Woodlake	Earthquake, Dam Flood, Fog	Unknown
Tulare County Fire Station #13	32490 Sierra Dr, Woodlake	Earthquake, Dam Flood, 100-Year Floodplain	\$628,454
Tulare County Fire Station #14	41412 S Fork Dr, Three Rivers	Freezing, Severe Winter Storms, Wildfire	\$511,922
Tulare County Fire Station #15	19603 Ave 228, Lindsay	Earthquake, Fog	\$870,661
Tulare County Fire Station #16	22908 Ave 196, Strathmore	Earthquake, 100-Year Floodplain, Fog	\$233,925
Tulare County Fire Station #17	51345 Eshom Valley Dr, Bager	Freezing, Severe Winter Storms, Wildfire	
Tulare County Fire Station #18	99075 Goman Ave, Inyokern	Earthquake, Freezing, Severe Winter Storms, Wildfire	\$479,560
Tulare County Fire Station #19	22315 Ave 152, Porterville	Earthquake, 100-Year Floodplain, Dam Flood, Fog, Freezing	\$891,117
Tulare County Fire Station #20	1551 E Success, Porterville	Earthquake, Dam Flood, Fog	\$920,010
Tulare County Fire Station #21	23658 Ave 95, Terra Bella	Earthquake, Fog	\$679,477
Tulare County Fire Station #22	35659 Hwy 190, Springville	Fire, Earthquake, Freezing, Severe Winter Storms, Wildfire	\$775,280



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<b>Table 4-2: County Fire Department Stations</b>			
<b>Station</b>	<b>Address</b>	<b>Associated Hazards</b>	<b>Replacement Cost</b>
Tulare County Fire Station #23	1500 Nelson Dr, Springville	Earthquake, Freezing, Severe Winter Storm, Wind, Wildfire	\$724,396
Tulare County Fire Station #24	2802 Ave 192, Tulare	Earthquake, 100-Year Floodplain, Dam Flood, Fog, Freezing	\$187,321
Tulare County Fire Station #25	2082 Foster Dr, Tulare	Earthquake, Dam Flood, Fog	\$928,587
Tulare County Fire Station #26	241 S Graham Rd, Tipton	Earthquake, Fog, Dam Flood	\$299,540
Tulare County Fire Station #27	200 N Park Rd, Pixley	Earthquake, 100-Year Floodplain, Fog	\$892,342
Tulare County Fire Station #28	808 E Washington Ave, Earlimart	Earthquake, Fog, Dam Flood	\$591,556
Tulare County Fire Supply Center	16756 Ave 168, Tulare	Earthquake, Fog, Dam Flood	\$314,857
<b>Total</b>			<b>\$14,144,534</b>

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<b>Table 4-3: County Libraries</b>			
<b>Branch</b>	<b>Address</b>	<b>Associated Hazards</b>	<b>Replacement Cost</b>
Alpaugh Public Library	3816 Ave 54, Alpaugh	Earthquake, Fog, Freezing	\$670,944
Alta Vista Library Kiosk	2293 E Crabtree Ave, Porterville	Earthquake, 100-Year Floodplain, Dam Flood, Fog	\$34,520
Cutler Library Kiosk	40526 Orosi Dr, Orosi	Earthquake, Fog	\$30,920
Earlimart Public Library	780 E Washington St, Earlimart	Earthquake, Fog	\$701,436
Exeter Public Library	230 E Chestnut, Exeter	Earthquake, 500-Year Floodplain, Fog	\$2,645,207
Ivanhoe Public Library	15964 Heather, Ivanhoe	Earthquake, Dam Flood, Fog	\$1,049,589
Lindsay Library	157 N Mirage St, Lindsay	Earthquake, Fog	\$650,760
London Library	5711 Ave 378, Dinuba	Earthquake, Dam Flood, Fog	\$398,080
Pixley Library	300 N School, Pixley	Earthquake, Fog	\$407,840
Public Library	200 W Oak Ave, Visalia	Earthquake, 100-Year Floodplain, Dam Flood, Fog	\$15,922,727
Springville Library	3500 Hwy 190, Springville	Earthquake, Freezing, Wildfire	\$253,840
Strathmore Library	19646 Rd 230, Strathmore	Earthquake, 100-Year Floodplain, Fog	\$1,591,369
Terra Bella Library	23650 Ave 95, Terra Bella	Earthquake, Fog	\$264,640
Three Rivers Library	42052 Eggers Dr, Three Rivers	Earthquake, Freezing, Wildfire	\$484,480
Tipton Branch	221 N Evans Rd, Tipton	Earthquake, Fog, Dam Flood	\$1,482,500
Tulare County Public Library - Dinuba Branch	150 S I St, Dinuba	Earthquake, 100-Year Floodplain, Fog	\$4,057,144
Tulare Public Library	12646 Ave 416, Tulare	Earthquake, 500-Year Floodplain, Dam Flood, Fog, Freezing	\$890,433
Tulare Public Library	301 E Woods, Tipton	Earthquake, Fog, Dam Flood	\$1,482,500
Woodlake Library	400 W Whitney, Woodlake	Earthquake, Dam Flood, Fog	\$299,920
<b>Total</b>			<b>\$33,318,849</b>

<b>Table 4-4: County Sheriff's Office</b>			
<b>Facility</b>	<b>Address</b>	<b>Associated Hazards</b>	<b>Replacement Cost</b>
Bob Wiley Detention Facility	36712 Rd 112, Visalia	Earthquake, 500-Year Floodplain, Dam Flood, Fog	\$46,312,646
Men's Correctional Facility	36168 Rd 112, Visalia	Earthquake, Dam Flood, Fog	\$10,738,068
Personnel & Training	5959 S Mooney Blvd, Visalia	Earthquake, 500-Year Floodplain, Dam Flood, Fog	\$6,293,329
Portable Equipment	2404 W Burrel Ave, Visalia	Earthquake, 500-Year Floodplain, Dam Flood, Fog	\$415,000
Porterville Courthouse	379 N 3rd St, Porterville	Earthquake, 500-Year Floodplain, Dam Flood, Fog, Freezing	\$5,032,346
Pre-Trial Facility	36650 Rd 112, Visalia	Earthquake, Dam Flood, Fog	\$47,123,261
Scotsman Modular Building	36000 Rd 112, Visalia	Earthquake, Dam Flood, Fog	\$69,719

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<b>Table 4-4: County Sheriff's Office</b>			
<b>Facility</b>	<b>Address</b>	<b>Associated Hazards</b>	<b>Replacement Cost</b>
Sequoia Complex	36000 Rd 112, Visalia	Earthquake, 500-Year Floodplain, Dam Flood, Fog	\$3,438,306
Sequoia Complex Building L	36000 Rd 112, Visalia	Earthquake, 500-Year Floodplain, Dam Flood, Fog	\$12,392,400
South County Detention Facility	1960 W Scranton Ave, Porterville	Earthquake, Dam Flood, Fog	\$52,442,000
Tulare County Detective's Annex/Porterville Substation	378 2nd St, Porterville	Earthquake, Dam Flood, Fog	\$688,342
Tulare County Jail	2404 W Burrel Ave, Visalia	Earthquake, 500-Year Floodplain, Dam Flood, Fog	\$23,924,607
Tulare County Substation and Community Center	161 N Pine St, Pixley	Earthquake, Fog, Dam Flood	\$1,369,579
William Silviera J. Juvenile Justice Center	11120 Ave 368, Visalia	Earthquake, Dam Flood, Fog	\$90,016,829
<b>Totals</b>			<b>\$300,256,432</b>

<b>Table 4-5: County Parks</b>			
<b>Facility</b>	<b>Address</b>	<b>Associated Hazards</b>	<b>Replacement Cost</b>
Alpaugh Park	NWC Park & Tule Ln, Alpaugh	Earthquake, Fog	\$58,271
Balch Park	48200 Bear Creek Dr, Springville	Earthquake, Freezing, Severe Winter Storm, Wind, Wildfire	\$192,447
Bartlett Park	28801 Worth Dr, Porterville	Earthquake, Dam Flood, Wildfire	\$368,542
Cutler Park	15520 Ivanhoe Dr, Visalia	Earthquake, 100-Year Floodplain, Dam Flood, Fog	\$995,544
Cutler/Orosi Senior Center	12691 Ave 408, Cutler	Earthquake, Fog, Dam Flood	\$391,475
Earlimart Neighborhood Park	Earlimart	Earthquake, Fog	\$2,100,000
Elk Bayou Regional Park	19701 Hosfield Dr, Tulare	Earthquake, 500-Year Floodplain, Dam Flood, Fog	Unknown
Kings River Nature Preserve	2 miles E of Highway 99 On Road 28, Sanger	Earthquake, 100-Year Floodplain, Dam Flood, Fog, Wildfire	Unknown
Ledbetter Park	12691 Ave 408, Cutler	Earthquake, 500-Year Floodplain, Dam Flood, Fog, Freezing	\$444,398
Mooney Grove Park/Tulare County Museum	27000 S Mooney Grove Blvd, Visalia	Earthquake, 500-Year Floodplain, Fog, Dam Flood	\$21,376,127
Pixley Park	850 N Park Dr, Pixley	Earthquake, 100-Year Floodplain, Fog	\$647,329
Woodville Park, Tulare	16482 Ave 168, Tulare	Earthquake, Dam Flood, Fog	\$119,780
Woodville Park, Visalia	2 Blocks W of County Courthouse on Main St, Visalia	Earthquake, 500-Year Floodplain, Dam Flood, Fog	Unknown
<b>Total</b>			<b>\$26,693,913</b>

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<b>Table 4-6: Other Facilities</b>			
<b>Facility</b>	<b>Address</b>	<b>Associated Hazards</b>	<b>Replacement Cost</b>
AG Commissioner Bldg.	4437 S Laspina St, Tulare	Earthquake, Dam Flood, Fog	\$5,281,351
AG Weights & Measures Storage	14173 Ave 256, Visalia	Earthquake, Dam Flood, Fog	\$65,493
Agricultural Vertebrate Pest Control	14173 Ave 256, Visalia	Earthquake, Dam Flood, Fog	\$501,463
Animal Control and Adoption Center	14131 Ave 256, Visalia	Earthquake, Dam Flood, Fog	\$752,813
Blue Ridge Repeater Site	36-17-13.2N, 118-50-18.3W	Drought, Freeze, Winter Storms, Wildfire	\$295,090
Cable TV Support, Bldg. 342	11871 Ave 272, Visalia	Earthquake, Dam Flood, Fog	\$281,787
Case Mountain Solar/Repeater Site	36-24-40.3N, 118-48-11.8W	Drought, Freeze, Winter Storms, Wildfire	\$141,597
Christian Faith Fellowship	506 N Court St, Visalia	Earthquake, 500-Year Floodplain, Dam Flood, Fog	Unknown
COC-Office Improvement Project	5300 W Tulare Ave, Visalia	Earthquake, Dam Flood, Fog	\$3,000,000
Community of Christ Church	2127 S Giddings, Visalia	Earthquake, 500-Year Floodplain, Dam Flood, Fog	Unknown
Computer Equipment	221 S Mooney Blvd, Visalia	Earthquake, Dam Flood, Fog	\$1,399,462
Consolidated Ambulance Dispatch (TCCAD)	125 N N St, Tulare	Earthquake, Dam Flood, Fog	Unknown
Delft Colony Sewage	39796 Rd 56, Dinuba	Earthquake, Fog	\$163,757
Delft Colony Sewage Treatment	39683 Rd 57, Dinuba	Earthquake, Fog	\$174,571
Department of Public Social Services	100 E Center St, Visalia	Earthquake, Dam Flood, Fog	\$2,652,250
Dinuba Courthouse	640 S Alta Ave, Dinuba	Earthquake, 100-Year Floodplain, Fog, Freezing	Unknown
Drug Abuse/Detox Center	559 E Bardsley, Tulare	Earthquake, Dam Flood, Fog	\$1,425,582
East Porterville Emergency Water Supply	21890 Olive Ave, Porterville	Earthquake, Dam Flood, Fog	\$419,580
East Porterville Water Supply Project	21890 Olive Ave, Porterville	Earthquake, Dam Flood, Fog	\$420,000
Eckert Field Airport	23500 Ave 204, Strathmore	Earthquake, Fog	Unknown
El Rancho Lift Station	37250 E Fir, Lindsay	Earthquake, Fog	\$37,873
Gateway Church of Visalia	1100 S Sowell, Visalia	Earthquake, 500-Year Floodplain, Dam Flood, Fog	Unknown
Health & Human Services	458 O'Neal Dr, Tulare	Earthquake, Dam Flood, Fog	\$3,348,835
HHS Storage	1275 O St, Tulare	Earthquake, Dam Flood, Fog	\$86,139
Hillman Health Care Center complex	1062 S K St, Tulare	Earthquake, Dam Flood, Fog	\$18,032,712
Human Resources Training Center	2900 W Burrel, Visalia	Earthquake, 500-Year Floodplain, Dam Flood, Fog	\$149,921
Jordan Peak Solar/Repeater Site	36-10-53.0N, 118-35-53.8W	Freezing, Severe Winter Storms, Wildfire	\$48,570
Lake Kaweah	25 miles E of Visalia On Highway 198	Earthquake, 100-Year Floodplain, Wildfire	Unknown

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<b>Table 4-6: Other Facilities</b>			
<b>Facility</b>	<b>Address</b>	<b>Associated Hazards</b>	<b>Replacement Cost</b>
Lake Success	36.06°N 118.92°W	Earthquake, 100-Year Floodplain	Unknown
Lewis Hill Repeater Site	36-06-25.4N, 119-01-48.4W	Drought, Freeze, Winter Storms, Wildfire	\$483,874
Lindsay First Assembly of God	360 E Hermosa St, Lindsay	Earthquake, Fog	Unknown
Mini Computers	221 S Mooney Blvd, Visalia	Earthquake, Dam Flood, Fog	\$931,826
Monson Well Distribution	Ave 388 & Campbell Ave, Monson	Earthquake, Dam Flood, Fog	\$2,000,000
Motor Pool Services Bays and Office	149 W Sunset, Visalia	Earthquake, Dam Flood, Fog	\$558,509
Oat Mountain Solar/Repeater Site	36-00-02.1N, 118-47-59.1W	Earthquake, Dam Flood, Fog	\$220,914
Porterville Courthouse	87 E Morton Ave, Porterville	Earthquake, Dam Flood, Fog	Unknown
Road Yard #2	14097 Ave 256, Visalia	Earthquake, Dam Flood, Fog	\$1,224,373
Sequoia Field Airport Sequoia Field Hanger	County Rd 112 & Ave 360, Visalia	Earthquake, 500-Year Floodplain, Dam Flood, Fog	\$5,149,446
Sequoia Ranch Airport	36788 CA 190, Springville	Earthquake, Freezing, Severe Winter Storm, Wildfire	Unknown
Seville Sewage Treatment	39332 Rd 154, Visalia	Earthquake, Dam Flood, Fog	\$37,873
Sherman Peak Solar/Repeater Site	36-00-36.8N, 118-23-28.3W	Drought, Freeze, Severe Winter Storms, Wildfire	\$31,830
Single Family Residence & Attached Garage Shop, Barn	Ave 200 & Rd 152	Earthquake, Fog	\$177,655
Springville Veterans Memorial Building	35978 Hwy 190, Springville	Earthquake, Freezing, Wildfire	Unknown
Stokes Mountain Repeater Site	36-30-55.5N, 119-12-41.3W	Drought, Freeze, Winter Storms, Wildfire	\$393,701
Superior Community School	1105 S O St, Tulare	Earthquake, Dam Flood, Fog	\$1,122,064
TB Water Management	9832 Rd 238, Terra Bella	Earthquake, Fog	\$174,571
Tobias Peak Solar/Repeater Site	35-50-59.8N, 118-34-03.3W	Drought, Freeze, Winter Storms, Wildfire	\$47,055
Tonyville Lift Station	21607 Ave 252, Lindsay	Earthquake, Fog	\$37,873
Tooleville Sewage Treatment	225 Morgan Ave, Exeter	Earthquake, Fog	\$174,571
Traver Sewage Treatment	36550 Rd 44, Kingsburg	Earthquake, Dam Flood, Fog	\$174,571
Tulare County Courthouse and Office Building	221 S Mooney Blvd, Visalia	Earthquake, 500-Year Floodplain, Dam Flood, Fog	\$67,663,452

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<b>Table 4-6: Other Facilities</b>			
<b>Facility</b>	<b>Address</b>	<b>Associated Hazards</b>	<b>Replacement Cost</b>
Tulare County DPSS/Health Building	900 N Sequoia Ave, Lindsay	Earthquake, Fog	\$3,352,531
Tulare County Education Building	2500 W Burrel Ave, Visalia	Earthquake, 500-Year Floodplain, Dam Flood, Fog	\$6,109,569
Tulare County Education Building	2637 W Burrel Ave, Visalia	Earthquake, 500-Year Floodplain, Dam Flood, Fog	\$6,293,329
Tulare County Government Office Building and computers/ telephone equipment	5961 S Mooney Blvd, Visalia	Earthquake, 500-Year Floodplain, Dam Flood, Fog	\$50,294,098
Tulare County Literacy Center	417 N Locust St, Visalia	Earthquake, 100-Year Floodplain, Dam Flood,	\$267,613
Tulare County Morgue	1225 S O St, Tulare	Earthquake, 100-Year Floodplain, Dam Flood,	\$359,427
Tulare County Office Building	2800 W Burrel Ave, Visalia	Earthquake, 500-Year Floodplain, Dam Flood, Fog	\$2,862,755
Tulare County Office Building	2900 W Burrel Ave, Visalia	Earthquake, 500-Year Floodplain, Dam Flood, Fog	\$3,423,527
Tulare County Psychiatric Facility	2611 N Dinuba Blvd, Visalia	Earthquake, Dam Flood, Fog	\$5,885,955
Tulare Various Locations	Visalia	Earthquake, Dam Flood, Fog	\$809,636
Tulare Youth Center	848 N H St, Tulare	Earthquake, Dam Flood, Fog	
Tulare/Akers Professional Center	5300 W Tulare, Visalia	Earthquake, Dam Flood,	\$15,910,000
Tulare-Pixley Superior Court/Tulare Courthouse	425 E Kern Ave, Tulare	Earthquake, Dam Flood, Fog	\$5,234,629
Uhl Hill	35-51-41.8N, 118-42-28.3W	Earthquake, Fog	\$46,369
Uhl Hill Radio Relay	35-51-41.8N, 118-42-28.3W	Earthquake, Fog	\$218,924
Vacant Building	210 N Court St, Visalia	Earthquake, Fog, Dam Flood	\$4,139,632
Valley Christian Church	432 E Pleasant Ave, Tulare	Earthquake, Dam Flood, Fog	Unknown
Vehicles	2900 Burrel, Visalia	Earthquake, 500-Year Floodplain, Dam Flood, Fog	\$116,891,105
Veterans Memorial Building	1771 E Tulare Ave, Tulare	Earthquake, Dam Flood, Fog	Unknown
Wells Tract Sewage Treatment	729 E Naranjo Blvd, Woodlake	Earthquake, Dam Flood, Fog	\$37,873
Woodlake Christian Center	799 N Valencia Blvd, Woodlake	Earthquake, 100-Year Floodplain, Dam Flood, Fog	Unknown

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Section 4

<b>Table 4-6: Other Facilities</b>			
Facility	Address	Associated Hazards	Replacement Cost
Yettem Sewage Treatment	38460 Rd 140, Cutler	Earthquake, Dam Flood, Fog	\$37,873
	1331 O St, Tulare	Earthquake, Dam Flood, Fog	\$162,111
<b>TOTAL</b>			<b>\$341,632,256</b>

### 4.7 Past Disasters

The County has experienced a number of disasters that have resulted in either a State or Federal disaster declaration. **Table 4-6** lists recent federal declarations. **Table 4-7** lists State and County declarations.

<b>Table 4-7: Stafford Act Declarations and FMAG<sup>3</sup> for the County</b>			
Declaration	Dates	Type	Assistance
California Severe Freeze (DR-1267)	December 20, 1998 to December 29, 1998	Severe Freezing	Disaster Unemployment Assistance (DUA)
California Severe Freeze (DR-1689)	January 11, 2007 to January 17, 2007	Severe Freezing	Disaster Unemployment Assistance
Public Health Emergency Federal/State	April 26, 2009 Federal April 28, 2009 State	Nation-wide H1N1 flu virus Influenza pandemic	Distribution of Strategic National Stockpile of medicinals
California Winter Storms, Flooding, and Debris and Mud Flows (DR-1952)	December 17, 2010 to January 4, 2011	Severe storms and flooding	Public Assistance (PA)
Cedar Fire (FMAG 5150)	August 19, 2016 to September 8, 2016	Fire	Fire Management Assistance Grant Program (FMAGP)
Severe Winter Storms, Flooding, and Mudslides (DR 4308)	April 01, 2017	Flood	Public Assistance (PA) Tule River Indian Tribe only
King Incident	April 4, 2017 to August 8, 2017	Flood	US SBA Economic Injury Disaster Declaration
Animal Mortality	June 30, 2017 to July 11, 2017	Public Health	Waiver of state regulations
Pier Fire (FMAG 5205)	August 29, 2017 to October 17, 2017	Fire	Fire Management Assistance Grant Program (FMAGP)

### County Disaster Proclamation History

The planning team reviewed historical information and more recent past events to identify hazards where an emergency or disaster was proclaimed within the County. **Table 4-8** lists the County's proclamation history for emergencies or disasters:

<sup>3</sup> Fire Management Assistance Grant

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<b>Table 4-8: State and County Emergency or Disaster Proclamations</b>		
<b>Date</b>	<b>Resolution Number</b>	<b>Emergency/Disaster Type</b>
February 4, 2014	2014-0090	Drought
October 6, 2015	2015-0850	Tree Mortality
August 19, 2016	2016-0711	Fire
April 4, 2017	2017-0213	Flood
June 30, 2017	2017-0529	Severe Heat
August 29, 2017	2017-0722	Fire



## 5. Hazard Identification, Analysis, Assessment

A hazard analysis consists of identifying, screening and profiling each hazard. The hazard analysis encompasses natural, human-caused and technological hazards. Natural hazards result from unexpected or uncontrollable natural events of significant size and destructive power. Human-caused hazards result from human activity and encompass technological hazards. Technological hazards are generally accidental or result from events with unintended consequences (for example, an accidental release of hazardous materials). Local mitigation planning requirements specify that this hazard analysis consist of the following two steps:

- Hazard characterization and profiles
- Risk assessment

### FEMA REGULATION CHECKLIST: RISK ASSESSMENT

#### Hazard Identification

**44 CFR § 201.6(c)(2)(i):** The risk assessment shall include a description of the type of all natural hazards that can affect the jurisdiction.

#### Elements

**B1.** Does the Plan include a description of the type, location, and extent of all natural hazards that can affect the jurisdiction? Requirement § 201.6(c)(2)(i).

**B2.** Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for the jurisdiction? See 44 CFR § 201.6(c)(2)(i).

**B3.** Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction? Requirement § 201.6(c)(2)(ii).

**B4.** Does the Plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? Requirement § 201.6(c)(2)(ii).

Source: FEMA, *Local Mitigation Planning Handbook Review Tool*, March 2013.

### 5.1 Hazard Identification

The requirements for hazard identification, as stipulated in DMA 2000 and its implementing regulations, are described below.

As the first step in the hazard analysis, the Planning Committee conducted the hazard identification and screening process by reviewing the list of potential hazards and applying the following questions to each listed hazard:

- Is the hazard included in the State of California Hazard Mitigation Plan?
- Has the hazard occurred in the County and been declared a Presidential or State emergency or disaster in the past 30 years?
- Is the hazard included in the 2011 County MJLHMP?
- Is the hazard included in the 2030 General Plan Update for the County?

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Section 5

### Hazard Selection

A list of all hazards that have the potential to occur in the County was presented to stakeholders in planning team meeting number two on November 29, 2016, and to the general public through a survey. The list of hazards was derived from the General Plan, the 2014 Emergency Operations Plan, the 2011 County Multi-Hazard Mitigation Plan, and the California State Hazard Mitigation Plan. Considering the results of the public survey and recommendations from the stakeholders, the planning team decided to include technological and human-caused hazards in the MJLHMP to thoroughly represent the total risks to the County.

The County and its jurisdictions have seen significant changes from climate change and drought; these two hazards have been included in this update. Avalanche, which was listed as a hazard in the 2011 HMP, was removed as a hazard since almost all avalanche activity occurs on Federally-owned land.

The 2017 MJLHMP lists 16 hazards that affect the planning area based on historical information, the presence of the hazard, and the likelihood of future occurrences of the hazard. The hazard profiles contained below serve as the basis of the hazard assessment. **Table 5-2** provides a correlation of the selected hazards to the jurisdictions in the OA including the Tule River Tribe.

<b>Table 5-2: Hazards by Jurisdiction</b>											
Hazard	Tulare County	City of Dinuba	City of Exeter	City of Farmersville	City of Lindsay	City of Porterville	City of Tulare	City of Visalia	City of Woodlake	Tulare County Office of Education	Tule River Tribe
Civil disturbance	X	X	X	X	X	X	X	X	X	X	X
Climate change	X	X	X	X	X	X	X	X	X	X	X
Drought	X	X	X	X	X	X	X	X	X	X	X
Earthquake	X	X	X	X	X	X	X	X	X	X	X
Energy emergency	X	X	X	X	X	X	X	X	X	X	X
Extreme Heat	X	X	X	X	X	X	X	X	X	X	X
Flood <sup>1</sup>	X	X	X	X	X	X	X	X	X	X	X
Fog	X	X	X	X	X	X	X	X	X	X	X
Hazardous materials	X	X	X	X	X	X	X	X	X	X	X
Heat	X	X	X	X	X	X	X	X	X	X	X
Landslide/Mudslide/Debris Flow	X										
Severe winter storm	X	X								X	X
Terrorism/WMD <sup>2</sup>	X	X	X	X	X	X	X	X	X	X	X
Wildfire	X					X			X	X	X

(1) Includes riverine, shallow and localized flooding; dam failure and levee failure

(2) Weapons of mass destruction

## 5.2 Hazard Profiles: Characterization and Description

The requirements for hazard profiles is stipulated in DMA 2000 and its implementing regulations. The hazards that the Planning Committee selected for the 2017 MJLHMP have been profiled using existing available information. The hazard profiles consist of describing the nature of each hazard, the disaster history of each hazard, locations susceptible to each hazard, the possible extent of each hazard, climate change impacts and the probability of future events for each hazard.

### 5.2.1 Civil Disturbances

**Nature:** Civil disorder is an incident resulting from groups of people who seek to disrupt community affairs and threaten public safety. It is normally characterized by blocking access to public facilities, looting, arson and violently confronting law enforcement officials. Civil disorder may occur when individuals or groups within the general population feel they are being discriminated against or that their rights and safety are not being protected. Triggers include perceived social injustice, unpopular political decisions, loss of essential services or supplies, and bad weather. Crowds attending sporting events have been motivated to cause civil disturbances both during and after events. Civil disturbance spans a variety of actions including strikes, demonstrations, riots, and rebellion. Civil disturbance can be broken down into the following three categories:

- Peaceful, non-obstructive demonstrations
- Non-violent, disruptive demonstrations
- Violent, disruptive demonstrations

In general, a low-severity disturbance, such as a strike, will not cause much concern and will involve little-to-no involvement from law enforcement. A moderately severe civil disturbance, such as a protest that disrupts nearby businesses and possibly causes property damage, will require law enforcement intervention to restore order, but without employing crowd control agents or physical force. A severe civil disturbance, such as rioting, arson, looting, and assault, will require aggressive police action (crowd control techniques, curfews, and mass arrests).

**History:** In the 1930s and the 1970s, agricultural workers held a number of strikes in the Central Valley. More recently, local immigrant advocacy groups organized demonstrations in Farmersville to protest immigration issues. However, extremely violent or highly disruptive demonstrations have not been recorded in the County.

**Location:** Civil disturbances are potentially likely to occur in the County in three locations:

- Urban areas (such as the cities of Porterville, Tulare and Visalia)
- Farmland (located in both the valley and foothill portions of the County)
- Large government facilities or businesses (such as the County Civic Center and Government Plaza located in Visalia or the County's major food processing facilities)

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**Extent:** Because of the wide variety of potential civil disturbances, the extent of such an event can range broadly. The impact could be as simple as a picket line outside of a food processing facility or damage caused by thrown objects, fires and looting.

**Regulatory Environment:** Civil disturbance is governed by State laws that address private property trespass, assembly without a permit and impeding traffic. Generally, protests that are carried out peacefully on public lands are protected by the First Amendment. Protests on private property may result in expulsion by the property owner and arrest if continued. Protesters do not have the right to destroy private or public property and may be sued for damages due to lost revenue if they protest on private property and disrupt normal business activity.

**Probability of Future Events:** The low population density in the County results in a low potential of an episode of civil disturbance. The types of “spill-over” violence and destruction associated with large cities are less likely to occur in a smaller city, due to the noncontiguous nature of suburban development patterns. Based on previous occurrences, it is improbable a civil disturbance will occur in the County within the next 10 years (a 1 in 10 years’ chance of occurring -  $1/10 = 10\%$ ). The history of events is less than or equal to 10% likely per year and while a civil disturbance event is possible, it is not likely.

### 5.2.2 Climate Change (Vulnerability Assessment)

**Nature:** The U.S. Environmental Protection Agency (EPA) describes climate change as “any significant change in the measures of climate lasting for an extended period of time. In other words, climate change includes major changes in temperature, precipitation, or wind patterns, among other effects, that occur over several decades or longer.”

Many people confuse climate change with global warming, the recent and ongoing rise in global average temperatures near Earth’s surface. However, global warming represents only one aspect of climate change. The Earth’s average temperature has risen by 1.4°F over the past century and is projected to rise another 2 to 11.5°F over the next hundred years. Rising global temperatures have been accompanied by changes in weather and climate. Many places have seen changes in rainfall resulting in more floods, droughts, or intense rain, as well as more frequent and severe heat waves. The planet’s oceans and glaciers have also experienced changes - oceans are warming and becoming more acidic, ice caps are melting and sea levels are rising. The effects of these indicators include:

- **Greenhouse Gases:** Human activities have increased the emissions of greenhouse gases. As a result of the increase in emissions, average concentrations of heat-trapping gases in the atmosphere are also increasing
- **Weather and Climate:** Average U.S. and global temperatures are increasing, while attributes of weather and climate, such as precipitation, drought and tropical cyclone activity, are changing
- **Oceans:** Average oceanic temperatures are increasing. Sea levels are rising around the world due to thermal expansion and increases from ice melt, and waters are becoming more acidic
- **Snow and Ice:** Glaciers in the U.S. and around the world are generally shrinking, while snowfall and snow cover in the U.S. have decreased overall. The extent of the Arctic Sea ice is declining

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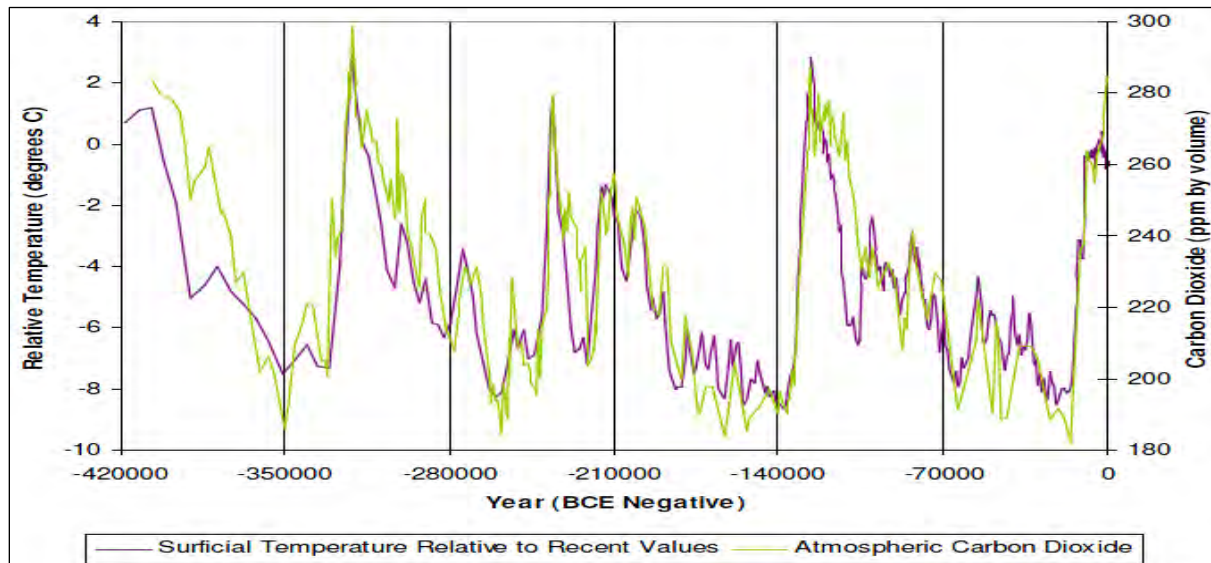
- **Subsidence:** As warmer temperatures and increasing drought require additional and prolonged pumping of ground water for agricultural irrigation, land over depleted aquifers subsides. The Central Valley has been sinking at differing rates since the 1920's and is estimated to have sunk up to 28 feet in some areas. During drought years, the Valley is prone to accelerated subsidence. While subsidence is listed as a Hazard in the State Mitigation Plan, it is included within climate change for the purposes of the MJLHMP.
- **Health and Society:** Warmer temperatures and later fall frosts allow ragweed plants to produce pollen later into the year, potentially prolonging allergy season. The length of ragweed pollen season has increased at 10 out of 11 locations studied in the central U.S. and Canada since 1995. The change becomes more pronounced from south to north
- **Ecosystems:** Many areas are experiencing earlier spring events, such as peak stream runoff and flower blooms. Bird migration patterns are changing, and wildfire zone size has increased

**History:** Climate change has occurred throughout the history of the planet. Due to variations in the earth's inclination to the sun, volcanic activity and other factors such as asteroid impacts, the amount of solar radiation reaching the earth's surface rises and falls. The temperature of the planet correlates to the amount of solar radiation arriving at the surface and with it the climate.

In relatively recent history, the last glacial period, popularly known as the Ice Age, occurred from c. 110,000 to 12,000 years ago. This most recent glacial period is part of a larger pattern of glacial and interglacial periods known as the Quaternary glaciation (c. 2,588,000 years ago to present). From this point of view, scientists consider this "ice age" to be merely the latest glaciation event in a much larger ice age, one that dates back over two million years and is still ongoing.

During this last glacial period, there were several changes between glacier advance and retreat. The Last Glacial Maximum, the maximum extent of glaciation within the last glacial period, was approximately 22,000 years ago. While the general pattern of global cooling and glacier advance was similar, local differences in the development of glacier advance and retreat make it difficult to compare the details from continent to continent. Generally, the pattern of temperature variation and glaciation has lagged atmospheric carbon dioxide (CO<sub>2</sub>) content. **Figure 5-1** depicts global variations during the past 400,000 years as a correlation between temperature and atmospheric CO<sub>2</sub> content in part per million.

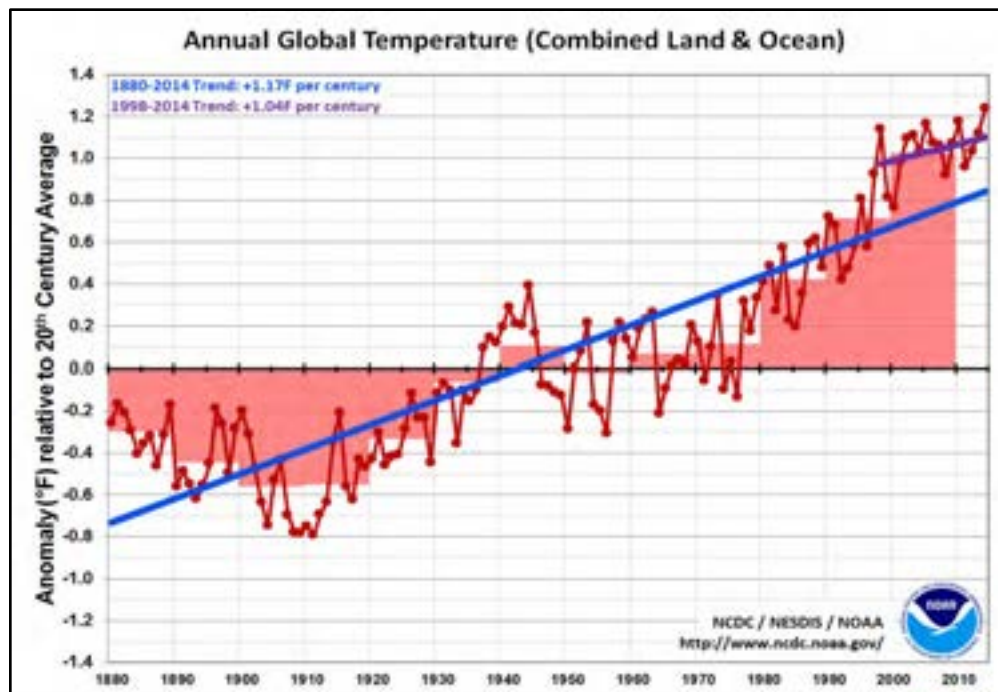
**Figure 5-1: Temperature and Atmospheric CO2 Variation Past 400,000 Years**



Source: Hogg, A.M., 2008, Glacial cycles and carbon dioxide: A conceptual model. Geophysical Research Letters, 35, L01701

Since 22,000 years ago, the planet has slowly warmed and the glaciers retreated to high northern latitudes and mountains. In the last several decades of this period, human activity has likely led to a rapid increase in atmospheric CO2 and a matching rise in global temperature. The result has been that climate change may be accelerating. **Figure 5-2** provides a graphical depiction of the recent history of temperature rise.

**Figure 5-2: Temperature Rise Since 1880**



Source: NOAA

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**Location:** Warming and climate change are occurring globally with wide variations based on location and latitude. The polar regions have experienced particularly rapid changes in climate with increased ice melt and more sea-ice free days.

**Extent:** Climate change is likely to affect the entire earth’s population. More widespread drought and associated crop failure, movement of invasive species, more frequent wildfires, increased energy emergencies, and more intense climate events such as storms and extreme heat will occur throughout the County.

The California Adaptation Planning Guide (APG): Planning for Adaptive Communities identifies climate change impacts statewide as:

- Increases in the frequency, intensity and duration of extreme heat events and heat waves in California, which are likely to increase heat-related illness and the risk of mortality and morbidity for the elderly, individuals with chronic conditions such as heart and lung disease, diabetes, and mental illnesses, infants, the socially or economically disadvantaged and those who work outdoors.
- A decrease in water supplies to California users due to higher temperatures melting the Sierra snowpack earlier and driving the snowline higher, resulting in less snowpack.
- Intense rainfall events, periodically ones with larger than historical runoff, with more frequent and extensive flooding.
- More frequent and persistent droughts in the 21st century.
- Increased snowmelt producing higher winter runoff.

The APG: Understanding Regional Characteristics identifies regional impacts to include increased wildfire danger, reduced snow pack, higher temperatures and more heat waves, reduced water supply, and public health issues – both heat and air pollution. Cal-Adapt ([www.Cal-Adapt.org](http://www.Cal-Adapt.org)) projects the following climate change effects for the County:

Table 5-3: Climate Change Projections	
Effect	Ranges
Temperature 1990 to 2100	January increase in average temperatures: 3°F to 4°F by 2050 and 7°F to 10°F by 2100. July increase in average temperatures: 5°F to 6°F in 2050 and 9°F to 11°F by 2100, with larger temperature increases in the mountainous regions to the east. (Modeled high temperatures; average of all models; high carbon emissions scenario)
Fire	The eastern edge of the region is projected to experience an increase in wildfire risk of four to six times current conditions. (GFDL <sup>1</sup> model; high carbon emissions scenario)
Snow Pack	Snowpack in the eastern elevated regions is projected to decrease by approximately nine inches, resulting in pack that is less than four inches by March 2090. (CCSM3 climate model; high carbon emissions scenario)
Heat Wave	The threshold temperature that defines a heat wave is over 100°F in most of the region. In the mountains, a heat wave is defined by lower

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	temperatures, 70°F to 90°F. By 2050, the number annual heat wave is projected to increase by three to five. An increase of seven to ten heat waves is expected by 2100 in most of the region, with an increase of up to 14 expected in the mountain areas.
Rainfall	Low areas are projected to experience declines in annual precipitation of one or two inches by 2050 and up to 3.5 inches by 2100, while more elevated areas are projected to decline up to ten inches. (CCSM 3.0 <sup>2</sup> ; high carbon emissions scenario)

Source: Public Interest Energy Research, 2011. Cal-Adapt (<http://cal-adapt.org>)

1 Geophysical Fluid Dynamics Laboratory

2 Community Climate System Model

**Regulatory Environment:** There is a large body of statute and regulations that address climate change.

The State maintains a directory of climate change legislation at

<http://www.climatechange.ca.gov/state/legislation.html>. Key State guidance includes:

- Executive Order B-30-15 established a California greenhouse gas reduction target of 40% below 1990 levels by 2030, also specifically addresses the need for climate adaptation and directs State government to factor climate change into state agencies' planning and investment decisions.
- Senate Bill 375 (Steinberg, Chapter 728, Statutes of 2008) Sustainable Communities & Climate Protection Act of 2008 requires the State Air Resources Board (ARB) to develop regional greenhouse gas emission reduction targets for passenger vehicles. ARB is to establish targets for 2020 and 2035 for each region covered by one of the State's 18 metropolitan planning organizations.
- Assembly Bill 32 (Núñez, Chapter 488, Statutes of 2006) California Global Warming Solutions Act of 2006. This bill requires the ARB to adopt a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions levels in 1990 to be achieved by 2020. ARB shall adopt regulations to require the reporting and verification of statewide greenhouse gas emissions and to monitor and enforce compliance with this program. AB 32 directs the Climate Action Team established by the Governor to coordinate the efforts set forth under Executive Order S-3-05 to continue its role in coordinating overall climate policy.

**Probability of Future Events:** Climate change is an ongoing occurrence. Essentially, it has occurred, is occurring and will continue to occur for several decades, centuries or longer.

### 5.2.3 Dam Failure

**Nature:** A dam failure is the structural collapse of a dam that releases the water stored in the impounded reservoir. Dam failures usually result due to the age of the structure, inadequate spillway capacity used in construction, or structural damage caused by an earthquake or flood. When a dam fails, large quantities of water may be suddenly released with a great potential to cause human casualties, economic loss, and environmental damage. This type of disaster is especially dangerous because it can occur suddenly, providing little warning or evacuation time for the downstream communities. The flows resulting from dam failure generally are much larger than the capacity of the downstream channels and therefore lead to extensive flooding. Flood damage occurs as a result of the momentum of the flood caused by the sediment-laden water flooding over the channel banks and impact debris carried by the flow.



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**History:** There is no record of dam failure within the County.

**Location:** There are nine dams in the County. **Table 5-4** lists the name, owner, stream, year built, capacity, height, type, and regulatory authority of each dam. Seven dams are under regulatory authority of the California Division of Safety of Dams (DSOD). Two are owned and operated by the U.S. Army Corps of Engineers (USACE). The two dams with the largest capacities in the County are Success Dam and Terminus Dam, both of which are owned by the USACE. Based on location (distance from the populated areas), capacity and height, the other seven dams in the County do not pose a substantial risk to the County. Therefore, no mitigation actions are identified for them.

Two dams not within the County may release flows that can cause flooding in the County: Pine Flat Dam and Isabella Dam. Pine Flat Dam on Kings River is located in Fresno County, which is north of and adjacent to the County. Pine Flat Dam was completed in 1954 and is operated by USACE. The dam has a gross capacity of approximately 1 million acre-feet, and affects peak discharges for Kings River and Alta East Branch Canal, which receives flood flows from Kings River. Isabella Dam on the Kern River in Kern County consists of two dams, a "main dam", and an "auxiliary dam". The main dam is of earthen build, 1,695 feet long and 98 feet tall, and owned and maintained by USACE. The main reservoir, Lake Isabella, can hold up 570,000-acre feet of water.

<b>Table 5-4: Dams in the County</b>							
<b>Name of Dam</b>	<b>Owner</b>	<b>Stream</b>	<b>Year Built</b>	<b>Design Capacity (acre- feet)</b>	<b>Height (feet)</b>	<b>Type</b>	<b>Jurisdiction</b>
Bravo Lake Reservoir	Wutchumna Water Company	Wutchumna Ditch	1980	3,427	24	Earth	State
Crystal Lake	Southern California Edison Company	East Fork of Kaweah River	1903	162	16	Gravity	State
Elk Bayou	Kaweah Delta Water Conservation District	Elk Bayou	1903	60	16	Earth	State
Lady Franklin Lake	Southern California Edison Company	East Fork of Kaweah River	1905	467	21	Gravity	State
Larson	South Tule Independent Ditch Company	South Tributary of Tule River	1963	325	54	Earth	State
Sand Creek	County Resources Management Agency	Sand Creek	1980	1,050	60	Earth	County
Upper Monarch Lake	Southern California Edison Company	East Fork of Kaweah River	1905	314	22	Gravity	State
Success	USACE	Tule River	1961	82,300	156	Earth	Federal
Terminus	USACE	Kaweah River	1962	143,000	255	Earth	Federal

Source: California Division of Safety of Dams 2010.

USACE = U.S. Army Corps of Engineers

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**Extent: Figure B-6 (Appendix B, Hazard Figures)** shows the Terminus Dam (on Lake Kaweah) and Success Dam (on Lake Success), can cause substantial flooding in the event of a failure. Individual jurisdiction dam inundation maps are provided in **Figures B-8, B-9, B-11, B-15, B-17, B-19 and B-22 (Appendix B, Hazard Figures)**

- The Terminus Dam regulates discharges on the Kaweah River, St. Johns River, Deep Creek, Mill Creek, and Packwood Creek, as well as the smaller elements through the Kaweah River tributary network. The dam has been operated for flood control by the USACE since 1962 and forms Lake Kaweah, which has a gross pool of 150,000 acre-feet, somewhat larger than design capacity. Lake Kaweah is approximately 30 miles east of Visalia and 20 miles west of the entrance to Sequoia National Park. If the Terminus Dam were to fail, the dam inundation area will extend to portions of Exeter, Farmersville, Ivanhoe, Goshen Tulare, Visalia, and Woodlake,
- The Success Dam affects the hydrology of the Lower Tule River, Porter Slough, and other small canals in the Tule River tributary network. The Success Dam reservoir has a gross storage of 85,400 acre-feet. If the Success Dam were to fail, the dam inundation areas will include the City of Porterville which could flood within as little as 20 minutes. Other potential inundation areas are the City of Visalia and approximately 450,000 acres of land downstream of the dam.

**Probability of Future Events:** Dam failure can result from numerous natural or human activities. Earthquakes, internal erosion, improper siting, structural and design flaws, or rising floodwaters can all result in the collapse or failure of a dam. A dam failure may also be a result of the age of the structure or inadequate spillway capacity. The probability of a future dam failure affecting the County is unknown. While possible, it is unlikely that a dam failure event will occur within the next ten years. Event history is less than or equal to 10% likelihood per year.

### 5.2.4 Drought

**Nature:** Drought is an extended period of years when a region is deficient in its water supply or consistently receives below average precipitation. Drought patterns in the West are related to large-scale climate patterns in the Pacific and Atlantic oceans, such as the El Niño–Southern Oscillation in the Pacific, and the Atlantic Multidecadal Oscillation in the Atlantic. As these large-scale ocean climate patterns vary in relation to each other, drought conditions in the U.S. shift from region to region. Drought produces a variety of impacts that span many sectors of the economy such as reduced crops, rangeland, and forest productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality; and rationing are a few examples of direct impacts. These problems can result in reduced income for farmers and agribusiness, increased prices for food and lumber, unemployment, reduced tax revenues, increased crime, migration and foreclosures on bank loans to farmers and businesses.

Drought is a lack of adequate water, whether atmospheric, surface or ground water. Drought occurs over a prolonged period of time; typically, more than one year or lasting several years. Drought impacts mostly

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the populations that rely on, or are affected by a lack of, water or annual rainfall. A drought negatively impacts forests and wildland fires, the economy of the agricultural industry, growth of feed and sufficient grazing for livestock, and rural residents that use wells or small water systems for their water source. The California Department of Water Resources (DWR) tracks water supply conditions across the State. Indicators include the annual snowpack, precipitation, runoff, and reservoir storage. There are ten major hydrologic regions in California. By tracking the indicators in the hydrologic regions, the DWR can continually monitor drought conditions and forecast potential drought or dry years in the 58 counties across the state.

In the County, drought impacts strongly affect the agriculture production. The County relies on sufficient irrigation water to support the extensively cultivated and fertile valley floor which has allowed the County to become the second-leading producer of agricultural commodities in the U.S. That lack of precipitation has had dire consequences with hundreds of thousands of acres of farmland fallowed, tens of thousands of farmworkers laid off, depressed local economies, an increase in prices paid for some farm products at the grocery store and an increase in diseases.

**Location:** When a drought occurs, the entire OA is affected. Recent drought conditions have persisted throughout the OA and California from 2012 through 2016, with lingering effects still being felt in some areas in 2017.

**History:** Historical drought data for the Southern San Joaquin Valley region indicate there have been four significant droughts in the last 79 years. This equates to a drought every 19.8 years on average, or a 5.1% chance of a drought in any given year. The most recent drought began in 2012 and lasted through 2016, ultimately being alleviated by near-record precipitation and snowpack during the winter of 2016-2017. Local and State emergency proclamations remain in effect as of mid-2017 as the abundant surface water has yet to percolate to many aquifers which historically take up to 2 years to begin to recharge. Over \$25 million was spent within Tulare OA between 2014 and 2017 on emergency response actions to address the public health and safety impacts of drought on local residents and communities, and over \$60 million was invested in resilient infrastructure solutions to mitigate against future drought impacts.

Previous periods droughts that have affected the Southern San Joaquin Valley include:

- 1976-77 - One of the most vivid historical examples of drought in California is the two-year dry period spanning 1976 and 1977. Precipitation during each of these calendar years, and during the 1976-1977 water year in particular, was extremely low. These were two consecutive years in which statewide precipitation was ranked among the top five lowest ever recorded in California.
- 1987-92 - The years 1987 to 1992 comprised the second driest period in California's recorded climate history. For six years, precipitation in the state was only about three-quarters of the recorded average, while streamflow was a mere one-half of the average.
- 2007-2009 - Saw three years of drought conditions, the 12th worst drought period in the state's history, and the first drought for which a statewide proclamation of emergency was issued. The drought of 2007-2009 also saw greatly reduced water diversions from the state water project. The summer of 2007 saw some of the worst wildfires in Southern California history

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Incidental to drought, a local and State proclamation of emergency for tree mortality remains in effect, as over 102 million dead trees are present within California, at least 8 million of which were estimated to be in Tulare County as of 2016. Tulare County is utilizing California Disaster Assistance Act funding to remove an estimated 36,625 dead or dying trees on non-Federal lands for an estimated \$36,625,000, while State agencies (including CAL FIRE and Cal Trans), Federal agencies (including the National Park Service and United States Forest Service), utility companies, Resource Conservation Districts, Fire Safe Councils, and others continue their own mitigation efforts to remove the hazardous vegetation within their respective jurisdictions / areas of operation.

**Impact of Climate Change:** Climate change is likely to increase the number and severity of future droughts. Climate change is having a profound impact on California water resources, as evidenced by changes in snowpack, sea level, and river flows.<sup>4</sup> These changes are expected to continue and more precipitation will likely fall as rain instead of snow. This potential change in weather patterns will exacerbate flood risks and add additional challenges for water supply reliability.

The mountain snowpack provides as much as a third of California's water supply by accumulating snow during wet winters and releasing it slowly during the dry springs and summers, when need is the greatest. Warmer temperatures will cause snow to melt faster and earlier, making it more difficult to store and use. By the end of this century, the Sierra snowpack is projected to experience a 48-65% loss from the historical April 1st average. This loss of snowpack means less water will be available for Californians to use.

Climate change is also expected to result in more variable weather patterns throughout California. More variability can lead to longer and more severe droughts. In addition, the sea level rise will continue threatening the sustainability of the Sacramento-San Joaquin Delta, the heart of the California water supply system and the source of water for 25 million Californians and millions of acres of prime farmland.

Farmers throughout the State have seen a decrease in crop yield as a direct result of a spike in temperatures, a decrease in rainfall and inconsistent access to water since the beginning of the drought. Lack of water for irrigation has had a negative impact on farmers' operations at every level. During wet years, farmers irrigate their farms with water from various sources. Farmers, who have run out of water for irrigation and do not have the financial means to dig wells on their property or access water from other sources, have been forced to let their crops perish.

### **Extent:**

Drought is classified by a variety of indices and categories. Figure 5-4 below depicts three that are widely used. It contains severity classification ranges for each indicator for each dryness level. Because the ranges of the various indicators often don't coincide, the final drought category tends to be based on what the majority of the indicators show and on local observations.

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<sup>4</sup> California Department of Water Resources; <http://www.water.ca.gov/climatechange/>

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Drought Severity	Return Period (years)	Description of Possible Impacts	Drought Monitoring Indices		
			Standardized Precipitation Index (SPI)	NDMC* Drought Category	Palmer Drought Index
Minor Drought	3 to 4	Going into drought; short-term dryness slowing growth of crops or pastures; fire risk above average. Coming out of drought; some lingering water deficits; pastures or crops not fully recovered.	-0.5 to -0.7	D0	-1.0 to -1.9
Moderate Drought	5 to 9	Some damage to crops or pastures; fire risk high; streams, reservoirs, or wells low, some water shortages developing or imminent, voluntary water use restrictions requested.	-0.8 to -1.2	D1	-2.0 to -2.9
Severe Drought	10 to 17	Crop or pasture losses likely; fire risk very high; water shortages common; water restrictions imposed.	-1.3 to -1.5	D2	-3.0 to -3.9
Extreme Drought	18 to 43	Major crop and pasture losses; extreme fire danger; widespread water shortages or restrictions.	-1.6 to -1.9	D3	-4.0 to -4.9
Exceptional Drought	44+	Exceptional and widespread crop and pasture losses; exceptional fire risk; shortages of water in reservoirs, streams, and wells creating water emergencies.	less than -2	D4	-5.0 or less

\*NDMC - National Drought Mitigation Center

**Figure 5-4: Drought Severity Classifications**

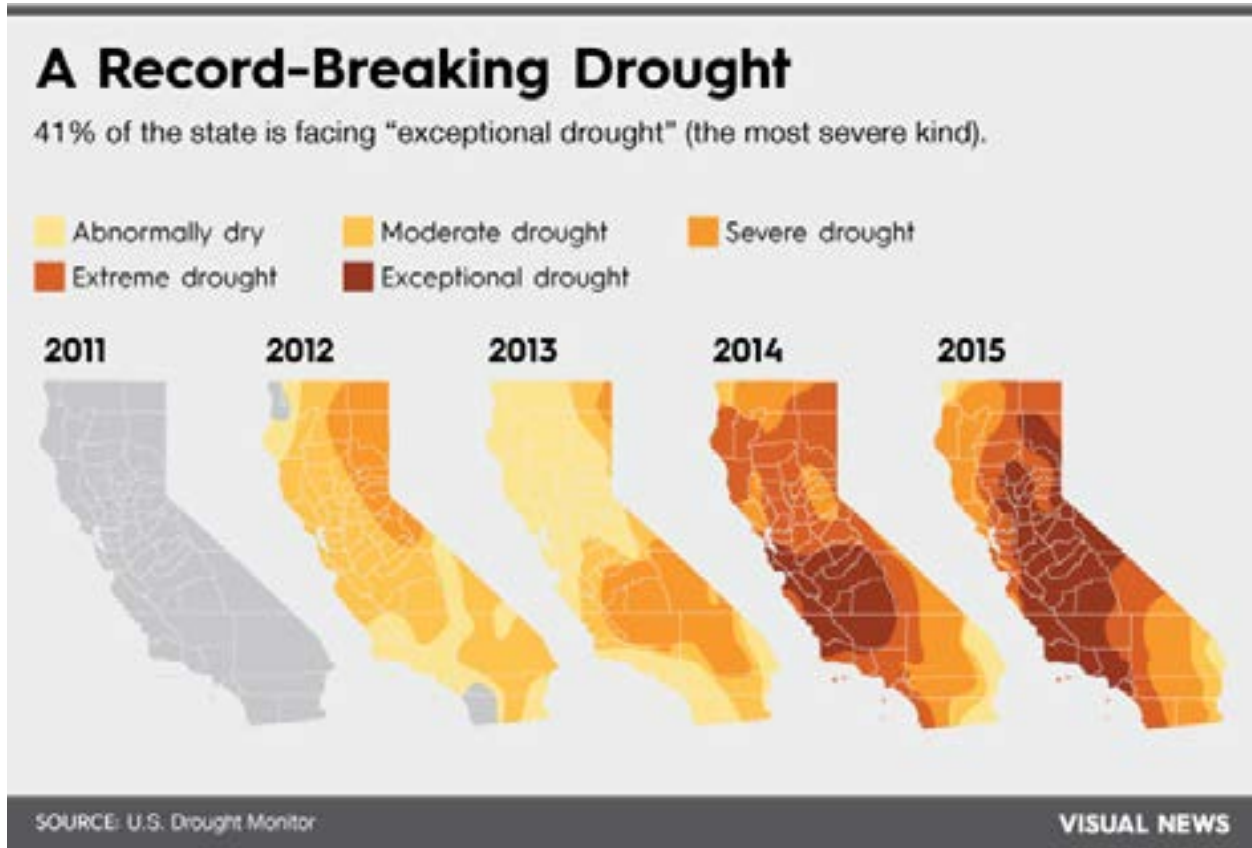
California recently experienced an unprecedented drought beginning in 2012. This is the longest drought in over a century. Reservoirs, groundwater basins, and ecosystems reached half-capacity or less, with some reservoirs reaching perilously close to dead pool levels. As a result of extremely dry conditions – 2014 was the State's third driest in 119 years of record based on statewide precipitation – wildfire risk was extremely high. At its peak, drought encompassed over 98% of the State of California, with more than 44% of California in “exceptional” drought — the worst level of drought.

On January 17, 2014 Governor Edmund G. Brown Jr. declared a drought state of emergency. The County Board of Supervisors proclaimed a local emergency on February 4, 2014. On July 15, 2014, the California State Water Resources Control Board approved an emergency regulation to ensure agencies and State residents increase water conservation allowing local agencies to ask courts to fine water users up to \$500 per day for failure to implement conservation requirements. Both local and state emergency proclamations remained in effect as of mid-2017. The County Board of Supervisors remains active in water policy matters, having called for State legislators to place a water bond on a future ballot and formed a Water Commission to address ongoing water issues and advocacy strategy.

In late July 2015, the U.S. Drought Monitor classified 58% of California in “exceptional” drought, the most severe on the U.S. Drought Monitor’s five-point scale, and that percentage remained unchanged through September. More than 80% was in "extreme" drought (DWA). **Figure 5-3** displays draught conditions as

they increased for the most recent event. The Planning Team chose to use this set of maps to indicate the severity of the recent draught rather than a current map which does not show draught conditions in the County.

Figure 5-3: California Drought Monitor 2011 - 2015



**Probability:** An extreme multiyear drought could impact the region with little warning. Combinations of low precipitation and unusually high temperatures could occur over several consecutive years. Intensified by such conditions, extreme wildfires could break out throughout the County, increasing the need for water. Surrounding communities, also in drought conditions, could increase their demand for water supplies relied upon by the planning partnership, causing social and political conflicts. If such conditions persisted for several years, the economy of the County could experience declines, especially in water-intensive industries such as agriculture, the County’s main economic driver.

### 5.2.5 Earthquake

**Nature:** An earthquake is a sudden motion or trembling caused by a release of strain accumulated within or along the edge of the earth’s tectonic plates. The effects of an earthquake can be felt far beyond the site of its occurrence. Earthquakes usually occur without warning and can cause massive damage and extensive casualties in a few seconds. Common effects of earthquakes are ground motion and shaking, surface fault ruptures, and ground failure. Ground motion is the vibration or shaking of the ground during an earthquake. When a fault ruptures, seismic waves radiate, causing the ground to vibrate. The severity of the vibration

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increases with the amount of energy released and decreases with distance from the causative fault or epicenter. Soft soils can amplify ground motions.

The Richter scale is often used to rate the strength of an earthquake and is an indirect measure of seismic energy released. The scale is logarithmic, with each one-point increase corresponding to a ten-fold increase in the amplitude of the seismic shock waves generated by the earthquake. However, in actual energy released, each one-point increase on the Richter scale corresponds to about a 32-fold increase in energy released. Therefore, a moment magnitude (M) 7 earthquake is 100 times (10×10) more powerful than an M 5 earthquake and releases 1,024 times (32×32) the energy.

The Modified Mercalli Intensity (MMI) scale is another way of rating earthquakes. This method attempts to quantify the intensity of ground shaking. Intensity in this scale is a function of distance from the epicenter (the closer a site is to the epicenter, the greater the intensity at that site), ground acceleration, duration of ground shaking, and degree of structural damage. The MMI rates the level of severity of an earthquake by the amount of damage and the perceived shaking as shown in **Table 5-5**.

<b>Table 5-5: Modified Mercalli Intensity Scale</b>		
<b>Intensity</b>	<b>Shaking</b>	<b>Description/Damage</b>
I	Not felt	Not felt except by a very few under especially favorable conditions.
II	Weak	Felt only by a few persons at rest, especially on upper floors of buildings.
III	Weak	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
IV	Light	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V	Moderate	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI	Strong	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.

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<b>Table 5-5: Modified Mercalli Intensity Scale</b>		
<b>Intensity</b>	<b>Shaking</b>	<b>Description/Damage</b>
VII	Very strong	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
VIII	Severe	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX	Violent	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Extreme	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.

Source: USGS 2017

Earthquake faults are indications of past seismic activity. Those that have been active most recently are the most likely to be active in the future. According to the California Geological Survey Alquist-Priolo Earthquake Fault Zoning Act, an “active” fault is one that has ruptured in the last 11,000 years. Faults that are “potentially active” have been active within the last two million years and are referred to as being in the Quaternary Period. In addition, new faults are being identified with every new earthquake.

**Location:** Only one active fault runs through the County. While the County rarely feels the effects of even the largest earthquakes from the nearest major fault line, the San Andreas Fault, it is located within four principal fault zones with potential seismic activity. These faults are shown on the California Geological Survey’s Fault Activity Map of California, published in 2010. Descriptions of the principal faults are provided below. The locations of the active and potentially active faults are shown on **Figure B-3 (Appendix B, Hazard Figures)**.

*San Andreas Fault:* San Andreas is the longest and most significant fault zone in California. Because of considerable historic earthquake activity, this fault has been designated as active by the State. The large fault collectively accommodates the majority of relative north-south motion between the North American and Pacific plates. The San Andreas Fault is a strike-slip fault that is approximately 684 miles long and approximately 40 miles west of the County boundary. The zone originates at the triple divide off Fort Bragg in the north and terminates near the Salton Sea in the south. It is located within multiple



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metropolitan areas. Major earthquakes occurred on the San Andreas Fault in 1857 (Tejon Earthquake, M 7.9) and in 1906 (Great San Francisco Earthquake, M 7.8).

*Owens Valley fault zone:* The Owens Valley fault zone is located on the eastern base of the Sierra Nevada and is a complex system containing both active and potentially active faults. The right-lateral Owens Valley fault zone in eastern California extends north from Owens Lake to beyond Big Pine. It passes through Lone Pine near the eastern base of the Alabama Hills and follows the floor of Owens Valley northward to the Poverty Hills and continues northwest across Crater Mountain and through Big Pine. The zone is located within Tulare and Inyo Counties and has historically been the source of seismic activity within the County. The Owens Valley fault is the primary active fault within the zone and has a fault length of 107 kilometers (approximately 75 miles). The last major rupture was approximately M 7.4 and occurred in 1872.

*Kern Canyon fault:* The Kern Canyon fault runs along the length of Kern Canyon in the southern Sierra Nevada Mountains. A large portion of the fault runs through the eastern portion of the County. Although the 93-mile-long fault has been considered inactive since the 1930s, recent investigations reveal that the fault has ruptured within the past few thousand years. This discovery, paired with an abundance of low-magnitude earthquakes along the fault, indicates that the fault is active. The Kern Canyon fault is shown as an active fault on the California Geological Survey's 2010 Fault Activity Map of California.

*Clovis fault:* The Clovis fault generally runs north to south through Fresno County and through the City of Clovis. This fault is classified as a "potentially active" fault which was active within the last two million years. Although it is located in Fresno County, a strong earthquake on this fault could affect the northern portion of the County. Activity along this fault could potentially generate more seismic activity in the County than the San Andreas or Owens Valley faults. However, lack of historic activity along the fault makes it difficult to assess the maximum earthquake impacts.

**History:** The County has not experienced any earthquakes equal to or greater than M 5.5 in recent years. However, several historical earthquakes greater than M 5.5 have occurred within close vicinity of the County. The towns of Tehachapi and Arvin, in Kern County, were hit severely by the July M 7.3 1952 Kern County earthquake. Twelve persons died, many were injured, and \$60 million property damage was sustained. Damage to well-designed structures was slight, but old and poorly built buildings were cracked and many collapsed. Reinforced tunnels with walls 18 inches thick near Bealville were cracked, twisted, and caved in; rails were shifted and bent into S-shaped curves. Near Caliente, reinforced concrete railroad tunnels were demolished. Many aftershocks occurred, three over 6 on the Richter scale. One aftershock on August 22 (magnitude 5.8) centered near Bakersfield. It took two lives and caused extensive damage to many already weakened buildings. The Kern County earthquake, the largest with an epicenter in California since 1906, originated on the White Wolf Fault.

**Table 5-6** indicates the date, magnitude, and location of historical earthquakes near the County between 1956 and 2016. Shaking would have been felt by those in the County, but no major or structural damage occurred. **Table 5-6** shows historical earthquakes with a magnitude of 5.0 or greater that have occurred in the County and the surrounding region from 1871 to 2016.

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Table 5-6: Historical Earthquakes of M5.5 or Greater Near the County, 1956–2016		
Date	Magnitude	Location
July 11, 1992	5.7	Eastern Kern County
September 20, 1995	5.6	Ridgecrest–China Lake

Table 5-7: Historical Earthquakes in the County		
Date	Magnitude	Location
May 29, 1915	5.0	Porterville
June 30, 1926	5.7	South Central County

Source: California Geological Study 2016.

**Extent:** The strength of an earthquake’s ground movement can be measured by peak ground acceleration (PGA). PGA measures the rate in change of motion relative to the established rate of acceleration due to gravity (g) (g = 980 centimeters (32.152 feet) per second, per second). PGA is used to project the risk of damage from future earthquakes by showing earthquake ground motions that have a specified probability (e.g., 10%, 5%, or 2%) of being exceeded in 50 years. The ground motion values are used for reference in construction design for earthquake resistance and can also be used to assess the relative hazard between sites when making economic and safety decisions.

In 2009, the U.S. Geological Survey (USGS) updated the 2002 National Seismic Hazard Maps displaying earthquake ground motions for various probability levels across the U.S. The updated maps incorporate new findings on earthquake ground shaking, faults, and seismicity and are currently applied in seismic provisions of building codes, insurance rate structures, risk assessments, and other public policy. PGA data from these maps have been used to determine the areas within the County that are at risk for earthquake hazards. **Figure B-3** shows the PGA values in the County for the 2% probability of exceedance in 50 years. Moderate-earthquake hazard areas are defined as ground accelerations of 0.65g, 0.75g, and 0.85g, and high-earthquake hazard areas are defined as ground accelerations of 0.95g and 1.05g.

The County falls within the low to moderate ranges of the scale. Regions at the upper end of the scale are often near major active faults. These regions will, on average, experience stronger earthquake shaking more frequently, with intense shaking that can damage even strong, modern buildings. Thus, based on historical activity and the PGA values shown on **Figure B-3**, all areas in the County are likely to experience low to moderate shaking from earthquakes, and may experience higher levels if an earthquake were to occur in or near the County.

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### **Liquefaction**

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 (known as 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 County-wide assessments to identify liquefaction hazards have been performed. 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 extent of locations subject to liquefaction. A liquefaction analysis is conducted as part of all bridge and bridge replacement projects.

### **Regulatory Environment**

Numerous building and zoning codes exist at the State and local level to decrease the impact of an earthquake event on residents and infrastructure. Building and zoning codes include the Alquist-Priolo Earthquake Fault Zoning Act of 1972, Seismic Hazards Mapping Act of 1990, 2013 California Building Standards Code (CBSC), as well as relevant jurisdictional codes and general plans. To protect lives and infrastructure in the County, the building division of each jurisdiction ensures codes regarding hazards are met.

The 1971 San Fernando Earthquake resulted in the destruction of numerous structures built across its path. This led to passage of the Alquist-Priolo Earthquake Fault Zoning Act. This Act prohibits the construction of buildings for human occupancy across active faults in the State of California. Similarly, extensive damage caused by ground failures during the 1989 Loma Prieta Earthquake focused attention on decreasing the impacts of landslides and liquefaction. This led to the creation of the Seismic Hazards Mapping Act. This Act increases construction standards at locations where ground failures are probable during earthquakes. Active faults in the County's jurisdictions have been included under the Alquist-Priolo Geologic Hazards Zones Act and Seismic Hazards Mapping Act.

The 2013 CBSC is based on the International Building Codes which are widely used throughout the U.S. CBSC was modified for California's conditions to include more detailed and stringent building requirements. The County and its jurisdictions utilize the 2010 CBSC to regulate infrastructure. This includes unreinforced masonry buildings. For new buildings, the County's jurisdictions include earthquake safety provisions, with enhancements for essential services buildings, hospitals, and public schools.

**Probability of Future Events:** The USGS has stated that the probability of a M 6.7 earthquake in California within the next 30 years exceeds 99% while the likelihood of an earthquake with a greater than M 7.5 is calculated to be 46%. The fault rupture characteristics such as length, depth and epicentral location cannot be accurately predicted. Ongoing field and laboratory studies suggest the following maximum, likely magnitudes and recurrence intervals for the major faults near the County:

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- San Andreas Fault: M 6.8-8.0, recurrence interval varies from under 20 years to over 300 years
- Owens Valley fault zone: M 6.5-8.2, recurrence interval likely between 2,000 to 3,000 years
- Kern Canyon fault: M 6.0-7.0, recurrence interval unknown
- Clovis fault: Magnitude and recurrence interval unknown

### 5.2.6 Energy Emergency

**Nature:** When energy resources availability disrupts the course of day-to-day business and the lives of the citizens of the County, the situation results in an energy emergency. The California Energy Commission defines an energy emergency as an actual or potential loss of energy supply that significantly impacts the State. “Energy resources” includes not only electricity but also natural gas and automotive fuels. In the case of the County, an energy emergency is a loss of supply that significantly impacts the County. An energy emergency can be caused by aging infrastructure, human factors (such as accidents or negligence), natural disasters (such as severe storm, earthquake, fire, or flood) or geopolitical events (such as war, terrorism, civil disturbance, or embargo). Since each energy emergency is unique, it is impossible to envision every potential event or combination of events that might contribute to, or result in, an energy emergency.

Energy emergencies may develop with no notice due to equipment failure or disaster such as a severe storm or an earthquake. They may also develop over the long-term due to economic or environmental factors such as the California Energy Emergency of 2001, which was caused by a complex series of events and include legislation that resulted in deregulation of the electric utility industry in California.

Electric power emergencies pose immediate and widespread risks. In addition to the interruption of basic services such as pumping water, treating waste, sustaining critical home and institutional medical equipment, supporting commerce and managing traffic flow, power emergencies put large segments of the community at risk, particularly the very old and young, and those requiring special access and functional needs support. Each of these impacts was observed in a local incident on August 19, 2014, in which a monsoonal storm system lightning strike caused a widespread power outage over much of the OA, with late evening conditions in excess of 100°F and 50% humidity. As many systems do not have backup power generation, and many of those with such capacity employed heat exchangers which were ineffective given the conditions, numerous life safety, infrastructure, traffic, and economic issues arose within the initial hours as residents, businesses, healthcare facilities, and infrastructure operators within the OA attempted to cope with conditions.

A natural gas-related incident during a cold period in early 2017, with overnight lows in the 20’s and daytime temperatures in the upper 40’s / low 50’s, was caused by third party negligence while excavating in the area of a regional high-pressure natural gas transmission line. This incident threatened to disrupt residential and commercial heating, transit (which operates natural-gas powered vehicles), manufacturing, agricultural operations (such as water production from natural-gas powered wells to protect crops from freezing), and co-generated electricity production (such as at area hospitals) in much of the northern valley portion of the OA. While an outage was ultimately averted, the threatened impacts to health, safety, and the economy serve as a reminder of the importance of all forms of energy to a functioning society.

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**Location:** Because energy supplies tend to be generated and distributed in regional networks, a large portion of, or the County may be affected by an energy emergency. Local energy emergencies may occur as a result of damaged infrastructure or distribution system operating errors. Numerous factors outside the County have the potential to create energy emergencies. They include: crude oil supply interruption, out-of-region generating equipment failure or operator error in distant control centers, earthquakes dropping transmission lines and cyber-terrorism that intrudes into electric or gas generation or distribution systems.

**History:** Numerous large and small energy disruptions have occurred in the County. The most common cause was failure of transmission systems or management errors. An interesting exception occurred in 2000 through 2001 when much of California, including the County, experienced power outages and rolling blackouts due to a host of economic and regulatory issues. **Table 5-8** lists major energy emergencies that have affected California.

<b>Date/s</b>	<b>Locations</b>	<b>Numbers Affected</b>	<b>Cause</b>
August 10, 1996	14 western states	> Over 4 Million	Power line failure and high demand
December 8, 1998	San Francisco, CA	> 900 Thousand	Operational error after substation maintenance
2000 through 2001	CA	The entire state	Deregulation and inadequate governance
September 8 – 9, 2011	CA, AZ, Mexico	> 5 Million	Monitoring equipment failure

**Impact of Climate Change:** Climate change is not likely to directly result in energy emergencies. Second order effects of climate change may potentially have an impact on the reliability and availability of energy. As California experiences less rainfall and lower snowpack levels in the Sierras and other mountains, hydro-electric power will be less available. Concomitantly, limits on greenhouse gas emissions will constrain conventional power plant production. Renewable power sources production is expected to increase as power demand rises, but they are less stable and reliable than hydro or conventional power production. Without careful planning, power shortages or disruption will occur.

**Extent:** A future energy emergency could extend to the entire County, particularly if a natural or manmade power generation or distribution disruption or an oil production interruption occurs. The duration of future events will be based on the cause and type of energy emergency.

**Probability of Future Events:** It is possible but only somewhat likely that an energy emergency will occur which will affect large portions of the County within ten years. History of events is less than or equal to 25% likely per year. Local energy emergencies, such as small area blackouts due to equipment failure, will likely occur more frequently.

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### 5.2.7 Extreme Heat

**Nature:** According to the National Weather Service (NWS), extreme heat occurs when the temperature reaches high levels or when the combination of heat and humidity causes the air to become oppressive and stifling. The NWS will issue advisories or warnings when the heat index is expected to have a significant impact on public safety. The common guidelines for the issuance of excessive heat warnings are when the maximum daytime index is expected to reach 105°F and the nighttime low temperature does not fall below 75°F.<sup>5</sup>

Excessive Heat Outlook occurs when the potential exists for an excessive-heat event in the next three to seven days. The NWS will provide an indication of areas where people and animals may need to take precautions. The outlook is based on a combination of temperature and humidity, Heat Index,<sup>6</sup> over a certain number of days. An outlook is used to indicate that a heat event may develop. It is intended to provide information to those who need lead time to prepare for the event, such as public utilities, emergency management personnel, and public health officials. **Table 5-9** provides a description of heat-related public notifications.

<b>Heat Advisories</b>	<p>The Heat Index has to remain at or above 100°F for a minimum of two hours. Heat advisories are issued by zone when any location within that zone is expected to reach criteria. For example: If you expected the heat index to reach 100°F in Visalia, a heat advisory would be issued for that county.</p> <p>A heat advisory means that people can be affected by heat if precautions are not taken. The issuance of a heat advisory is important to raise public awareness that these precautions need to be taken. Heat advisories are also used to trigger other actions and regulations such as no evictions, no turning off of power, changing outdoor work requirements, etc.</p>
<b>Excessive Heat Watches</b>	Issued when Heat Warning criteria is possible (50-79%) 1 to 2 days in advance.
<b>Excessive Heat Warnings</b>	<p>Criteria for an Excessive Heat Warning is a Heat Index of 105°F or greater that will last for two hours or more. Heat Warnings are issued by zone when any location within that zone is expected to reach criteria. For example: If you expected the Heat Index to reach 105°F in Visalia an Excessive Heat Warning would be issued for that zone.</p> <p>A heat warning means that some people can be seriously affected by heat if precautions are not taken. Studies in Canada, Europe, and the U.S. have indicated that mortality begins to increase exponentially as the heat increases or stays above a Heat Index of 104°F. Note:</p> <p>In addition to raising public awareness, the issuance of a heat warning will alert hospitals and officials to take certain actions to prepare and respond to an increase in emergency calls, and activate programs to check on elderly and the home-bound. In some cases, cooling centers can be open or designated and donation programs activated for fans and air conditioners. As in the case of an advisory, certain regulations</p>

<sup>5</sup> NWS <http://www.nws.noaa.gov/om/heat/ww.shtml>

<sup>6</sup> NWS [http://www.nws.noaa.gov/om/heat/heat\\_index.shtml](http://www.nws.noaa.gov/om/heat/heat_index.shtml) for a detailed description

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may change such as turning off people's electricity, evictions, and outside work requirements.

**History:** According to the NWS, there are no weather monitoring stations with detailed records located in the County; the nearest monitoring station with detailed records is located in the City of Fresno. This area experiences similar climatologic patterns as the County and may be considered as a proxy for the weather experienced in the County. The highest recorded temperature in Visalia ever officially recorded is 115°F which occurred on three dates: July 26, 1931; August 12, 1933; and July 18, 1935. **Table 5-10** shows the recent record high temperatures recorded in Visalia.

<b>Month and Year</b>	<b>Temperature (degrees F)</b>
July 2006	113
July 2007	107
June 2008	109
July 2009	107
August 2010	107
July 2011	104
June 2012	108
June, July 2013	105
June 2014	109
July 2015	108
June, July 2016	106

Source: NWS

**Location:** When an excessive heat event occurs, it likely affects the low elevations in the western portion of the County, affecting all cities and the unincorporated areas of the County. Once higher elevations are reached, such as the area of the Tule River Tribe in the Sierra Nevada, extremely high heat levels are less likely.

**Impact of Climate Change:** Climate change is likely to increase the number and severity of extreme heat events in the County. This will place more vulnerable populations at greater risk of heat related injuries. Additionally, more frequent and severe heat events will reduce agricultural production, weaken and kill fruit trees and require more water for irrigation.

**Extent:** The hottest months are July and August; these months have average high temperatures of 94 and 93° F, respectively, with temperatures often greater than 100°F. See **Table 5.9** for the range of temperature and other details for heat advisories, watches and warnings

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**Probability of Future Events:** Based on historical occurrences, the County can expect to experience a Heat Index of higher than 100° F several times every year, generally between April and September. The County can also expect temperatures to exceed 100°F every summer. It is highly likely that extreme heat events will occur within a calendar year (1/1=100% chance of occurring). Event is 100% likely per year.

### 5.2.8 Fire

**Nature:** A wildfire is an uncontrolled fire spreading through vegetative fuels. Wildfires can be caused by human activities (such as arson or campfires) or by natural events (such as lightning). Wildfires often occur in forests or other areas with ample vegetation. Wildfires differ from other fires due to their large size, the speed at which the fires can spread, and the ability of the fire to change direction unexpectedly and to jump gaps, such as roads, rivers, and fire breaks. In areas where structures and other human development meet or intermingle with wildland or vegetative fuels (referred to as the wildland urban interface or WUI), wildfires can cause significant property damage and present extreme threats to public health and safety. The following three factors contribute significantly to wildfire behavior and can be used to identify wildfire hazard areas.

Topography: As slope increases, the rate of wildfire spread increases. South-facing slopes are also subject to more solar radiation, making them drier and thereby intensifying wildfire behavior. However, ridgetops may mark the end of wildfire spread because fire spreads more slowly or may even be unable to spread downhill.

Fuel: The type and condition of vegetation plays a significant role in the occurrence and spread of wildfires. Certain types of plants are more susceptible to burning or will burn with greater intensity, and nonnative plants may be more susceptible to burning than native species. Dense or overgrown vegetation increases the amount of fuel load. The ratio of living to dead plant matter is also important. The risk of fire increases significantly during periods of prolonged drought, as the moisture content of both living and dead plant matter decreases; or when a disease or infestation has caused widespread damage. The fuel's continuity, both horizontally and vertically, is also an important factor.

Weather: The most variable factor affecting the behavior of wildfires is weather. Temperature, humidity, wind, and lightning can affect chances for ignition and spread of fire. Extreme weather, such as high temperatures and low humidity, can lead to extreme wildfire activity. By contrast, cooling and higher humidity often signal reduced wildfire occurrence and easier containment. Years of precipitation followed by warmer years tend to encourage more widespread fires and longer burn periods. Also, since the mid-1980s, earlier snowmelt and associated warming due to global climate change has been associated with longer and more severe wildfire seasons in the western U.S.

Wildfires can have serious effects on the local environment, beyond the removal of vegetation. Soil exposed to intense heat may lose its capability to absorb moisture and support life. Exposed soils erode quickly and enhance siltation of rivers and streams, thereby enhancing flood potential, harming aquatic life, and degrading water quality. Lands stripped of vegetation are also subject to increased debris flow hazards, as described above. Wildfires can also greatly affect the air quality of the surrounding area.



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**History:** Historical information between 1910 and 2014 indicates that 610 wildfires occurred in the County which burned approximately 1,328,000 acres 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. **Appendix C** lists documented fires over 1000 acres that have burned in the County since 1985.

**Location:** Public Resources Code 4201-4204 and Government Code 51175-89 directed CAL FIRE to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. These zones are referred to as fire hazard severity zones and represented as very high, high and moderate. Specifically, the maps were created using data and models describing development patterns, potential fuels over a 30- to 50-year time horizon, expected fire behavior and expected burn probabilities. The maps are divided into local responsibility areas and State responsibility areas. Local responsibility areas generally include incorporated cities, cultivated agriculture lands and portions of the desert.

Local responsibility area fire protection is typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract to the local government. The fire hazard severity zones for the area of local responsibility in the County are shown on **Figure B-4 (Appendix B, Hazard Figures)**. Fire severity zones are depicted for the Cities of Porterville and Woodlake in **Figures B-13 and B-20 (Appendix B, Hazard Figures)**.

State responsibility area is a legal term defining the area where the State has financial responsibility for wildfire protection. Incorporated cities and Federal ownership are not included. The prevention and suppression of fires in all areas that are not State responsibility areas are primarily the responsibility of local or Federal agencies.

The portion of the County that transitions from the valley floor into the foothills and mountains is characterized by high to very high threat of wildfire; this includes the cities of Porterville and Woodlake, the jurisdiction of Tulare County Office of Education (TCOE), the Tule River Tribe Reservation and areas of the County unincorporated. Steeper terrain in these areas increases the threat of wildfire. The western portion of the County has little or no threat of wildfire. The risk of wildfire increases where human access exists in high fire hazard severity zones, such as the Sierra Nevada Mountains and foothills, because of a greater chance for human carelessness and because of historic and current fire management practices.

**Impact of Climate Change:** Climate and weather have long been acknowledged as playing key roles in wildfire activity, and global warming is expected to exacerbate fire impacts on natural and urban ecosystems. Predicting future fire regimes requires an understanding of how temperature and precipitation interact to control fire activity.<sup>7</sup> Since 2012, record drought and record temperatures, have weakened trees throughout

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<sup>7</sup> Jon E. Keeley and Alexandra D. Syphard; *Climate Change and Future Fire Regimes: Examples from California*; Geoscience Review; August 2016

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California, resulting in millions of acres of failing forestland that then become vulnerable to disease and infestation. Infestations, such as those caused by native bark beetles, have caused tree mortality of epidemic proportions. The scale of tree mortality in California contributes to significantly increased wildfire risks, and presents life safety risks due to falling trees that can injure or kill people. The immediate consequence of tree mortality on California forestlands increases the potential for wildfires, further spread of forest insect tree damage, threats to critical public safety infrastructure from falling trees, reduced forest carbon stocks, loss of commercial timber values to landowners, and diminished wildlife habitat. Due to these increased risks, the County proclaimed states of emergency for tree mortality.

In addition, and in response to the millions of dead trees, a State of Emergency Proclamation was issued by the Governor. A Tree Mortality Task Force, comprised of State and Federal agencies led by CAL FIRE, Cal OES and the Governor's office has identified six counties as high hazard zones due to dead and dying trees and the hazards, this tree mortality presents. The 10 counties include: Amadore, Calaveras, El Dorado, Fresno, Kern, Madera, Mariposa, Placer, Tulare, and Tuolumne. Both the State's and the County's Tree Mortality Task Forces are structured as a Multi-Agency Coordination Group and meet monthly to exchange information and updates among stakeholders. Participants are encouraged to discuss needs and concerns, and leverage each other's subject matter expertise and resources to further response efforts.

**Extent:** CAL FIRE has classified 22% of the County as high wildfire hazard areas and an additional 27% as very high wildfire hazard areas. These areas are primarily in the foothills and mountain regions in the eastern portion of the County and to a large extent on National Forest or National Park land. Figure B- depicts the fire severity rating for areas of the County.

**Probability of Future Events:** Based on historical events, on average, slightly more than one wildfire of over 1000 acres burns within the County each year. Therefore, it is highly likely that a wildfire event will occur within the calendar year impacting the County. Wildfire events have a greater than 1 in 1-year (100%) chance of occurring.

### 5.2.9 Floods

**Nature:** A flood occurs when the existing channel of a stream, river, canyon, or other watercourse cannot contain excess runoff from rainfall or snowmelt, resulting in overflow onto adjacent lands. A floodplain is the area adjacent to a watercourse or other body of water that is subject to recurring floods. Floodplains may change over time from natural processes, changes in the characteristics of a watershed, or human activity such as construction of bridges or channels. River channels change as water moves downstream, acting on the channel banks and on the channel bottom. On the outside of a channel curve, the banks are subject to erosion as the water scours against them. On the inside of a channel curve, the banks receive deposits of sand and sediment transferred from the eroded sites. In areas where flow contains a high-sediment load, the course of a river or stream may shift dramatically during a single flood event. There are three major types of flooding within the County: riverine flooding (also known as overbank flooding), shallow flooding, and localized drainage flooding.

- Riverine flooding occurs when downstream channels receive more rain or snowmelt from their watershed than normal, or a channel is blocked by an ice jam or debris. Excess water overloads the channels and flows out onto the floodplain. When flooding occurs in steep, mountainous

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areas, it is usually confined, strikes with less warning time, and has a short duration. In comparison, larger rivers typically have longer, more-predictable flooding sequences and broad floodplains. Riverine floodplains range from narrow, confined channels in the steep valleys of mountainous and hilly regions to wide, flat areas in plains and coastal regions. The amount of water in the floodplain is a function of the size and topography of the contributing watershed, the regional and local climate, and land use characteristics.

- Shallow flooding occurs in the valley of the County. Shallow flooding may consist of sheet flow or ponding and generally occurs in flat areas where a lack of channels prevents water from draining away easily. Sheet flow occurs where there are inadequate or no defined channels. Floodwaters spread over a large area at a uniform depth after an intense or prolonged rainfall during which surface soils reach saturation. Ponding occurs in some flat areas when runoff collects in depressions and cannot drain out. The floodwaters remaining form a temporary pond until they infiltrate into the soil, evaporate, or are pumped out.
- Localized flooding in the County is generally associated with irrigation ditches and canals in the valley, which may contribute to flooding because of levee overtopping or failure. Major canal systems and numerous ditches follow the line of the foothills and cut across the natural drainage pattern. When flood flows overtop the banks of the channels in reaches of inadequate capacity, they may pond against the embankments of the canals (such as roads and railroads), or flow along the embankment until they reach a crossing. Floodwaters may also back up behind obstacles until they overtop a canal bank, then flow down the canal to increase flooding downstream.

**History:** Tulare County has a long history of flooding along its major rivers: the Kings, Kaweah, and Tule Rivers. Major flood protection facilities were completed on the Kaweah and Tule rivers, and since their completion, the most-severe flooding events, as described below, occurred in 1966 and 1969. Recent improvements to raise the elevation of the spillway at the Terminus Dam and planned improvements to the Success Dam will help to minimize future flood risk. Flooding has also occurred on the White River a small waterway contained wholly in the County.

- The 1966 flood on the Tule River was a 120-year event. Despite the presence of Success Dam and Reservoir, which has been operated by the USACE since 1961, significant damage still occurred. According to the 1971 County Flood Control Master Plan, the December 1966 rains were so intense over the watershed of the Tule River that they produced uncontrolled spill at Success Dam. In addition, snowfall was so great that the resulting runoff could not be controlled completely. Water poured into Tulare Lake and flooded agricultural land. Primary damage from the 1966 flood was estimated at \$21.4 million.
- The January 1969 flood caused flooding along Sand Creek, Cottonwood Creek, Yokohl Creek, Lewis Creek, Frazier Creek, Deer Creek, White River, and in the southwest corner of the County. Terminus Dam, which has been operated by the USACE since 1962, helped reduce the potential flood hazards on Kaweah River and its tributaries. However, flood damage could not be completely avoided. Most of the flooding occurred in agricultural areas in the valley. Some urban damage occurred in Cutler, Earlimart, East Orosi, Orosi, Strathmore, Dinuba, Exeter, and Lindsay.

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The flood caused over \$86.2 million (1969 dollars) in damage and approximately 100,000 acres in the County were flooded.

Over the last two decades, the County has experienced a number of severe floods. During 1997 to 1998, the mountainous areas of the County sustained flooding as heavy rains swelled creeks over their banks. Heavy rains contributed to high runoff and flooding throughout Kings Canyon and Sequoia National Park. Numerous roads, bridges, and trails were damaged. Flooding from the Tule and White Rivers caused extensive agricultural damage in the San Joaquin Valley. The communities of Three Rivers, Springville, Lindsay, and Earlimart also experienced significant flooding. Lake Success above Porterville and Kaweah Lake were both filled in about 24 hours. Total damages were estimated at more than \$1 million in the County.

In 2006, the State of California issued three proclamations for severe rainstorms between late December 2005 and April 2006. This series of storms brought unusually heavy rains that caused flooding, mudslides, debris accumulation, damaged roads, and loss of human life in 40 California counties, including the County. Damage occurred primarily in Cutler-Orosi.

The County experienced severe rainstorms between December 2010 and January 2011 which led to a Presidential Disaster Declaration for the State of California, including the County and nine other counties. For the County, the constant rainfall caused major flooding and millions of dollars in damage to agriculture crops, infrastructure, roads and homes. Primary estimates from the County noted more than 60 miles of road damage, 33 homes and two commercial properties received flood damage and six residents from two homes were displaced from their homes due to the flooding.

In February 2017, A broken levee on Poso Creek in southern Tulare County near Alpaugh flooded several square miles of farmland, and two or three mobile homes were reported affected. The break was within a week.

Most recently, as a result of excessive precipitation in early 2017, Tulare County experienced flooding from Poso Creek in the southwest portion of the County, impacting almost exclusively agricultural lands. Rapid snow melt with the first excessive heat event of the summer in June, 2017, resulted in flood control releases greater than 14,000 cubic feet per second (cfs) from Pine Flat Dam, which inundated areas along the Kings River in Tulare and Fresno Counties and ultimately caused multiple breaches impacting several local homes and businesses.

**Location:** Watercourses in the County originate in the Sierra Nevada mountain range and foothills and flow in a westerly or southwesterly direction across the valley floor. The County has two primary stream systems which drain the mountainous portions: the Kaweah River and Tule River. When the two rivers reach the valley floor, they form distributary systems.

The Kaweah River distributary system contributes primarily to flooding in the cities of Tulare, Visalia, Woodlake, Farmersville, and unincorporated areas of the County. The Tule River flows in a westerly direction and eventually reaches the Success Reservoir. It has three main forks: the North, Middle, and South Forks. The North Fork and Middle Fork join together just above the town of Springville. The South Fork joins the other two forks at the Success Reservoir. The Tule River then flows to Porterville. In general,

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all major and minor streams within the County are dissipated by irrigation diversions, channel percolation, or evapotranspiration. During flood events, stream flows from major streams may reach the Tulare lake bed, a former lake encompassing most of the southern San Joaquin Valley that disappeared by the early twentieth century due to draining and land reclamation.

Other major rivers in the County include the Kings River and the Kern River. The Kern River system drains the eastern one-third of the County and flows in a southerly direction toward east of the city of Bakersfield. It then discharges onto the floor of the San Joaquin Valley, into Buena Vista Lake and Tulare Lake. Almost all lands within the County which are drained by the Kern River system are located within Sequoia National Forest. The Kings River drains the northeastern portion of the County, flowing onto the valley floor in a southerly direction and entering the County just west of Dinuba. Waters from the Kings River eventually end up in Tulare Lake or the San Joaquin River.

Throughout the valley portion of the County, several irrigation companies operate a large network of irrigation ditches and canals. These irrigation ditches and canals may contribute to localized flooding because of levee overtopping or failure. Due to the flatness of the valley area of the County, canal levees, and highway and railroad embankments collect and divert floodwater which may cause local areas of ponding. The largest canal, the Friant-Kern Canal, is a major conveyance facility of the Central Valley Project, a U.S. Bureau of Reclamation Federal water project in California which was devised to provide irrigation and municipal water to California's Central Valley. The Friant-Kern Canal runs from the north portion of the County to the south along the base of the foothills. During recent historical flood events, the canal has not experienced overtopping or failure.

Seasonal/uncontrolled flooding on Deer Creek, White River, and Poso Creek along with potential flooding on other uncontrolled streams / rivers, in the southern portion of the County creates problem recurring areas. In addition to localized flooding of irrigation ditches and canals, other flooding in the valley of the County occurs as sheet flow and ponding in flat areas where there are inadequate or undefined channels.

**Impact of Climate Change:** According to the Sacramento and San Joaquin Basins Climate Impact Assessment, reductions in precipitation from 3-10% are expected in the San Joaquin and Tulare Lake basins of the Central Valley through 2100. Combined with higher temperatures, more of the precipitation will occur as rainfall, leading to increased runoff and reduced snowpack. Per the assessment, with current reservoir capacities, excess runoff would need to be released from reservoirs early for flood control, which would lead to overall reductions in the amount of stored water available for use over the dry months.<sup>8</sup>

Climate change can also lead to more frequent and extreme weather. This includes heavy rainfall events, which can trigger landslides and debris flows that are especially problematic in areas where wildfires have occurred. Heavy rain events can also overwhelm sewage and water treatment facilities with negative impacts to water quality.

**Extent:** The magnitude of flooding that is used as the standard for floodplain management in the U.S. is a flood with a probability of occurrence of 1% in any given year. This flood is also known as the 100-year

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<sup>8</sup> U.S. Department of Interior, Bureau of Reclamation; *West-Wide Climate Risk Assessment Sacramento and San Joaquin Basins Climate Impact Assessment*; Reclamation, Managing Water in the West, September, 2014

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flood or base flood. The most readily available source of information regarding the 100-year flood, as well as the 500-year flood (0.2 % probability of occurrence in any given year), is the system of Flood Insurance Rate Maps (FIRMs) prepared by FEMA. These maps are used to support the NFIP.

FEMA has prepared a digital FIRM (DFIRM), effective June 16, 2009, for the incorporated and unincorporated areas of the County. FEMA has not prepared flood hazard data for Federal lands in the County, which include the Sequoia National Park. **Figure B-5 (Appendix B, Hazard Figures)** shows the 100-year floodplain and 500-year floodplain for the County. **Figures B-7, B-10, B-12, B-14, B-16, B-18 and B-21 (Appendix B, Hazard Figures)** depict detailed floodplains for individual jurisdictions.

Flooding in the valley is primarily characterized as shallow flooding with depths less than three feet in the floodplains. Velocities are low, and flooding generally results in deposition of large amounts of sand, silt and debris over the flooded areas. Shallow flooding from local runoff is caused by high-intensity localized rainfall, such as the 5.55 inches of precipitation that occurred in a five-day period in December 1966.

**Probability of Future Events:** Floods usually occur in low-lying areas of the County that do not have extended periods of below-freezing temperatures, significant snowfall during the winter or after heavy rainfalls following prolonged dry periods. Although the climate throughout the County varies considerably due to differences in elevation, it is generally hot and dry with low humidity during the summer. In the valley portions of the County, very mild conditions with infrequent snowfall at low elevations predominate during winter. Over 75% of the annual precipitation occurs between November and April. Average annual precipitation varies widely, from eight inches in the southwest corner of the County to 45 inches in the Sierra at the headwaters of the Kaweah and Tule rivers.

Flood season extends from November through June with general rain floods usually occurring between November and April, and snowmelt floods occurring from April to June. Based on previous occurrences, severe flooding is most likely to occur during strong El Niño years (every five to seven years). Therefore, it is possible a flood will occur which will affect the County and several of its jurisdictions within five years (a 1 in 5-year chance of occurring having a  $1/5 = 20\%$ ). History of events is greater than 20% likely per year.

### 5.2.10 Hazardous Material and Oil Spills

**Nature:** Hazardous materials are substances that may have negative effects on health or the environment. The MJLHMP does not focus on the hazards contained in everyday products but rather on the hazards associated with potential releases of hazardous substances from transportation corridors and fixed facilities within the County. Exposure to hazardous materials causes injury, illness, or death. Effects may be felt over seconds, minutes, or hours (short-term effects) or not emerge until days, weeks, or even years after exposure (long-term effects). Some substances are harmful after a single exposure of short duration, but others require long episodes of exposure or repeated exposure over time to cause harm. Hazardous materials in the County primarily consist of paints, solvents, adhesives, gasoline, household cleaners, batteries, pesticides and herbicides, dairy products and ammonia. The toxicity of a specific substance is one important factor in determining the risk it poses, but other factors can be just as important, if not more so. Factors affecting the severity of a hazardous material release include:

- Toxicity
- Quantity

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- Dispersal characteristics
- Location of release in relation to population and sensitive environmental areas
- Efficacy of response and recovery actions

Mobile incidents include those that occur on a roadway or a railroad. These incident-related releases are dangerous because they can occur anywhere, including near human populations, critical facilities or environmentally sensitive areas. Mobile incident-related releases can also be more difficult to mitigate because of the great area over which any given incident might occur and the potential distance of the incident site from response resources.

The release of hazardous substances from stationary sources can be caused by human error, equipment failure, intentional dumping, acts of terrorism, or natural phenomena. Earthquakes pose a particular risk, because they can damage or destroy facilities containing hazardous substances. The threat posed by a hazardous-material event can be amplified by restricted access, reduced fire suppression and spill containment capability, and even complete cutoff of response personnel and equipment. In addition, pipeline transportation of substances such as petroleum products, natural gas, and other chemicals exist throughout the County. Southern California Gasoline Company is the primary natural gas distributor in the County.

California manages facilities and release on the local level through the California Unified Program Agency (CUPA). The County Environmental Health is the CUPA for this jurisdiction. There are currently 12,131 CUPA facilities in the County. Of these CUPA facilities, 480 are classified as extreme-hazard substance sites. Common substances at the extreme-hazard substance sites are ammonia, ethylene, hydrogen peroxide and peroxyacetic mixtures, paraquat dichloride, and sulfur dioxide. In addition, the Visalia County Fire Department serves as the primary hazardous materials response agency.

**History:** The National Response Center, which serves as the sole national point of contact for reporting all oil, chemical, radiological, biological, and etiological discharges into the environment in the U.S., shows that from 2002 through 2016, hundreds of releases have occurred. The most common occurrences include truck accidents where oil spills, power transformer leaks resulting from cars striking poles, dairy spillage, ammonia leaks from agriculture operations and stationary petroleum spills. While most of the petroleum spills are less than 100 gallons, some of the dairy spills were greater than 1,000 gallons. The largest reported release was 35,000 gallons of dairy product in September 2008. These incidents are listed in **Table 5-11**.

<b>Table 5-11: Representative Fixed Hazardous Material Releases 2005 – 2015</b>				
<b>Date</b>	<b>Location</b>	<b>Incident Cause</b>	<b>Material</b>	<b>Amount/Action</b>
4/21/06	Rd. 36 and Merritt Dr.	Dumping	Lab drug waste	80 pounds
9/27/08	Rd. 72 Pixley	Human error	Dairy	35,000 gallons
7/1/09	13129 Ave. 248 Tulare	Human error	Ammonia	120 pounds
1/25/10	Ave. 93 and Rd. 236	Human error	Sewage	60,000 gallons
9/31/11	19531 Ave. 248 Tulare	Pipe rupture	Natural gas	5 evacuees
3/26/12	1304 Goshen Ave. Visalia	Transformer leak	Mineral oil	142 gallons

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8/8/12	Pratt Ave. Tulare	Overflow	Dairy	7000 gallons
3/17/13	400 S M St. Tulare	Over-pressurization	Ammonia	73.5 pound
5/20/13	Blackstone Ave. Tulare	Overflow	Dairy	3000 gallons
7/22/14	Dinuba El Monte/Monte Vista	Punctured 4" gas main	Natural gas	52 homes, 7 businesses and 1 apartment complex evacuated
1/29/15	S. Ave 48 and Rd 168	Fire and tank leak	Diesel # 2	4000 gallons

**Location:** In Tulare County, a hazardous material transportation accident is most likely to occur along Highways 43, 63, 65, 99, 198, and the railroad tracks. Trucks and rail cars that use these transportation corridors commonly carry a variety of hazardous materials, including gasoline, other petroleum products, and other chemicals known to cause human health problems, including fertilizers, pesticides, and industrial chemicals. Cities that are bisected by both major highways and railroad tracks include the cities of Exeter, Lindsay, Tulare and Visalia. However, the entire County is vulnerable to a hazardous material event.

**There** 99 facilities that are included in the California Accidental Release Program. These facilities are scattered throughout the western portion of the County; therefore, all participating jurisdictions, except for the Tule River Tribe, are susceptible to the release of a hazardous substance. These facilities include food processing facilities, warehouses, cold storage, and water treatment plants, to name a few.

**Extent:** The extent of a hazardous materials release varies widely based on the nature and quantity of the material released. Historically, releases have been localized. In addition, the CUPA proactively manages facilities to mitigate potential concerns. However, accidents, especially traffic accidents, are unforeseeable and ever present.

**Probability of Future Events:** Based on previous occurrences, it is likely a minor hazardous materials event due to a vehicular accident will occur every one to five years (a  $1/5=20\%$  chance of occurring) and every one to three years (a  $1/3=33\%$  chance of occurring) due to a rail accident in the County. History of events is greater than 20% but less than or equal to 33% likely per year. In addition, based on previous occurrences, the County can expect a minor hazardous material event two to seven times a year from equipment failure, operator error, dumping, or other causes. Based on previous event history, it is likely a fixed incident will occur within the County from a minor hazardous material event within two to seven years (a  $1/3=33\%$  chance of occurring) due to various factors indicated above. History of events is greater than 20% but less than or equal to 33% likely per year.

### 5.2.11 Landslides/Mudslides/Debris Flows

**Nature:** Landslide is a general term for the dislodging and fall of a mass of soil or rocks along a sloped surface or the dislodged mass itself. The term is used for varying phenomena, including mudflows, mudslides, debris flows, rock falls, rock slides, debris avalanches, debris slides and slump-earth flows. Landslides may result from a wide range of combinations of natural rock, soil or artificial fill. The susceptibility of hillside and mountainous areas to landslides depends on variations in geology,



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topography, vegetation and weather. Landslides may also occur because of indiscriminate development of sloping ground or the creation of cut-and-fill slopes in areas of unstable or inadequately stable geologic conditions. Additionally, landslides often occur together with other natural hazards, thereby exacerbating conditions, as described below:

- Shaking due to earthquakes can trigger events ranging from rock falls and topples to massive slides.
- Intense or prolonged precipitation that causes flooding can also saturate slopes and cause failures leading to landslides.
- Wildfires can remove vegetation from hillsides, significantly increasing runoff and debris flows.
- Landslides into a reservoir can indirectly compromise dam safety; a landslide can even affect the dam itself.

Mudslides are another type of soil failure, and are defined as flows or rivers of liquid mud down a hillside. They occur when water accumulates under the ground, usually following long and heavy rainfalls. If there is no brush, tree, or ground cover to hold the soil, mud will form and flow down the slope. Debris flows are like mudslides. They typically occur after large fires that destroy vegetation and result in a burned layer of soil that is unable to sufficiently hold moisture from precipitation. After heavy rains, the burned soil may flow down steep hillsides along with rocks, trees and other landscape features creating a moving stream of debris.

**History:** No major landslides, mudslides or debris flows have been recorded in the populated portions of the County.

**Location:** In the County, areas that are more prone to landslide/mudslide/debris flows include the foothill and mountain areas where fractured and steep slopes are present (as in the Sierra Nevada), where less-consolidated or weathered soils overlie bedrock, or where inadequate ground cover accelerates erosion. Erosion and slumping of soils can also occur along bluffs along the Kaweah, Kern and Tule Rivers. Therefore, the unincorporated areas of the County and the Tule River Tribe are susceptible to landslide/mudslides.

**Extent:** Landslides in the foothill and mountain areas of the County, such as in the steep slopes of the Sierra Nevada, are typically deep-seated landslides which are hundreds to thousands of feet in length or width and only move fractions of an inch per year. However, during heavy rainfall or seismic events, a landslide or mudslide can move several yards a minute or faster. In these areas, rocks may have been weakened through faulting and fracturing, uplift and soils due to heavy or prolonged rainfall.

**Probability of Future Events:** Due to the possibility of earthquakes in the region and the presence of steep slopes in the foothill and mountain areas, landslides/mudslides can be expected to occur during or shortly after strong El Niño rainfall years (every 5 to 7 years) or during a large earthquake event. It is possible a landslide event will occur within the County within two to seven years (a 1/5=20% chance of occurring). Probability is greater than 10% but less than or equal to 20% likelihood per year. Occurrence in populated of the County is unlikely.

### 5.2.12 Levee Failure

**Nature:** Levees are typically earthen embankments designed to contain, control, or divert the flow of water to provide some level of protection from flooding. Some levee systems are built for agricultural purposes and provide flood protection and flood-loss reduction for farm fields and other land used for agricultural purposes. Urban levee systems are built to provide flood protection and flood-loss reduction for population centers and the industrial, commercial, and residential facilities within them.

Levees are designed to provide a specific level of flood protection. Agricultural levee systems provide a level of protection that is appropriate based on the value of the assets being protected. Urban levee systems, because they are designated to protect developed areas, are generally built to higher standards. No levee system provides full protection from all flooding events to communities located behind it. Some level of flood risk exists to any levee-impacted areas.

Levee failure is the overtopping, breach or collapse of the levee wall. Levees may fail due to earthquake, internal erosion, poor engineering/construction or landslides; however, levees most commonly fail as a result of significant rainfall. During a period of heavy rainfall, water inside the levee can accumulate and flow over the top. The overflow of water erodes the levee, creating deep channels. Eventually the levee will weaken, resulting in a breach or collapse of the levee wall and uncontrollable amounts of water will be released.

**History:** The last major levee failure in the County was during the winter of 1998-1999. Levee failure on the White River caused Highway 99 to be shut down at the community of Earlimart. However, in recent years FEMA has embarked on a flood map modernization initiative, to update and modernize the existing FIRMs for the majority of the U.S. This process revealed that a number of levees nationwide have not been assessed since their original inclusion in the NFIP and may no longer be in compliance with FEMA flood program regulations. Should a levee be non-compliant, it will be decertified and the residential structures behind the levee will be subject to the mandatory purchase of flood insurance and additional floodplain regulations.

**Location:** Levees are an interesting anomaly in the County. They are not limited to just tributary waterways but also distributary waterways present in the alluvial fan geography. Property rights for levees reside almost exclusively with private owners, with waterway easements being equally limited. There is not a complete inventory list of all levees on the watercourses throughout the County. However, the following levees and their locations are known.

- The Friant-Kern canal flows north to south through the County on the eastern side of the valley.
- The St. Johns River begins at the diversion dam in the Kaweah River and flows in a westerly direction along the north side of the city of Visalia; the system is over 14 miles long. The levees on the St. Johns River were at one point maintained by Levee Maintenance Districts I and II. However, District I ceased maintenance in 1997 and District II has been inactive for over two decades.
- Both the Deer Creek and the White River run east to west in the southern portion of the County. The Deer Creek levees begin west of Highway 43 and extend at least to Highway 99, approximately 10 miles. The White River levees begin in the westerly distribution system constructed during the

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1930s and 1940s between Highway 43 and Road 128 which is composed primarily of excavated canals with levees. The levee system continues easterly to Road 208 about 16 miles.

- Sand Creek holds the only levees to which the County has property rights. Sand Creek is in the northwest part of County from Avenue 432 to Avenue 384 and stretches 8.5 miles.

**Extent:** Currently, there is no database for the County that completely accounts for all levees and their condition. Without the location and design/condition of each levee, the extent of levee failures for the County cannot be determined.

**Probability of Future Events:** Due to the lack of knowledge regarding the levee system in the County, the probability of future levee failures in the County is unknown. However, levee failure may result from a large winter storm or seismic event. Therefore, due to past levee failure history, it is considered possible but unlikely that a levee failure event will occur within the next ten years (a one in ten-year chance of occurring –  $1/10 = 10\%$ ). Event history is less than or equal to 10% likelihood per year.

### 5.2.13 Pandemics and Vector Borne Diseases

**Nature:** An influenza pandemic or other viral disease outbreak that occurs when a new strain of virus emerges in the human population that may cause serious illness or death and spreads easily from person to person worldwide. Pandemics may be categorized from mild to severe depending upon the number of people who become ill or die from the disease.

Pandemics are different from seasonal outbreaks of influenza that are caused by subtypes of influenza viruses that already circulate among people. Pandemic outbreaks are caused by entirely new subtypes to which the population has no immunity because the subtype has either never circulated among people, or has not circulated for a long time. Seasonal influenza occurs routinely worldwide each year, causing an average of 36,000 deaths annually in the U.S.

Vector-borne diseases (VBDs) are viruses and bacteria spread by vectors such as mosquitoes, ticks and fleas. The most prevalent VBDs in California and in the County include Plague, Zika and West Nile Virus. Outbreaks are not only concerning to humans but can be devastating to livestock operations.

**History:** Nearly 40 years have passed since the last influenza pandemic. During the last century, there have been three influenza pandemics. The influenza pandemic of 1918 was especially severe, killing a large number of young, otherwise healthy adults. That pandemic caused more than 500,000 deaths in the U.S. and an estimated 40 million deaths around the world. Subsequent pandemics in 1957-58 and 1968-69 caused far fewer fatalities in the U.S.: 70,000 and 34,000 deaths respectively but caused significant illness and death around the world.

The California Department of Public Health and Tulare County Health Department conduct annual surveys of VBDs. In a report recently released, they documented the annual occurrence of Plague and West Nile Virus. In addition, the presence of the Zika Virus is rapidly rising in the County and across the U.S. A public health emergency was declared by the United States Department of Health and Human Services on April 26, 2009. The County was part of a statewide Presidential Disaster Declaration on April 28, 2009 for a

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H1N1 Flu outbreak and followed with a County Emergency Proclamation on April 29, 2009. On October 23, 2009, the President declared a national emergency as a result of the potential impact on health care resources due to the H1N1 Influenza pandemic. The declaration of a national public health emergency freed up federal assets, such as the SNS and vaccines, for expedited delivery to states requesting these assets. However, no federal funding was made available to states for responding to this emergency.

**Location:** Currently, the potential exists for a pandemic or VBD to cause serious illness and death to many people throughout the world; the County is no exception.

**Extent:** Several characteristics of an influenza pandemic differentiate it from other public health emergencies. Foremost, it has the potential to cause illness in a very large number of people, overwhelming the health care system throughout the nation. A pandemic outbreak could also jeopardize essential community services by causing high levels of absenteeism in critical positions in every workforce. Basic services, such as health care, law enforcement, fire, emergency response, communications, transportation, and utilities could be disrupted during a pandemic. Finally, a pandemic, unlike many other emergency events, will last for months rather than days or weeks, disrupting supply chains for essential items such as food, water, and other essential provisions.

### 5.2.14 Severe Winter Storm/High Winds

**Nature:** The climate in California's Central Valley is hot Mediterranean. Summers are hot and dry while winters are cool and damp. A dominating factor in the weather of California is the semi-permanent high-pressure area of the northern Pacific Ocean, sometimes called the Pacific High. This pressure center moves northward in summer, holding storm tracks, originating on easterly winds, well to the north. As a result, California receives little or no precipitation during the summer and early autumn. The time period between mid-autumn to mid-spring comprises the rainy season (roughly October through April). During these months, winter storms may occur. This occurs as the Pacific High decreases in intensity in winter and moves further south, permitting storms to move into and across the State, producing widespread rain at low elevations and snow at high elevations. Occasionally the State's circulation pattern permits a series of storm centers to move into California from the southwest.

Winter storms may produce high winds. Wind strength depends on differences between the existing high- and low-pressure systems and the distances between them. A steeper pressure gradient resulting from a large pressure difference or short distance between systems causes higher winds. Winter storms may also bring snow to higher elevations as well as heavy rains and freezing temperatures.

**Location:** Higher elevations in the eastern portion of the County can average up to 72 inches of snowfall per year, while middle elevations in the central portion of the County average around 36 inches of snowfall per year (including the Tule River Reservation, the unincorporated areas of the County and areas under the jurisdiction of the TCOE). Low elevations in the western portion of the County receive little or no snowfall.

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The eastern and central parts of the County (limited to the County unincorporated) experience more days per year (31 to 40 days) with high peak gusts than the rest of the County (20 to 30 days). Freezing occurs throughout the County, and occurs more frequently at higher elevations. The Tule River Tribe, TCOE and unincorporated areas of the County all experience at least 31 days per year with a mean temperature of 32°F or below.

**History:** Severe Winter Storms are characterized by freezing temperatures, snow fall at high elevations and high winds (as flooding was previously captured as a specific hazard, heavy rainfall is not included in the hazard of Severe Winter Storm). The National Climatic Data Center database contains the following severe storm information for the County for the period 2005 to 2016:

- Seventy-five winter storm events since 2005. In most of these storms, snow occurred at elevations of 2,500 feet or higher. In one case, \$1,000,000 of property damage was reported. In another case, one death was reported.
- Thirty-three strong wind events since 2005. Several events damaged property exceeding \$100,000; one even as high as \$500,000. No injuries or fatalities occurred.
- Ninety-five severe freeze events occurred since 2005. One Presidential Declaration occurred in 2007. Prior to that, two additional events resulted in Presidential Declarations (1990-1991 and 1998). These freeze events caused a loss of citrus and seasonal crops throughout the County. Numerous farm workers also lost their jobs due to the damaged crops.<sup>9</sup>
- In January 27, 2008, a severe thunderstorm developed south of Visalia shortly after noon, and spawned a weak tornado that knocked down trees and severely damaged a trailer park. The tornado, rated EF-0 on the Enhanced Fujita Scale had peak winds of 70 mph. Damage was estimated at \$750,000.

**Impact of Climate Change:** The determination of climate change on severe winter storms and high winds is difficult to quantify. This is in part due to uncertainty of human activity to limit greenhouse gas increase in the atmosphere.

Warming central Pacific Ocean water has the potential to produce more frequent and longer winter storms originating in the intertropical convergence zone (ITCZ). Days on which atmospheric rivers (formed in the ITCZ and a major cause of severe winter storms) reach the West Coast each year could increase by a third this century, if greenhouse gas pollution continues to rise sharply Pacific Northwest National Laboratory researchers concluded after running model simulations.<sup>10</sup> Currently, the West Coast is likely to receive rain or snow from atmospheric rivers between 25 and 40 days each year, the analysis concluded. By century's end, that's expected to rise to between 35 and 55 days annually. Meanwhile, the number of days each year on which the atmospheric rivers bring "extreme" amounts of rain and snow to the region could increase by more than a quarter.

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<sup>9</sup> NOAA 2017

<sup>10</sup> Samson M. Hagos, L. Ruby Leung, Jin-Ho Yoon, Jian Lu, Yang Gao; *A projection of changes in landfalling atmospheric river frequency and extreme precipitation over western North America from the Large Ensemble CESM simulations*; Geophysical Research Letters, February 2016

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**Extent:** In the County, a severe winter storm can produce high snowfall (up to 60 inches in one day) and wind (peak gusts over 55 mph). High elevation areas may experience over 120 days of freezing temperatures during the year. The 2008 tornado was approximately 50 yards wide and traveled a distance of 2.03 miles. High wind events are characterized by the Beaufort Scale which is depicted in **Figure 5-4** below.

**Figure 5-5: Beaufort Scale**

#	MPH	Description	Specifications
0	< 1	Calm	Smoke rises vertically.
1	1-3	Light Air	Direction of wind shown by smoke drift but not by wind vanes.
2	4-7	Light Breeze	Wind felt on face; Leaves rustle; Wind vanes moved by wind
3	8-12	Gentle Breeze	Leaves and small twigs in constant motion; Wind extends light flag.
4	13-18	Moderate	Raises dust, loose paper; Small branches moved.
5	19-24	Fresh	Small trees begin to sway; Crested wavelets form on inland waters.
6	25-31	Strong	Large branches in motion; Whistling heard in telephone wires; Umbrellas used with difficulty.
7	32-38	Near Gale	Whole trees in motion; Inconvenience felt walking against the wind.
8	39-46	Gale	Twigs break off trees; Wind generally impedes progress; Mobile homes may shake.
9	47-54	Strong Gale	Slight structural damage occurs; Mobile homes, sheds, roofs, lanais, and RV's suffer minor damage.
10	55-63	Storm	Small trees uprooted; Moderate damage occurs to mobile homes and RV's; Brick and wood frame houses receive minor structural and roof damage; Some signs blown down.
11	64-73	Violent Storm	Moderate sized trees uprooted; Large branches snapped off trees; Chimneys and road signs toppled; Significant mobile home damage; Power lines downed.
12	74-95	Hurricane Category 1	Mobile homes overturned; Large trees and branches downed; Moderate roof damage to wood and brick homes; Minor pier damage.

**Probability of Future Events:** Based on previous events, the County can expect to experience at least one major winter storm annually. High winds, defined as those that last longer than one hour at greater than 39 mph or for any length of time at greater than 57 mph, occur every one to three years. Freezing temperatures and snowfall occur annually. The mountainous areas in the County will continue to experience over 70 inches of snowfall per year as well as freezing temperatures for over 120 days per year. Therefore, it is highly likely that an event will occur within the calendar year. Events have a one in one-year (a 1/1=100%) chance of occurring.

### 5.2.15 Terrorism and Cyber Terrorism

**Nature:** The definition of terrorism by the Federal Bureau of Investigation (FBI) is “the unlawful use of force or violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives.” The FBI defines cyber terrorism as the use of computer network tools to shut down critical national infrastructures (e.g., energy, transportation, government operations) or to coerce or intimidate a government or civilian population.

Terrorists typically use one or more of the following types of weapons: chemical, biological, incendiary, radiological, or explosive. In addition to large-scale attacks, a full range of assault styles must be considered, including simple bombings, assassinations with small arms, major bombings, and others. Use of explosive devices remains the weapon of choice for terrorist activity. Related activities include bomb threats which disrupt the normal operations of transit systems, government or corporate facilities. Primary locations likely to be targets include airports, mass transit targets, government facilities, and high population density locations, although so-called “soft targets” such as schools, local entertainment facilities, etc., are at risk. The potential for nuclear, biological or chemical terrorism is also a concern. These types of emergencies would necessitate detailed contingency planning and preparation of emergency responders to protect their communities.

Weapons of mass destruction (WMD) typically used by terrorists are categorized by an acronym that lists the types of materials/weapons: CBRNE stands for chemical, biological, radiological, nuclear, and explosives. BNICE stands for biological, nuclear, incendiary, chemical, and explosives. The nature of each category of weapon is described briefly below:

- **Chemical:** Chemical weapons include blood and choking agents, nerve agents, blister agents, and toxic industrial chemicals. The advantages of using chemical weapons for a terrorist include they are easy to make, readily available, inexpensive, have an immediate effect, and are easily spread. The disadvantages are they require significant quantities for a mass effect, and the production and deployment are potentially hazardous to the terrorist. Some chemical agents are odorless and tasteless and are difficult to detect, while others have distinct odors. They can have an immediate effect (a few seconds to a few minutes) or a delayed effect (several hours to several days). Routes of exposure for chemical weapons are inhalation, ingestion, absorption, and injection. Unlike many of the biological weapons, first responders can take self-protective measures by wearing personal protective equipment, first aid measures and effective medical interventions are available, and chemical agent exposures can be decontaminated and agents neutralized.
- **Biological:** Biological weapons are defined as bacteria, viruses, or toxins used to produce illness or death in people, animals, or plants. The advantages of biological weapons are that they are easy to make, readily available, and relatively inexpensive. The disadvantages include delayed effects and potential deployment hazards to the terrorist. Routes of exposure for biological weapons are inhalation, ingestion, absorption, and injection. Biological agents can be dispersed as airborne particles or aerosols on food items or in water, or through an injection. Terrorists may use biological weapons because the agents are odorless, tasteless, and extremely difficult to detect.

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Because of the significant extent of agriculture in the County and the widespread national distribution and economic impact of County agriculture products, agro-terrorism, a subset of bioterrorism, (defined as the deliberate introduction of an animal or plant disease with the goal of generating fear, causing economic losses, and/or undermining stability) may be a concern. Agriculture has several characteristics that pose unique problems for managing the threat. Agricultural production is geographically disbursed in unsecured environments. Livestock are frequently concentrated in confined locations, and then transported and commingled with other herds. Pest and disease outbreaks can quickly halt economically important exports. Many veterinarians lack experience with foreign animal diseases that are resilient and endemic in other countries.

- **Radiological / Nuclear:** Radioactive or nuclear weapons are typically in the form of a traditional fission device such as an atom bomb, a radiological dispersal device, often called a dirty bomb, or a conventional explosion at a nuclear facility. The advantages of radiological or nuclear weapons are that the materials are available, cause devastating effects and a great psychological impact on the population. The disadvantages include delayed effects, hazardous deployment for the terrorists, and extreme expense – in the millions of dollars for a nuclear weapon. Radiation cannot be detected by human senses. Consequences may include death, severe health risks to the public, damage to the environment, and extraordinary loss of, or damage to, property. The health effects of radiological or nuclear materials include radiation burns, fragmentation wounds, acute radiological poisoning, and long term effects, such as cancers and birth defects.
- **Explosives:** Explosive weapons are most terrorist's weapon of choice. 86% of domestic terrorist incidents involve the use of explosives. Explosives are readily available and have dramatic results, are low risk, require few skills to build and use, are easy to execute, allow for remote attacks, and don't require many people to execute. There are low explosives and high explosives. The effects include blast pressure, both positive and negative, fragmentation, and thermal. There are pipe bombs or bombs that can be easily concealed into a backpack, box, vehicles, or virtually any type of container with numerous trigger mechanisms to set off the bomb. Bombings account for up to 50% of worldwide terrorist attack patterns.
- **Cyber-terrorism:** According to the FBI, cyber terrorism is any "premeditated, politically motivated attack against information, computer systems, computer programs, and data which results in violence against non-combatant targets by sub-national groups or clandestine agents." As nations and critical infrastructure became more dependent on computer networks for their operations, new vulnerabilities are created. A cyber terrorist attack is designed to cause physical violence or extreme financial harm. Possible cyber terrorist targets include the banking industry, military installations, power plants, air traffic control centers, and water systems, but could be against any facility that relies on computers, computer systems and programs for their operations.



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**Location:** There is a wide range of motivations for terrorist attacks. They can be for or against almost any issue, religious belief, political position, or group of people of one national origin. Because of the tremendous variety of causes supported by terrorists and the wide variety of potential targets, there is no place that is truly safe from terrorism. Primary locations likely to be targets include airports, mass transit, government facilities, and high population density locations, although so-called “soft targets” such as schools, local entertainment facilities, etc., are also at risk. The County is home to power plants, water utilities, agriculture, rail stations, colleges, and chemical manufacturers, all of which could be a target for terrorism. The potential for nuclear, biological or chemical terrorism is also a concern. The entire State is considered at risk for a nuclear event. These types of emergencies would be devastating to any community and necessitate detailed contingency planning and preparation of emergency responders prior to such an attack.

**History:** The County has not had a terrorist attack.

**Extent:** As outlined in the 2010 National Security Strategy, there is no greater danger to the U.S. than a terrorist attack with a weapon of mass destruction. Terrorist acts may cause casualties, extensive property damage, fires, flooding, and other subsequent hazards. Incidents generating significant mass casualties make preparedness and the mechanisms for effective response essential. In addition to large-scale attacks, a full range of terrorism tactics must be considered, including simple bombings, chemical or biological incidents, explosions and cyber-attacks, bomb threats, and the use of radiological and nuclear materials. Use of explosive devices remains the weapon of choice for terrorist activity. The possibility exists that a terrorist organization might acquire the capability of creating a small nuclear detonation. A single nuclear detonation in the U.S. would likely produce fallout affecting an area many times greater than that of the blast itself.

The damage caused by a terror attack is dependent on the method of attack. Large bomb attacks could destroy major infrastructure, kill many people and disrupt regional functioning for a significant time. Cyber-terrorism would cause very different types of damage, possibly severely hampering local government operations and local business with no direct injuries or loss of life. In addition to direct physical damage, terrorist attacks breed fear. Even an unsuccessful attempt to attack the region would seriously impact the comfort level of residents and could affect local business.

Terrorism cannot be forecast with any accuracy. Therefore, the potential exists for most, if not all, types of terrorist acts to occur anywhere and at any time. Terrorism can strike not just large cities, but in any community of any size. It is not possible to estimate the probability of a terrorist attack. The approach experts use to prioritize mitigation and preparedness efforts is to identify critical sites and assess the vulnerability of these sites to terrorist attack. Vulnerability of these sites is determined subjectively by considering factors such as visibility (e.g., does the public know this facility exists in this location?), accessibility (e.g., is it easy for the public to access this site?) and occupancy (e.g., is there a potential for mass casualties at this site?).

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Buildings and other structures constructed to resist earthquakes and fires usually have qualities that also limit damage from blasts and resist fire spread and spread of noxious fumes. Efforts to retrofit buildings to resist earthquakes often provide cost-effective opportunities to incorporate measures to mitigate against attacks using bombs, chemical and biological agents.

**Probability:** While terrorism is a serious concern, there is a low probability of a terrorist event in the County due to its low population density and distance from the larger metropolitan areas of San Francisco and Los Angeles.

### 5.2.16 Fog

**Nature:** Fog is defined by the NWS as water droplets suspended in the air at the Earth's surface. Fog is often hazardous when the visibility is reduced to ¼ mile or less. Fog can be considered as a cloud that forms at ground level. Similar to clouds, fog is made up of condensed water droplets which are formed as the result of air being cooled to the dew point. The dew point is the temperature to which air must be cooled in order for water vapor in the air to condense to liquid water.

In California's Central Valley, a type of fog known as Tule fog is common. Tule fog is defined by the NWS as "radiation fog<sup>11</sup> in the Central Valley of California. It forms during night and morning hours in late fall and early winter months following the first significant rainfall." Thus, Tule fog tends to form at night during California's rainy season, roughly between November 1 and March 31. The fog is formed when cold air from the Sierra Nevada flows into the Central Valley at night and is unable to escape the valley due to the coastal ranges to the west. Higher pressure air from above the mountaintops presses down on the colder, denser air, resulting in the fog.

The NWS notes that Tule fog is a leading cause of weather-related accidental death in California. The fog can last for days or weeks, until it is dispersed by turbulent air. Visibility under Tule fog can be reduced to near zero. Tule fog may also cause a light drizzle. During cold months, this drizzle may freeze, causing conditions to become even more dangerous on roadways.

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<sup>11</sup> NWS: Radiation fog is a very common type of fog throughout the United States. It is most prevalent during the fall and winter. It forms overnight as the air near the ground cools and stabilizes. When this cooling causes the air to reach saturation, fog will form.

**Figure 5-5: Tule fog**



**History:** A number of fog-related accidents have occurred in the County due to the reduction in visibility and slowing of traffic during fog. According to data from the California Highway Patrol, 180 fog-related collisions occurred on Highway 99 in the County between 1997 and 2008, resulting in 4 deaths and 129 persons injured. One of the worst fog-related accidents occurred on November 14, 1998, when a number of vehicles were traveling too fast under poor visibility conditions on Highway 99, approximately two miles southeast of Kingsburg in the County. A series of chain-reaction accidents involved 74 vehicles, including 19 tractor-trailer rigs. Over 132 people were involved in the accident, and there were two fatalities and 51 injuries.

On December 10, 2008, another fog-related accident occurred on Highway 99. Thick fog caused 60 vehicles to collide in a string of accidents near Visalia. The California Highway Patrol indicated that there were more than four separate accidents, involving 56 cars and 4 big rigs. However, no serious injuries occurred. Traffic was diverted for nearly two hours after parts of Highway 99 were closed. Other large scale vehicle accidents due to heavy fog have occurred in the vicinity of the County. On November 3, 2007, heavy fog caused a massive pile-up that included over ten passenger vehicles and nine big rig trucks on Highway 99 between Fowler and Fresno, which is north of the County. There were 2 fatalities and 39 injuries resulted from the crash.

More recently, a medical transport van collided with a big rig just after 9 a.m. on January 28, 2016 at Road 44 and Paige Avenue. Investigators stated the van pulled in front of a big rig truck causing the collision.

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They said the area was extremely foggy at the time. One person died and several others suffered minor injuries requiring transport to local hospitals.

**Location:** Tule fog is known to occur regularly in the western portion of the County; this includes all cities in the County as well as near the facilities of TCOE. Areas most susceptible in within the County are low elevations, specifically below 200 meters (656 feet).

**Extent:** Tule fog may occur throughout low elevations within the County. Areas of fog vary from small patches to many square miles. Fog patterns shift rapidly as wind and temperatures vary. Predicting exact locations and density of fog is not feasible.

**Probability of Future Events:** Tule fog is a continual occurrence in the County and is not expected to cease. As noted above, Tule fog tends to form at night during the rainy season, roughly between November 1 and March 31. It is highly likely a severe weather fog event will occur within the County within the calendar year (a one in one year chance of occurring -  $1/1 = 100\%$ ). History of events is greater than 50% likely per year.

### 5.3 Risk Assessment

A risk assessment involves evaluating vulnerable assets, describing potential impacts, and estimating losses for each hazard. The intention of a risk assessment is to help the community understand the greatest risks facing the County. The risk assessment defines and quantifies vulnerable populations, buildings, critical facilities, and other assets at risk from hazards, and is based on the best available data and the significance of the hazard. The risk assessment further examines the impact of the identified hazards on the County, determines which areas of the County are most vulnerable to each hazard, and estimates potential losses to County facilities for each hazard.

#### 5.3.1 Hazard Risk Rating

For the 2017 MJLHMP the risk for each hazard was rated using the Calculated Priority Risk Index (CPRI). The CPRI examines four criteria for each hazard (probability, magnitude/severity, warning time, and duration) as seen on **Table 5-12**. For each hazard, an index value is assigned for each CPRI category from 0 to 4 with 0 being the least hazardous and 4 being the most hazardous situation. This value is then assigned a weighting factor and the result is a hazard ranking score, **Table 5-13**.

CPRI Category	Table 5-12: Calculated Priority Risk Index (CPRI)			Assigned Weight
	Degree of Risk Chart			
	Level ID	Description	Index Value	
Probability	Unlikely	Extremely rare with no documented history of occurrences or events. Annual probability of less than 0.001.	1	45%
	Possible	Rare occurrences with at least one documented or anecdotal historic event. Annual probability of	2	

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CPRI Category	Table 5-12: Calculated Priority Risk Index (CPRI)			Assigned Weight
	Degree of Risk Chart			
	Level ID	Description	Index Value	
		between 0.01 and 0.001.		
	Likely	Occasional occurrence with at least two or more documented historic events. Annual probability of between 0.1 and 0.01.	3	
	Highly Likely	Frequent events with a well-documented history of occurrence. Annual probability of greater than 0.1.	4	
Magnitude-Severity	Negligible	Negligible property damages (less than 5% of critical and non-critical facilities and infrastructure). Injuries or illnesses are treatable with first aid and there are no deaths. Negligible quality of life lost. Shut down of critical facilities for less than 24 hours.	1	30%
	Limited	Slight property damages (greater than 5% and less than 25% of critical and non-critical facilities and infrastructure). Injuries and illnesses do not result in permanent disability and there are no deaths. Moderate quality of life lost. Shut down of critical facilities for more than 1 day and less than 1 week.	2	
	Critical	Moderate property damages (greater than 25% and less than 50% of critical and non-critical facilities and infrastructures). Injuries or illnesses result in permanent disability and at least one death. Shut down of critical facilities for more than 1 week and less than 1 month.	3	
	Catastrophic	Severe property damages (greater than 50% of critical and non-critical facilities and infrastructure). Injuries or illnesses result in permanent disability and multiple deaths. Shut down of critical facilities for more than 1 month.	4	
Warning Time	< than 6 hours	Population receives less than 6 hours of warning.	4	15%
	6 to 12 hours	Population receives between 6-12 hours of warning.	3	
	12 to 24 hours	Population receives between 12-24 hours of warning.	2	
	> than 24 hours	Population receives greater than 24 hours of warning.	1	
Duration	< than 6 hours	Disaster event will last less than 6 hours.	1	10%
	6 to 24 hours	Disaster event will last between 6-24 hours.	2	
	24 hrs. to 1 week	Disaster event will last between 24 hours and 1 week.	3	
	> than 1 week	Disaster event will last more than 1 week.	4	

**Table 5-13: CPRI Summary**

Hazard	Probability	Weighted 45%	Magnitude Severity	Weighted 30%	Warning Time	Weighted 15%	Duration	Weighted 10%	CPRI Ranking
Civil Disturbance	1	.45	3	.6	2	.3	1	.1	<b>1.45</b>
Climate Change	4	1.8	3	.9	1	.15	4	.4	<b>3.25</b>
Dam Failure	1	.45	4	1.2	4	.6	4	.4	<b>2.65</b>
Drought	3	1.35	2	.6	1	.15	4	.4	<b>2.40</b>
Earthquake	3	1.35	2	.6	4	.6	4	.4	<b>2.95</b>
Energy Emergency	1	.45	2	.6	4	.6	2	.2	<b>1.85</b>
Extreme Heat	4	1.8	3	.9	2	.3	3	.3	<b>3.30</b>
Fire	4	1.8	2	.6	4	.6	3	.3	<b>3.30</b>
Flood	4	1.8	3	.9	2	.3	4	.4	<b>3.40</b>
HAZMAT	4	1.8	1	.3	4	.6	2	.2	<b>2.90</b>
Landslides/Mudslides/Debris Flows	2	.9	3	.9	4	.6	1	.2	<b>2.60</b>
Levee Failure	1	.45	2	.6	2	.3	3	.3	<b>1.64</b>
Pandemic	2	.9	4	1.2	1	.15	4	.40	<b>2.65</b>
Severe Winter Storm/High Winds	3	1.35	2	.6	1	.15	3	.3	<b>2.40</b>
Terrorism	1	.45	3	.3	4	.6	1	.1	<b>1.45</b>
Fog	4	1.8	3	.9	3	.45	2	.2	<b>3.35</b>

**CPRI Hazard Risk Scoring**

Risk Level	Severe	High	Moderate	Low
Rank Score	4	3 – 3.9	2 – 2.9	1 – 1.9

### 5.3.2 Populations and Businesses at Risk

#### Vulnerabilities and Potential Losses:

A risk assessment determines the vulnerability of assets within the County by evaluating the inventory of existing property and the population exposed to a hazard. A quantitative vulnerability assessment is limited to the exposure buildings, and infrastructures to the identified hazards. This risk assessment includes only those hazards that are natural.

#### Populations and Businesses at Risk

Residential population data for the City was obtained from the State of California Department of Finance E-1 Population Estimates for Cities, Counties, and the State—January 1, 2016/2017. The population is estimated to be 460,437 in an area of 4,839 square miles. The estimate is 147,518 residential units with a 2016 median value of \$169,600. The most common employment sectors for those who live in the County are agriculture, retail trade, manufacturing, government and manufacturing.

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### **Economic Risks**

The County's economy is based on agriculture, especially dairy production, grapes, olives, cotton, citrus and nursery products. The area is regarded as one of the most productive agricultural regions in the nation. Livestock is also a significant element of the economy.

The dairy industry, with sales of milk products, brings in the most revenue for the county, typically more than \$1 billion a year annually. Oranges, grapes, and cattle-related commodities also earn hundreds of millions of dollars annually. In 2001, Tulare became the most productive county in the U.S. in terms of agricultural revenues, at US \$3.5 billion annually.

The greatest vulnerability to the County's economy is hazards that affect agricultural production. While the economic impacts of any single, specific, future incident are impossible to know, climate change, dam inundation, drought and animal or plant sickness caused by vector borne disease have the potential to result in billions of dollars of economics losses.

### **Top employers**

Agriculture is the top employer in the County with nearly 20 percent of the work force engaged in food production or other farm related jobs. The largest employers are listed below:

County of Tulare	4,320
Porterville Developmental Center	3,000
Kaweah Delta Medical Center	2,000
Ruiz Foods	1,800
Wal-Mart	1,692
College of the Sequoias	1,160
Cigna	900
Jostens	720
Land O'Lakes	600
Monrovia Nursery	600

### **Vulnerability and Potential Losses**

FEMA requires that an estimation of loss be conducted for the identified hazards to include the number of potential structures impacted by the hazards and the total potential costs. The analysis of potential losses calculated in **Table 5-13** used the best data currently available to produce an understanding of potential losses. These estimates may be used to understand relative risk from hazards and potential losses. There are uncertainties in any loss estimation method, resulting from lack of scientific study and the exact result of hazard effects on the built environment, and from the use of approximations that are necessary for a comprehensive analysis.

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<b>Table 5-13: Summary of Vulnerabilities and Potential Loss</b>	
<b>Hazard Type</b>	<b>Impacts/Costs</b>
Climate Change	<p><u>Impacts:</u> Climate change will cause multiple effects to infrastructure and community public health. Warmer weather associated with climate change will result in more heat related illness. Drier weather will place increasing demands on imported and well water, and may lead to long lasting draughts that result in water rationing.</p> <p><u>Costs:</u> Climate change costs are difficult to specify. They will occur and accrue over centuries. As temperatures rise, additional costs for climate control such as air conditioning will occur. Less precipitation may result in depletion of stored and ground water reserves with potential for increased water costs and rationing. Much of these costs will be borne by individuals and families. Increased costs will also affect businesses and government owned facilities. Researchers at UC Berkeley (Science, May 2017) concluded that for every 1-degree Fahrenheit increase in global temperatures, the U.S. economy stands to lose about 0.7 percent of its Gross Domestic Product, with each degree of warming costing more than the last.</p>
Dam Inundation	<p><u>Impacts:</u> Dam inundation is a particularly extensive hazard to the City. Both Terminus and Success Dams may inundate Tulare resulting in an overall potential inundation area of the entire City.</p> <p><u>Costs:</u> A rapid failure of Success or Terminus Dam would result in catastrophic loss of life and injury, and property loss. Map B-6 depicts the potential footprint for dam inundation. Specifics of the inundation curves are contained in the Dam Emergency Action Plans which are a limited distribution documents. The potential injury and death from a short notice dam failure could be in the 10,000s. Total losses within the Visalia jurisdiction could exceed \$6,000,000,000.</p>
Drought	<p><u>Impacts:</u> Drought produces a variety of impacts that span many sectors of the economy. Reduced crops productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality; and rationing are a few examples of direct impacts. These problems can result in increased prices for food and lumber, unemployment, reduced tax revenues, increased crime, and foreclosures on bank loans to farmers and businesses, and migration. Populations that rely on or are affected by a lack of water or annual rainfall are most directly affected by droughts. The City is dependent on imported water for most of its needs. During prolonged draughts, water rationing is possible resulting in potentially higher water costs and loss of private and public landscaping.</p> <p><u>Costs:</u> Potential costs from draught to the County and its communities are difficult to quantify and are dependent upon draught duration and severity. In addition to increased costs for water, prolonged draught may result in reduced property values, loss of tax revenues and migration, all of which will cause economic losses.</p>
Earthquake	<p><u>Impacts:</u> The County is not in a high hazard area for earthquakes. Impacts from previous earthquakes have been minimal with little damage of injuries.</p> <p><u>Costs:</u> Potential direct costs from earthquakes are likely to be small. Second order affects such as supporting displaced populations from more vulnerable regions, disruption to fuel products and loss of ability to ship agricultural products could result in substantial economic losses.</p>
Extreme Heat	<p><u>Impacts:</u> Extreme heat events, present serious health risks to the County's most vulnerable populations. The effects of extreme heat (over 84°F) on human health are well documented. Increased temperature or extended periods of elevated temperatures can increase heat-related mortality, cardiovascular-related mortality, respiratory mortality, and heart attacks, while increasing hospital admissions and emergency room visits. Extreme heat can also affect a person's ability to 94hermos-regulate, causing heat stress and sometimes leading to death.</p>



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	<p><u>Costs:</u> Extreme heat results in increased electricity usage and additional health care costs. While additional power costs affect both commercial and residential properties, added health care costs impact individuals and families. Extreme heat may reduce economic activity if prolonged.</p>
Fire	<p><u>Impacts:</u> Structures near the urban/wildland interface are susceptible to wildland fire. Impacts on low density communities are limited. A map of wildland fire vulnerabilities is contained in <b>Figure B-4</b>.</p> <p><u>Costs:</u> Costs to the County will include emergency response and damage to private property. Total costs are likely to be less than \$50,000,000.</p>
Flood	<p><u>Impacts:</u> Flooding occurs in the County during periods of heavy rain due to inadequate drainage. The flat geography also contributes to ponding. A map of potential flooding vulnerabilities is contained in <b>Figure B-5</b>.</p> <p><u>Costs:</u> There are no accurate costs values associated with past flood events. Future flood incidents will likely result in structural damage and lost economic activity. Flood cost could be in excess of \$2,000,000,000.</p>
Fog	<p><u>Impacts:</u> The NWS notes that Tule fog is a leading cause of weather-related accidental death in California. The fog can last for days or weeks, until it is dispersed by turbulent air. Visibility under Tule fog can be reduced to near zero. Tule fog may also cause a light drizzle. During cold months, this drizzle may freeze, causing conditions to become even more dangerous on roadways.</p> <p><u>Costs:</u> Costs associated with fog are difficult to quantify. While most of the County's infrastructure is subject to fog, damage seldom occurs. Vehicle accidents resulting from fog may result in injury and death, and property damage. Economic activity may be reduced slightly due to fog. Total costs are likely to be less than \$10,000,000 per year.</p>
Landslides, Mudslides and Debris Flows	<p><u>Impacts:</u> No major landslides, mudslides or debris flows have been recorded in the populated portions of the County.</p> <p><u>Costs:</u> County owned roads at higher elevations are susceptible to landslides. Costs under \$1,000,000 could result from damage to or debris on County roads.</p>
Pandemic and Vector Born Disease	<p><u>Impacts:</u> A novel strain of influenza has the potential to cause illness in a very large number of people, overwhelming the health care system throughout the nation. A pandemic outbreak could also jeopardize essential community services by causing high levels of absenteeism in critical positions in every workforce. Basic services, such as health care, law enforcement, fire, emergency response, communications, transportation, and utilities could be disrupted during a pandemic. Finally, a pandemic, unlike many other emergency events, will last for months rather than days or weeks, disrupting supply chains for essential items such as food, water, and other essential provisions.</p> <p><u>Costs:</u> The human costs associated with a pandemic may be catastrophic. Up to 30 percent of the County's population may become ill with a large portion requiring hospitalization. Fatalities may exceed 1,000. The economic costs could easily be more than \$1,000,000,000 due to decreased commercial activity such as business shutdowns, loss of employee workdays and social isolation practices. Agriculture losses would be a large part of the economic loss due to lack of farm workers to sow and harvest crops, and manufacture food products. Significant disruptions to normal activity in all communities is a likely outcome.</p>
Severe Winter Storms/High Winds	<p><u>Impacts:</u> Winter storms and high winds typically occur at higher elevation which are sparsely populated. The Tule River Tribe is the community most impacted by this hazard. Property damage is slight in most cases. Road closures may occur with resulting needs for snow removal.</p> <p><u>Costs:</u> Financial costs due to winter storms and high winds are likely to be low for County communities. Most of the roads at higher elevations are the responsibility of Caltrans for snow removal. Short term disruption to traffic may cause short duration economic disruptions to small hill and mountain towns. Costs per year are likely to be less than \$5,000,000.</p>

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Based upon previously occurring incidents and the risk assessment, the following hazards are most likely to affect Visalia:

- Climate Change
- Dam Inundation
- Drought
- Extreme heat
- Flood

These hazards which may impact agriculture, the economic driver of the city, represent critical vulnerabilities. In addition, these are hazards that represent vulnerabilities to infrastructure.

## 6. Mitigation & Adaptation Strategy

The Federal regulations require local mitigation plans to identify goals for reducing long-term vulnerabilities to the identified hazards in the planning area (Section 201.6(c)(3)(i)).

### FEMA REGULATION CHECKLIST: CAPABILITY ASSESSMENT

**44 CFR § 201.6(c)(3):** – The plan must include mitigation strategies based on the jurisdiction's "existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools."

#### Elements

**C1.** Does the plan document the jurisdiction's existing authorities, policies, programs and resources, and its ability to expand on and improve these existing policies and programs? 44 CFR § 201.6(c)(3).

**C2.** Does the Plan address the jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? 44 CFR § 201.6(c)(3)(ii).

**C3.** Does the Plan include goals to reduce or avoid long-term vulnerabilities to identified hazards? 44 CFR § 201.6(c)(3)(i).

**C4.** Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for the jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? See 44 CFR § 201.6(c)(3)(ii).

**C5.** Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost-benefit review), implemented, and administered by the jurisdiction? 44 CFR § 201.6(c)(3)(iii).

**C6.** Does the plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate?

Source: FEMA, *Local Mitigation Planning Handbook Review Tool*, March 2013.

A hazard mitigation plan's primary focus is the mitigation strategy. It represents the efforts selected by the County to reduce or prevent losses resulting from the hazards identified in the risk assessment. The strategy includes mitigation actions and projects to address the risk and vulnerabilities discovered in the risk assessment. The mitigation strategy consists of the following steps:

- Identify and profile hazards and risk within the County.
- Identify projects and activities that can prevent or mitigate damage and injury to the population and buildings.
- Develop a mitigation strategy to implement the mitigation actions.
- Develop an action plan to prioritize, implement, and administer the mitigation actions.
- Implement the MJLHMP mitigation action plan.

A capability assessment was conducted of County and participating jurisdictions' authorities, policies, programs, and resources. From the assessment, goals and mitigation actions were developed. The planning team also developed a plan to prioritize, implement, and administer the mitigation actions to

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reduce risk to existing buildings and new development. This section also includes information regarding County's implementation of and continued participation in the National Flood Insurance Program (NFIP).

### 6.1 Introduction, Mission Statement

The 2017 MJLHMP represents the County's commitment to create a safer, more resilient community by taking actions to reduce risk and by committing resources to lessen the effects of hazards on the people and property of the County.

### 6.2 Mitigation Goals and Actions

Mitigation goals are guidelines that represent what the community wants to accomplish through the mitigation plan. Goals are broad statements that represent a long-term, community-wide vision. The planning team reviewed example goals and objectives, and determined which goals best met the County's objectives for mitigation. In addition to the overarching hazard mitigation goals, the County worked with CAL FIRE to develop the strategies in alignment with the County General Plan Health and Safety Element. The goals align with the hazards in the 2016 General Plan and reflect input provided by stakeholders and the public. **Table 6-1** lists the goals for the 2017 MJLHMP.

<b>Table 6-1 Hazard Mitigation Goals</b>
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.

Many of the County's mitigation strategies from the 2011 HMP are still relevant to this update. **Table 6-2** contains an updated set of potential future County-specific mitigation actions. Mitigation actions were derived from numerous sources including the General Plan, the Climate Action Plan and input from the public and stakeholders. The County shall strive to implement these mitigation actions as determined to be economically and technically feasible under current regulations and fiscal constraints. Applicable hazards codes are:

CD – Civil Disturbance  
 CC – Climate Change  
 DF – Dam Failure  
 EQ – Earthquake  
 EN – Energy Emergency  
 EH – Extreme Heat  
 FR – Fire  
 FL – Flood  
 FG – Fog

HZ – Hazardous Materials  
 LS – Landslides/Mudslides/Debris Flows  
 LF – Levee Failure  
 PD – Pandemics and Vector Borne Disease  
 SW – Storms and High Winds  
 TR – Terrorism  
 Mit. – Mitigation  
 Prep. – Preparedness  
 Res. – Response

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<b>Table 6-2: County-Specific Actions and Applicable Hazards</b>				
<b>Goal</b>	<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
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.	All	Mit.
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.	All	Mit.
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.	All	Mit.
1	1-4	Continue to designate areas with a potential for significant hazardous conditions for open space, agriculture, and other appropriate low intensity uses.	All	Mit.
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).	All	Mit.
1	1-6	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.	FR	Mit.
1	1-7	Continue to evaluate areas to determine levels of earthquake risk.	EQ	Mit.
1	1-8	Continue to discourage construction and grading on slopes in excess of 30%	EQ, FR, LS	Mit.
1	1-9	Request Federal and State financial assistance to implement corrective seismic safety measures required for existing County buildings and structures.	EQ	Mit

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<b>Table 6-2: County-Specific Actions and Applicable Hazards</b>				
<b>Goal</b>	<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
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.	EQ	Mit.
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.	All	Mit.
1	1-12	Encourage and support the development of new agricultural related industries featuring alternative energy, utilization of agricultural waste, and solar or wind farms.	CC, DR, EH, EN	Mit.
1	1-13	Continue to 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.	FL	Mit.
1	1-14	Continue to ensure that development in high or very 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.	FR	Mit.
1	1-15	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 very high fire hazard severity zones or state responsibility area by fire hazard zone designation. Identify plans and actions to improve substandard housing structures and neighborhoods.	FR	Mit.

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<b>Table 6-2: County-Specific Actions and Applicable Hazards</b>				
<b>Goal</b>	<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
1	1-16	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.	FR	Mit.
1	1-17	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.	FR	Mit.
1	1-18	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.	FR	Mit.
1	1-19	Incorporate native species habitat needs as part of long term fire protection and fire restoration plans.	FR	Mit.
1	1-20	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.	FR	Mit.
1	1-21	Develop dead tree removal projects that are actionable based on available resources, rules, regulatory approvals and available funding.	FR	Mit.
1	1-22	Create an inventory of levees and their conditions in Tulare County.	FL, LF	Mit.
1	1-23	Acquire, relocate, or elevate residential structures, in particular those that have been identified as Repetitive Loss (RL) properties that are located within the 100-year floodplain.	FL	Mit.

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<b>Table 6-2: County-Specific Actions and Applicable Hazards</b>				
<b>Goal</b>	<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
1	1-24	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	FL	
1	1-25	Wherever practical reinforce County and local ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building higher bridges across the area that experiences regular flooding.	FL	Mit.
1	1-26	Work with FEMA Region IX to address any floodplain management issues that may have arisen/arise from the countywide DFIRM, Community Assessment Visits, and/or the DWR.	FL, DF	Mit.
1	1-27	Increase participation in the NFIP by entering the Community Rating System program which through enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	FL	Mit.
1	1-28	Provide flood protection for the County's Juvenile Detention Facility and Records Storage Facility located north of Avenue 368.	FL	Mit.
1	1-29	Construct 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.	FL, DR	Mit.
1	1-30	Complete the Yettem Button ditch project by 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.	FL, DR	Mit.
1	1-31	Contract and proceed with preparation of the Flood Control Master Plan Update for the Fresno-Tulare Unit.	FL, DF	Mit.



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<b>Table 6-2: County-Specific Actions and Applicable Hazards</b>				
<b>Goal</b>	<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
1	1-32	Continue to conduct annual retention basin maintenance that includes weed abatement, fence repair, and drainage inlet flushing.	FL	Mit.
1	1-33	Inspect and cycle County flood control pumps annually to ensure functionality. Clear shrubs and debris in proximity to the basins and channels of the pumps to minimize potential blockage during operation. If required, contract with local pump repair contractors to service the equipment.	FL	Mit.
1	1-34	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.	FL	Mit.
1	1-35	Continue to participate in the NFIP.	FL	Mit.
1	1-36	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.	FL, DR, DF	Mit.
1	1-37	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.	HZ	Mit.

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<b>Table 6-2: County-Specific Actions and Applicable Hazards</b>				
<b>Goal</b>	<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
1	1-38	Continue to cooperate with the California Highway Patrol to establish procedures for the movement of hazardous wastes and explosives within the County.	HZ	Mit.
1	1-39	Implement post-fire debris flow hill-slope and channel treatments, such as seeding, mulching, check dams, and debris racks, as needed.	LS	Mit.
1	1-40	Manage vegetation in areas within and adjacent to rights of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid creation of wind acceleration corridors within vegetated areas.	WS	Mit.
1	1-41	Develop free annual tree chipping and tree pick-up days that encourages residents living in wind hazard areas to manage trees and shrubs at risk of falling on nearby structures.	WS	Mit.
1	1-42	Bolt down the roofs of critical facilities in wind gust hazard areas in order to prevent wind damage.	WS	Mit
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.	All	Prep.
1	1-44	Reinforce County and local ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	FL	Mit.
1	1-45	Design and construct a permanent solution to flooding east of Friant Kern Canal in Strathmore.	FL	Mit.
1	1-46	Design and construct a permanent solution to protect M137(Reservation Road) from flooding.	FL	Mit.

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<b>Table 6-2: County-Specific Actions and Applicable Hazards</b>				
<b>Goal</b>	<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
1	1-47	Restore Cottonwood creek back to natural flow path, protect Road 108 and provide additional impoundment.	FL	Mit.
1	1-48	Conduct a hydrological survey/study to investigate potential flooding issues due to ground subsidence caused by use of groundwater without replenishment. Create a data base for future land planning use.	CC, FL	Mit.
1	1-49	Identify and implement strategies that result in promoting stormwater management through groundwater recharge projects.	CC, FL	Mit.
1	1-50	Develop a program to identify, prioritize, fund and develop designs to replace functionally obsolete bridges.	FL	Mit.
1	1-51	Develop a program to identify, prioritize, fund and develop designs to replace structurally obsolete bridges.	FL	Mit.
1	1-52	Design and construct a bridge structure on Road 184 (btw A24-A32) on the White River.	FL	Mit.
1	1-53	Design and construct a bridge structure on R156 (btw A32-A40) on White River.	FL	Mit.
1	1-54	Design and construct a bridge structure on R88 (btw A56-A84) on Deer Creek.	FL	Mit.
1	1-55	Identify, prioritize, fund and develop permanent solutions for low water crossings throughout the County.	FL	Mit.
1	1-56	Engage the entire community and develop a County-wide drought response plan to respond to period of prolonged dry weather.	CC, DR, FR	Prep.
1	1-57	Identify potential problem areas, and develop and implement a plan to address potential groundwater contamination issues in small water systems.	HZ	Mit.
1	1-58	Develop transportation plans and projects that support providing adequate vehicular access to the southwest corner of the County after High Speed Rail is constructed.	FL	Mit.

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<b>Table 6-2: County-Specific Actions and Applicable Hazards</b>				
<b>Goal</b>	<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
1	1-59	Develop and implement a program to address potential channel capacity loss, potential flooding issues, and bridge clearance issues resulting from subsidence on the Friant Kern Canal	FL	Mit.
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.	EQ	Mit.
1	1-61	Identify at risk structures and reinforce County and local ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	FL	Mit.
1	1-62	Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid creation of wind acceleration corridors within vegetated areas.	WS	Mit.
1	1-63	Implement a fuel reduction program, such as the collection and disposal of dead fuel, within open spaces and around critical facilities and residential structures located within a high and very high wildfire zones.	FR	Mit.
1	1-64	Develop a Debris Management Plan.	FL, FR, WS	Mit.
1	1-65	Develop a County-wide Storm Water Resources Plan.	DR, CC, FL	Mit.
1	1-66	Develop and implement programs and policies to protect and enhance surface water and groundwater resources critical to human consumption.	DR, CC, FL	Mit.
1	1-67	Develop groundwater recharge projects to promote groundwater sustainability, and mitigate and recover from the effects of prolonged drought.	CC, DR, FL	Mit

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<b>Table 6-2: County-Specific Actions and Applicable Hazards</b>				
<b>Goal</b>	<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
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.	EQ, FL, FR, DF	Mit.
2	2-2	Develop a public outreach program that informs property owners located in the dam or levee inundation areas about voluntary flood insurance.	FL, DF, LF	Mit.
2	2-3	Promote public safety programs, including neighborhood watch programs, child identification and fingerprinting, public awareness and prevention of fire hazards, public health and other public education efforts.	CD, TR, PD	Mit.
2	2-4	Develop and implement a County-wide program to promote water use understanding and water conservation.	CC	Mit.
3	3-1	Conduct site investigations in areas planned for new development to determine susceptibility to landslides, subsidence/settlement, contamination, and/or flooding.	CC, FL, HZ, LS,	Mit.
3	3-2	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.	CC	Mit.
3	3-3	Consider developing an Agricultural Conservation Easement Program to help protect and preserve agricultural lands (including Important Farmlands), as defined in the General Plan Safety 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.	CC	Mit.
3	3-4	Seek to protect and enhance surface water and groundwater resources critical to agriculture.	CC	Mit.

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<b>Table 6-2: County-Specific Actions and Applicable Hazards</b>				
<b>Goal</b>	<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
3	3-5	Identify opportunities for infill development projects near employment areas within all unincorporated communities to reduce vehicle trips.	CC	Mit.
3	3-6	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 where economically feasible.	CC	Mit.
3	3-7	Review Leadership in Energy and Environmental Design (LEED) and LEED-neighborhood development certification requirements and develop an implementation program.	CC, EN	Mit.
3	3-8	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.	CC	Mit.
3	3-9	Encourage new streets 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: <ul style="list-style-type: none"> <li>• Street tree planting adjacent to curbs and between the street and sidewalk to provide a buffer between pedestrians and automobiles, where appropriate</li> <li>• Minimize curb cuts along streets</li> <li>• Sidewalks on both sides of streets, where feasible</li> <li>• Bike lanes and walking paths, where feasible on collectors and arterials</li> </ul>	CC	Mit.
3	3-10	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 paths to schools.	CC	Mit.
3	3-11	Work to comprehensively study methods of transportation, which may contribute to a reduction in air pollution in Tulare County.	CC	Mit.

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<b>Table 6-2: County-Specific Actions and Applicable Hazards</b>				
<b>Goal</b>	<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
3	3-12	Encourage all new development, including rehabilitation, renovation, and redevelopment, to incorporate energy conservation and green building practices to maximum extent feasible. Such practices include building orientation and shading, landscaping, and the use of active and passive solar heating and water systems.	CC	Mit
4	4-1	Coordinate with cities to develop cohesive fire safety plans with overlapping coverage.	FR	Mit.
4	4-2	Work with local and Federal agencies to support efforts to reduce fuel related hazards on public lands.	FR	Mit.
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.	All	Resp.
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.	All	Resp.
4	4-5	Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about severe valley fog and extreme heat conditions.	FG, EH	Resp.
4	4-6	Increase participation in the National Flood Insurance Program (NFIP) by entering the Community Rating System program which through enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	FL	Mit.
5	5-1	Use Geographic Information Systems (GIS) technology to track fire and law enforcement response times and provide technical assistance to fire and law enforcement agencies.	FR, TR, CD	Mit.

**Table 6-2: County-Specific Actions and Applicable Hazards**

Goal	Strategy Number	Mitigation Strategy	Applicable Hazards	Mitigation Type
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.	All	Mit.
5	5-3	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, ensure that such facilities are located within reasonable distance of fire and law enforcement stations	FR	Mit.
5	5-4	Expand the Street Names and House Numbering Ordinance to all areas of the County, including private roads, for emergency 911 purposes.	All	Mit.

### 6.3 Mitigation Action Plan

Mitigation actions are specific activities or projects that serve to meet the goals that the community has identified. Mitigation actions and projects are more specific than goals or objectives, and often include a mechanism, such as an assigned timeframe, to measure the success and ensure the actions are accomplished. The planning team conducted a review of the mitigation actions and strategies from the 2011 HMP. With information from the risk analysis, capability assessment, and status of the actions implemented since the 2011 HMP, the planning team integrated outstanding action items with other County planning efforts to develop new mitigation actions and projects to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure. Current mitigation projects identified by the County are included in **Table 6-3**. A complete list of mitigation actions for all jurisdictions is included in individual jurisdiction annexes.

The requirements for prioritization of mitigation actions, as provided in the federal regulations implementing the Stafford Act as amended by DMA 2000, are described below.



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### FEMA REGULATION CHECKLIST: MITIGATION STRATEGY; PLAN REVIEW AND REVISION

#### Implementation of Mitigation Actions

44 CFR § 201.6(c)(3)(iii): The mitigation strategy section shall include “an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction.

Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.”

#### Element

**C5.** Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost-benefit review), implemented, and administered by the jurisdiction? 44 CFR § 201.6(c)(3)(iii)

#### Plan Review and Revision

**44 CFR § 201.6(d)(3):** “A local jurisdiction must review and revise its plan to reflect...changes in priorities...”

Based on these criteria, the County prioritized potential mitigation projects and included them in the action plan discussed below in **Table 6-3**. The mitigation action plan developed by the planning team includes the action items that the County intends to implement during the next five years, assuming funding availability. The action plan includes the implementing department, an estimate of the timeline for implementation, and potential funding sources.

The planning team does not presume the expertise to prescribe which projects will be implemented. The prioritization of projects in the MJLHMP is a means to provide a basis for implementing the mitigation strategies, but all new mitigation actions and projects will be formally prioritized and selected by the implementing department. This will accommodate the project funding, schedule of the department, staff requirements, and ability to integrate the new project into existing and ongoing projects. Departments will take into account the funding source, the cost effectiveness of the project, alternative projects, the compatibility of the new project with ongoing projects, the extent to which the project addresses the risks assessed in Section 3, and the potential of economic and social damage.

Mitigation activities identified by the County are potentially applicable for all the jurisdictions within the County. Individual, detailed jurisdiction hazard mitigation action tables are included in **Annexes A** through **I**.

#### **Prioritization**

To assist with implementing the Mitigation Action Plan, the planning team used the following ranking process to provide a method to prioritize the projects for the Mitigation Action Plan. Designations of High, Medium, and Low priorities have been assigned to each action item using the following criteria:

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- Does the action:
- Solve the problem?
  - Address vulnerability assessment?
  - Reduce the exposure or vulnerability to the highest priority hazard?
  - Address multiple hazards?
  - Offer benefits that equal or exceed costs?
  - Implement a goal, policy, or project identified in the General Plan or Capital Improvement Plan?
- Can the action:
- Be implemented with existing funds?
  - Be implemented by existing State or Federal grant programs?
  - Be completed within the five-year life cycle of the MJLHMP?
- Will the action:
- Be implemented with currently available technologies?
  - Be accepted by the community?
  - Be supported by community leaders?
  - Adversely affect segments of the population or neighborhoods?
  - Require a change in local ordinances or zoning laws?
  - Result in positive or neutral impact on the environment?
  - Comply with all local, State, and Federal environmental laws and regulations?
- Is there:
- Sufficient staffing to undertake the project?
  - Existing authority to undertake the project?

Each positive response is equal to one point. Answers to the criteria above determined the priority according to the following scale:

1–6 = Low priority

7–12 = Medium priority

13–18 = High priority

When direct benefits or grants were not available, indirect costs were analyzed through using the social, technical, administrative, political, legal, economic and environmental (STAPLEE) benefit method. **Appendix F** contains analysis of each of the mitigation activities based upon the STAPLEE method.

### ***Benefit-Cost Analysis***

Conducting benefit/cost analysis for a mitigation activity can assist the County in determining whether a project is worth undertaking now in order to avoid disaster related damages later. Cost-effectiveness analysis evaluates how to best spend a given amount of money to achieve a specific goal. Determining the economic feasibility of mitigating hazards can provide decision makers with an understanding of the potential benefits and costs of an activity as well as a basis for comparing alternative projects.

### ***Funding***

The funds required to implement the mitigation action plan will come from a variety of sources including: Federal Hazard Mitigation Grants, fares, bonds, fees and assessments, and others. Some projects are (or will be) included in capital improvement budgets, while some, especially ongoing projects, are included in department operating budgets.

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Prior to beginning a project or when Federal funding is involved, the implementing department will use a FEMA approved benefit/cost analysis approach to identify the actual costs and benefits of implementing these mitigation actions. For non-structural projects, implementing departments will use other appropriate methods to weigh the costs and benefits of each action item, and then develop a prioritized list.

### **Implementation**

Mitigation projects were assigned one of three categories as a tentative schedule for implementation: short-range, mid-range, and long-range. Implementation of short-range projects will typically begin within the next three years. Mid-range projects will require some planning and likely require funding beyond what is currently allocated to the jurisdictions' general funds. Projects in the mid-range category will generally begin implementation in the next three to five years. Long range projects will require great planning and funding, and will generally begin implementation within five years and beyond. Continuing actions are those from the previous plan that are ongoing.

<b>Table 6-3: County Hazard Mitigation Actions Implementation</b>					
<b>Project Number</b>	<b>Responsibility</b>	<b>Description</b>	<b>Priority</b>	<b>Schedule</b>	<b>Funding Source</b>
1-1	RMA	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.	Medium	Short	General Fund
1-2	RMA, OES	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.	High	Short	General Fund
1-3	RMA	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.	High	Continuing	N/A
1-4	RMA	Continue to designate areas with a potential for significant hazardous conditions for open space, agriculture, and other appropriate low intensity uses.	High	Continuing	N/A

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Project Number	Responsibility	Description	Priority	Schedule	Funding Source
1-5	RMA	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).	High	Continuing	N/A
1-6	RMA	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.	High	Continuing	N/A
1-7	RMA	Continue to evaluate areas to determine levels of earthquake risk.	Medium	Continuing	General Fund
1-8	RMA	Continue to discourage construction and grading on slopes in excess of 30%	High	Continuing	N/A
1-9	RMA	Request Federal and State financial assistance to implement corrective seismic safety measures required for existing County buildings and structures.	Medium	Continuing	N/A
1-10	RMA	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.	Medium	Continuing	N/A
1-11	RMA, TCOE	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.	High	Continuing	N/A

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Project Number	Responsibility	Description	Priority	Schedule	Funding Source
1-12	RMA, Ag	Encourage and support the development of new agricultural related industries featuring alternative energy, utilization of agricultural waste, and solar or wind farms.	High	Continuing	N/A
1-13	RMA	Continue to 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.	High	Continuing	N/A
1-14	RMA, Fire	Continue to ensure that development in high or very 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.	High	Continuing	N/A
1-15	RMA, Fire	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 very high fire hazard severity zones or state responsibility area by fire hazard zone designation. Identify plans and actions to improve substandard housing structures and neighborhoods.	Med	Short	General Fund
1-16	RMA, Fire	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.	High	Short	General Fund

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Project Number	Responsibility	Description	Priority	Schedule	Funding Source
1-17	RMA, Fire	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.	High	Short	General Fund, HMPG
1-18	Fire	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.	High	Short	General Fund, Cal Fire
1-19	RMA, Fire	Incorporate native species habitat needs as part of long term fire protection and fire restoration plans.	High	Continuing	General Fund
1-20	Fire	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.	Medium	Short	General Fund
1-21	RMA, Fire	Develop dead tree removal projects that are actionable based on available resources, rules, regulatory approvals and available funding.	Medium	Short	General Fund, State Grant
1-22	RMA	Create a database that accounts for all levees in Tulare County and their condition.	Medium	Short	General Fund
1-23	RMA	Acquire, relocate, or elevate residential structures, in particular those that have been identified as Repetitive Loss (RL) properties that are located within the 100-year floodplain.	Low	Long	General Fund
1-24	RMA	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	Medium	Long	General Fund

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Project Number	Responsibility	Description	Priority	Schedule	Funding Source
1-25	RMA	Wherever practical reinforce County and local ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building higher bridges across the area that experiences regular flooding.	High	Short	General Fund
1-26	RMA	Work with FEMA Region IX to address any floodplain management issues that may have arisen/arise from the countywide DFIRM, Community Assessment Visits, and/or the DWR.	High	Short	N/A
1-27	RMA	Increase participation in the NFIP by entering the Community Rating System program which through enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	Med	Short	N/A
1-28	RMA	Provide flood protection for the County's Juvenile Detention Facility and Records Storage Facility located north of Avenue 368.	High	Short	General Fund, HMPG
1-29	RMA	Construct 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.	High	Short	General Fund, HMPG, Flood control fund
1-30	RMA	Complete the Yette Button ditch project by obtaining flood easement rights north of the community of Yette adjacent to the Button Ditch. This will provide comparable flood protection with the added benefit of groundwater recharge.	High	Short	General Fund, HMPG, Flood control fund
1-31	RMA	Contract and proceed with preparation of the Flood Control Master Plan Update for the Fresno-Tulare Unit.	Med	Short	General Fund

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Project Number	Responsibility	Description	Priority	Schedule	Funding Source
1-32	RMA	Continue to conduct annual retention basin maintenance that includes weed abatement, fence repair, and drainage inlet flushing.	High	Short	General Fund
1-33	RMA	Inspect and cycle County flood control pumps annually to ensure functionality. Clear shrubs and debris in proximity to the basins and channels of the pumps to minimize potential blockage during operation. If required, contract with local pump repair contractors to service the equipment.	High	Short	General Fund
1-34	RMA	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.	High	Continuing	N/A
1-35	RMA	Continue to participate in the NFIP.	High	Continuing	N/A
1-36	RMA	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.	Med.	Continuing	General Fund



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Project Number	Responsibility	Description	Priority	Schedule	Funding Source
1-37	RMA	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.	High	Continuing	N/A
1-38	Sheriff, HHSA Env. Health	Continue to cooperate with the California Highway Patrol to establish procedures for the movement of hazardous wastes and explosives within the County.	High	Continuing	General Fund
1-39	RMA	Implement post-fire debris flow hill-slope and channel treatments, such as seeding, mulching, check dams, and debris racks, as needed.	High	Short	General Fund, Grants
1-40	RMA	Manage vegetation in areas within and adjacent to rights of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid creation of wind acceleration corridors within vegetated areas.	Medium	Continuing	General Fund
1-41	RMA	Develop a free annual tree chipping and tree pick-up day that encourages residents living in wind hazard areas to manage trees and shrubs at risk of falling on nearby structures.	Medium	Short	General Fund
1-42	All	Bolt down the roofs of critical facilities in wind gust hazard areas in order to prevent wind damage.	Medium	Short	General Fund
1-43	OES	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.	High	Continuing	General Fund, Grants

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Project Number	Responsibility	Description	Priority	Schedule	Funding Source
1-44	RMA	Reinforce County and local ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	High	Continuing	General Fund, Grants
1-45	RMA	Design and construct a permanent solution to flooding east of Friant Kern Canal in Strathmore	High	Short	General Fund, Grants
1-46	RMA	Design and construct a permanent solution to protect M137 (Reservation Road) from flooding	High	Short	General Fund, Grants
1-47	RMA	Restore Cottonwood creek back to natural flow path, protect Road 108 and provide additional impoundment	High	Short	General Fund, Grants
1-48	RMA	Conduct a hydrological survey/study to investigate potential flooding issues due to ground subsidence caused by use of groundwater without replenishment. Create a data base for future land planning use.	High	Short	General Fund, Grants
1-49	RMA	Identify and implement strategies that result in promoting stormwater management through groundwater recharge projects	High	Continuing	General Fund, Grants
1-50	RMA	Develop a program to identify, prioritize, fund and develop designs to replace functionally obsolete bridges	High	Continuing	General Fund, Grants
1-51	RMA	Develop a program to identify, prioritize, fund and develop designs to replace structurally obsolete bridges	High	Continuing	General Fund, Grants
1-52	RMA	Design and construct a bridge structure on Road 184 (btw A24-A32) on the White River	High	Short	General Fund, Grants
1-53	RMA	Design and construct a bridge structure on R156 (btw A32-A40) on White Rive	High	Short	General Fund, Grants
1-54	RMA	Design and construct a bridge structure on R88 (btw A56-A84) on Deer Creek	High	Short	General Fund, Grants
1-55	RMA	Identify, prioritize, fund and develop permanent solutions for low water crossings throughout the County	High	Continuing	General Fund, Grants

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Project Number	Responsibility	Description	Priority	Schedule	Funding Source
1-56	RMA	Engage the entire community and develop a County-wide drought response plan to respond to period of prolonged dry weather	High	Continuing	General Fund, Grants
1-57	RMA	Identify potential problem areas, and develop and implement a plan to address potential groundwater contamination issues in small water systems	High	Continuing	General Fund, Grants
1-58	RMA	Develop transportation plans and projects that support providing adequate vehicular access to the southwest corner of the County after High Speed Rail is constructed	High	Short	General Fund, Grants
1-59	RMA	Develop and implement a program to address potential channel capacity loss, potential flooding issues, and bridge clearance issues resulting from subsidence on the Friant Kern Canal	High	Short	General Fund, Grants
1-60	RMA	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.	High	Continuing	General Fund, Grants
1-61	RMA	Identify at risk structures and reinforce County and local ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	High	Continuing	General Fund, Grants
1-62	RMA	Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid creation of wind acceleration corridors within vegetated areas.	High	Continuing	General Fund, Grants
1-63	RMA	Implement a fuel reduction program, such as the collection and disposal of dead fuel, within open spaces and around critical facilities and residential structures located within a high and very high wildfire zones.	High	Continuing	General Fund, Grants
1-64	RMA	Develop a Debris Management Plan.	High	Medium	Grants

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Project Number	Responsibility	Description	Priority	Schedule	Funding Source
1-65	RMA	Develop a County-wide Storm Water Resources Plan.	High	Medium	General Fund, Grants
1-66	RMA	Develop and implement programs and policies to protect and enhance surface water and groundwater resources critical to human consumption.	High	Continuing	General Fund, Grants
1-67	RMA	Develop groundwater recharge projects to promote groundwater sustainability, and mitigate and recover from the effects of prolonged drought.	High	Continuing	General Fund, Grants
2-1	OES, RMA, PIO	Continue to promote awareness and education among residents regarding possible natural hazards, including soil conditions, earthquakes, flooding, fire hazards, and emergency procedures.	High	Continuing	General Fund
2-2	RMA	Develop a public outreach program that informs property owners located in the dam or levee inundation areas about voluntary flood insurance.	High	Short	General Fund
2-3	HHSA, Fire, Sheriff	Promote public safety programs, including neighborhood watch programs, child identification and fingerprinting, public awareness and prevention of fire hazards, and other public education efforts.	High	Continuing	General Fund
2-4	RMA	Develop and implement a County-wide program to promote water use understanding and water conservation.	High	Continuing	General Fund, Grants
3-1	RMA	Conduct site investigations in areas planned for new development to determine susceptibility to landslides, subsidence/settlement, contamination, and/or flooding.	High	Continuing	Owners
3-2	RMA, Ag	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.	High	Continuing	General Fund

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Project Number	Responsibility	Description	Priority	Schedule	Funding Source
3-3	RMA, Ag	Provide continuing support to the Agricultural Conservation Easement Program to help protect and preserve agricultural lands (including Important Farmlands), as defined in the General Plan Safety 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.	High	Continuing	General Fund
3-4	RMA	Seek to protect and enhance surface water and groundwater resources critical to agriculture.	High	Short	General Fund
3-5	RMA	Identify opportunities for infill development projects near employment areas within all unincorporated communities to reduce vehicle trips.	High	Continuing	General Fund
3-6	RMA	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, where economically feasible.	High	Continuing	General Fund
3-7	RMA	Review Leadership in Energy and Environmental Design (LEED) and LEED-neighborhood development certification requirements and develop an implementation program.	High	Continuing	General Fund
3-8	RMA	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.	High	Continuing	General Fund

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Project Number	Responsibility	Description	Priority	Schedule	Funding Source
3-9	RMA	<p>Encourage new streets 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:</p> <ul style="list-style-type: none"> <li>• Street tree planting adjacent to curbs and between the street and sidewalk to provide a buffer between pedestrians and automobiles, where appropriate</li> <li>• Minimize curb cuts along streets</li> <li>• Sidewalks on both sides of streets, where feasible</li> </ul> <p>Bike lanes and walking paths, where feasible on collectors and arterials</p>	High	Continuing	General Fund, grants
3-10	RMA, TCOE	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 paths to schools.	High	Continuing	General Fund, School Bonds
3-11	RMA	Work to comprehensively study methods of transportation, which may contribute to a reduction in air pollution in Tulare County.	High	Short	General Fund
3-12	RMA	Encourage all new development, including rehabilitation, renovation, and redevelopment, to incorporate energy conservation and green building practices to maximum extent feasible. Such practices include building orientation and shading, landscaping, and the use of active and passive solar heating and water systems.	High	Continuing	Property Owners
4-1	RMA, Fire	Coordinate with cities to develop cohesive fire safety plans with overlapping coverage.	High	Continuing	General Fund
4-2	Fire, RMA	Work with local and Federal agencies to support efforts to reduce fuel related hazards on public lands.	High	Continuing	General Fund

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Project Number	Responsibility	Description	Priority	Schedule	Funding Source
4-3	OES, Fire	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.	High	Continuing	General Fund
4-4	OES, Fire	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.	High	Continuing	General Fund
4-5	OES	Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about severe valley fog and extreme heat conditions.	High	Continuing	General Fund
4-6	RMA	Increase participation in the National Flood Insurance Program (NFIP) by entering the Community Rating System program which through enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	High	Continuing	General Fun
5-1	RMA, Fire, Sheriff	Use Geographic Information Systems (GIS) technology to track fire and law enforcement response times and provide technical assistance to fire and law enforcement agencies.	High	Short	General Fund
5-2	RMA	Require, where feasible, road networks (public and private) to provide for safe and ready access for emergency equipment and provide alternate routes for evacuation.	Medium	Continuing	General Fund

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Project Number	Responsibility	Description	Priority	Schedule	Funding Source
5-3	RMA	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, ensure that such facilities are located within reasonable distance of fire and law enforcement stations	Medium	Continuing	General Fund
5-4	RMA	Expand the Street Names and House Numbering Ordinance to all areas of the County, including private roads, for emergency 911 purposes.	Medium	Short	General Fund

### 6.4 National Flood Insurance Program Participation and Compliance

Tulare County has adopted the Model Floodplain Management Ordinance within the County to maintain eligibility within the National Flood Insurance Program. **Table 6-4** shows the status of all jurisdictions in the NFIP. Since 1968 the National Flood Insurance Program (NFIP) has provided federally funded flood insurance to homeowners, renters, and businesses in communities that adopt and enforce floodplain management ordinances to reduce future flood damage. The County adopted the County Flood Prevention Ordinance, Ordinance Code of Tulare County, Part VII, Chapter 27. This allows residents of the County to remain eligible to purchase flood insurance through the NFIP. The Ordinance meets the minimum standards set forth in Title 44, Section 60.3 of the CFR. The City of Visalia participates in the Community Rating System.

Table 6-4: NFIP Participation by Jurisdiction		
Jurisdiction	NFIP Update	CRS Participation
Dinuba	June 16, 2009	No
Exeter	No Special Flood Hazard Area	No
Farmersville	June 16, 2009	No
Lindsay	June 16, 2009	No
Porterville	June 16, 2009	No
Tulare	June 16, 2009	No
Tulare County	December 18, 2012	No
Tule River Tribe	N/A	N/A
Visalia	June 16, 2009	Yes (expired)
Woodlake	June 16, 2009	No

The County Flood Prevention Ordinance's effect is limited to requiring that any new construction or substantial improvement to existing structures will have to comply with the standards of construction identified in the Ordinance. The County's continued involvement in NFIP supports this plan. Currently, all jurisdictions, except the City of Exeter, implement a floodplain management program designed to protect the people and property of the jurisdiction and implements activities such as public information and outreach activities, mapping and regulatory activities, and flood damage reduction activities as outlined in the individual jurisdictions floodplain management program.



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### ***Repetitive Loss***

A repetitive loss property is defined by FEMA as an NFIP-insured property that has experienced any of the following since 1978, regardless of any changes in ownership:

- Four or more paid losses in excess of \$1,000
- Two paid losses in excess of \$1,000 within any rolling 10-year period
- Three or more paid losses that equal or exceed the current value of the insured property.

No repetitive loss structures were identified in any jurisdiction.



## 7.0 Plan Maintenance Procedures

The following section describes the process to implement, monitor and update the 2017 MJLHMP. It also describes ways that the MJLHMP supports and other County and city plans such as the Safety Element of the General Plan and continued public involvement the hazard mitigation process.

### 7.1 Implementation, Updating and Enhancement

The planning team includes representatives from each jurisdiction who contributed to the development of the MJLHMP. **Table 7-1** identifies individual planning team members. The planning team oversaw the development of the MJLHMP and made recommendations on key elements of the MJLHMP including establishing goals and mitigation activities, implementing public outreach within their individual jurisdictions and developing maintenance strategies.

<b>Table 7-1: Tulare County Hazard Mitigation Planning Team</b>			
<b>Jurisdiction</b>	<b>Agency/Department</b>	<b>Name</b>	<b>Title</b>
City of Dinuba	Fire Department	Chad Thompson	Fire Chief
City of Dinuba	Police Department	Devon Popovich	Chief
City of Dinuba	Fire Department	Sean Doyle	Battalion Chief
City of Exeter	Public Works	Daymon Qualls	Public Works Director
City of Exeter	Administration	Randy Groom	City Manager
City of Farmersville	Fire Department	John Crivello	Fire Chief
City of Porterville	Fire Department	Glenn Hall	Battalion Chief
City of Lindsay	Public Works	Mike Camarena	City Services Director
City of Porterville	Fire Department	Glenn Irish	Fire Chief
City of Porterville	Administration	John Lollis	City Manager
City of Porterville	Public Works	Mike Reed	Public Works Director
City of Tulare	Fire Department	Cameron Long	Chief
City of Visalia	Public Works	Adam Ennis	Director
City of Visalia	Fire Department	Danny Wristen	Chief
City of Visalia	Fire Department	Darrin Hughes	Battalion Chief
City of Visalia	Fire Department	Karl Kassner	Captain
City of Visalia	Natural Resources	Lupe Garcia	
City of Visalia	Public Works	Norm Goldstrom	Public Works Manager
City of Woodlake	Community Development	Jason Waters	Director
College of the Sequoias	Police Department	Kevin Mizner	Police Chief
Tulare County	Information & Communications Tech.	Bob Irvine	Division Manager
Tulare County	Resource Management Agency	Bryce Howard	Director
Tulare County	Health and Human Services Agency	Carrie Amador	Staff Services Analyst
Tulare County	Resource Management Agency	Dave Bryant	Chief Planner

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Section 7

<b>Table 7-1: Tulare County Hazard Mitigation Planning Team</b>			
<b>Jurisdiction</b>	<b>Agency/Department</b>	<b>Name</b>	<b>Title</b>
Tulare County	Office of Emergency Services	Dave Lee	OES Specialist
Tulare County	Office of Emergency Services	Andrew Lockman	Emergency Services Manager
Tulare County	Office of Emergency Services	Jacqui Balderas	Administrative Aid
Tulare County	Fire Department	David Cornett	Captain
Tulare County	Health and Human Services Agency	David Rozell	Manager
Tulare County	Resource Management Agency	Dennis Lehman	Manager
Tulare County	County Administrative Office	Eric Coyne	Deputy CAO
Tulare County	County Counsel	Jennifer Takehana	Deputy County Counsel
Tulare County	Sheriff's Office	Kevin Kemmerling	Sergeant
Tulare County	County Administrative Office	Kyria Martinez	Analyst, Economic Development
Tulare County	Agriculture	Marilyn Kinoshita	Ag-Commissioner/Sealer
Tulare County	Information & Communications Tech.	Mark Clark	GIS Coordinator
Tulare County	Resource Management Agency	Mike Washam	Director
Tulare County	Health and Human Services Agency	Nilsa Gonzalez	Env. Health Director
Tulare County	Sheriff's Office	Robert Schimpf	Lieutenant
Tulare County	Health and Human Services Agency	Timothy Lutz	Fiscal Operations Director
Tulare County Office of Education	General Services	Jeff Ramsay	Director
Tule River Indian Tribe	Emergency Services	Joe Boy Perez	Director of Emergency Services
Tule River Indian Tribe	Fire Department	Richard Brown	Fire Chief
Navigating Preparedness Assoc.		Lee Rosenberg	Managing Director

It was important to the County that each member of the planning team was given the opportunity to provide input during the MJLHMP development. This philosophy was essential to the previous 2011 effort and will be continued for future MJLHMP revisions through evaluations, maintenance, and updates of data, processes, and programs. The planning team will convene annually to perform annual reviews of the MJLHMP and its implementation. The planning team will include representation from local agencies, citizen groups, and stakeholders within the planning area.

If planning team members can no longer serve on the planning team, another staff person should be assigned to the planning team so that every department or agency is represented.

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Section 7

### 7.2 Monitoring

The County is responsible for keeping the MJLHMP relevant over its five-year life. As such, planning team should engage in continual monitoring, which can best be accomplished by developing an annual progress report. The annual report should review the effectiveness of the mitigation actions accomplished, and evaluate changes in the hazards profiles and the need for new mitigation activities. The objective is to both update the status of the plan and modify the mitigation actions as required.

#### 7.2.1 Maintenance Schedule

Each January, the planning team will begin the process of reviewing the MJLHMP and the implementation of mitigation actions to develop an annual progress report. This process can also assist the budget review process by providing information on mitigation projects and activities that have been completed or implemented. The annual progress report process will serve to align annual reviews of the MJLHMP to incorporate information. As updates to the MJLHMP are completed, the public will be made aware of the changes to the MJLHMP and make recommendations or comments.

The MJLHMP progress report will also be posted on the County website on a dedicated page, provided to the local media through a press release, and presented in the form of a report to local agencies. The planning team will strive to complete the progress report process by March of each year.

Section 201.6.d.3 of 44 CFR requires that local MJLHMPs be reviewed, revised as appropriate, and resubmitted for approval in order to remain eligible for benefits awarded under the DMA. The County intends to update its MJLHMP on a five-year cycle.

#### FEMA REGULATION CHECKLIST: PLAN MAINTENANCE PROCESS

##### Monitoring, Evaluating, and Updating the Plan

44 CFR § 201.6(c)(4)(i): The plan shall include a plan maintenance process that includes a “section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.”

##### Element

**A6.** Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating, and updating the mitigation plan within a five-year cycle)?

##### Incorporation into Other Planning Mechanisms

44 CFR § 201.6(c)(4)(ii): The plan shall include a plan maintenance process that includes a “process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.”

##### Element

**C6.** Does the plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate?

Source: FEMA, *Local Mitigation Plan Review Tool*, March 2013.

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Section 7

### 7.2.2 Maintenance Evaluation Process

The planning team will monitor the hazard mitigation strategies during the year and at a meeting held in January of each year, team members will provide information for the evaluation of the progress of the 2017 MJLHMP. Tulare County Office of Emergency Services (OES) is responsible for leading the annual MJLHMP monitoring and evaluation process. Andrew Lockman is the current director of County OES. This evaluation will include:

- A summary of any hazard events that occurred during the prior year and their impact on the planning area
- A review of successful mitigation initiatives identified in the MJLHMP
- A brief discussion about the targeted strategies that were not completed
- A re-evaluation of the action plan to determine if the timeline for identified projects needs to be amended, and the reason for the amendment, e.g., funding issues
- Any recommendations for new projects
- Any changes in or potential for new funding options (grant opportunities)
- Any impacts of other planning programs or initiatives in the County planning area that involve hazard mitigation

The planning team will write a progress report that will be provided to the County and participating jurisdictions for review and incorporation in the budget process as mitigation projects are completed or implemented.

### 7.2.3 Update Process

Based on needs identified by the planning team the update will, at a minimum, include the following elements:

- The hazard risk assessment will be reviewed and updated using the most recent information and technologies.
- The action plan will be reviewed and revised to account for any initiatives completed, dropped, or changed and to account for changes in the risk assessment
- Any new County or member jurisdiction policies identified under other planning mechanisms, as appropriate.
- The draft MJLHMP update will be sent to appropriate agencies and organizations for comment.
- The public will be given an opportunity to comment on the updated version prior to adoption.
- The County and all jurisdictions will adopt the updated MJLHMP.

At a minimum of six months prior to the expiration date of the 2017 MJLHMP, the planning team will implement a MJLHMP revision schedule to formally update the MJLHMP. **Tulare County Office of Emergency Services (OES) is responsible for leading the MJLHMP update process. Andrew Lockman is the current director of County OES.** The MJLHMP will be revised using the latest FEMA hazard mitigation

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guidance documents, such as the Mitigation Planning Tool and Regulation Checklist to ensure compliance with current hazard mitigation planning regulations.

### 7.2.4 Method for Incorporation of the MJLHMP into Existing Planning Mechanisms

The requirements for review and incorporation of existing plans, studies, reports, and technical information (44 CFR §201.6(b)(3)), as described in the federal regulations was part of the planning process. During the planning process, members of the planning team reviewed and incorporated information into the MJLHMP information from several existing plans, studies, and reports. These documents are listed below:

- The 2016 County General Plan Health and Safety Element. The Safety Element adopts the MJLHMP.
- The 2013 Emergency Operations Plan. The hazard section of the EOP provided a basis for the hazards identified in the MJLHMP.
- The 2016 draft County Strategic Plan. This plan was used to align strategic objectives with hazard mitigation goals.
- The 2011 Local Hazard Mitigation Plan. This provided background and regional knowledge.
- Comprehensive Annual Financial Report, Fiscal Year Ended June 30, 2014
- California APG: The 2012 APG provides information on the effects of climate change on California, and provided adaptation planning guidance used in the development of the climate change hazard profile.
- 2013 State of California Multi-Hazard Mitigation Plan. The State HMP was reviewed to ensure the alignment of the County MJLHMP with the state's current hazard profiles and mitigation strategy.
- Tule River Indian Tribe, General Website, 2010. The Tule River Tribe website was accessed on numerous occasions throughout the planning process. The website provided information regarding the Tribe in general, their land use and the Tribal Council structure.

A full list of references that were used to support updating the MJLHMP is contained in **Appendix F**.

The hazard mitigation plan process provided the County and participating jurisdictions with an opportunity to review and expand on policies contained in several other plans. The County views the General Plan and the MJLHMP as complementary documents that work together to reduce risk exposure to residents. Many of the ongoing recommendations identified in the HMP are programs recommended in the General Plan Safety Element.

Per California Assembly Bill 2140, the County intends on adopting the MJLHMP as part of the Safety Element of the General Plan, adopted pursuant to Section 65302 (g) of the California Government Code. The County and participating jurisdictions will incorporate MJLHMP analysis of hazards and risks, mitigation goals and mitigation actions into the following planning mechanisms and processes:

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- City and County EOPs and other emergency response processes. Many EOPs list the hazards that the planning area faces. Since these are well developed in the MJLHMP, the EOPs can excerpt this documentation.
- The County and participating jurisdictions' capital improvement plans. The impacts of new development and projects will be analyzed for their effect on reducing hazards and lowering risk to the population and built out environment.
- Municipal Codes. The MJLHMP provides recommendations for strengthening city and County codes that support mitigation activities.
- County Flood Prevention Ordinance (Ordinance Code of Tulare County, Part VII, Chapter 27). The objective is to minimize the impacts of floods through building restrictions in flood zones and specifically in special flood hazard areas.
- County Flood Control Master Plan. This element of the General Plan addresses issues particularly related to flood control along natural watercourses in the County. This adopted Element is incorporated into this General Plan Update document as Chapter 15.
- Hazardous Waste Management Plan. The County has a hazardous materials management plan to protect the health and safety of all citizens within the County and minimize the risk associated with hazardous materials through the development of policies and procedures.
- Wildland Fire Management Plans. The County requires wildland fire management plans for projects adjoining significant areas of open space that may have high fuel loads.
- County Climate Action Plan. Incorporates climate adaptation and resiliency strategies identified in California Government Code 65302 (g)(4)
- Stormwater Quality Management Program (SWQMP). Describes measures that the local jurisdiction will take to minimize stormwater pollution. The SWQMP is required by the National Pollutant Discharge Elimination System Phase II regulations, which became effective in March 2003.

Incorporation of action items and processes from the 2017 MJLHMP into various planning documents will be completed as other plans are updated and when new plans are developed. These efforts may coincide with the Plan Maintenance Method and Schedule activities. Additional action items may be implemented through the creation of new public educational programs, continued interagency coordination, and public input and participation. **Appendix H** contains a detailed analysis of integration of the MJLHMP into the County General Plan Safety Element and Climate Action Plan.

### 7.3 Continued Public Involvement

The overall success of the MJLHMP is through implementation of the plan's hazard mitigation strategy and activities to reduce the effects of hazards, protect people and property, and improve the County's efforts to respond to and recover from disasters. Community outreach is considered a primary policy goal of all County agencies, specifically when addressing community-related health and safety risks. Residents in Tulare County's unincorporated communities, its cities, and members of the Tule River Tribe will ultimately benefit from the implementation of the MJLHMP and must be given the opportunity to provide input to the continuous cycle of MJLHMP planning.



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The County and participating jurisdictions will continue to strive to keep the public aware of hazard mitigation projects that take place because of the MJLHMP. Public information will be released through press releases, County website announcements, public hearings, council and commission meetings, and the County e-news blast to subscribers.

Projects that are hazard mitigative in nature are included in the County and participating jurisdictions' annual budget planning process. County workshops are held and meetings are convened, and the public is made aware of the planning through council meetings, open workshop sessions, and press releases during this time. The budget planning process will serve as an annual opportunity to conduct outreach to the public on updates to the hazard mitigation planning process. A survey can be developed to gather input on how the community knows about the progress being made on MJLHMP activities. The County will also provide press releases and information about hazard mitigation projects to the public on a regular basis, but at a minimum, the public will be engaged to learn about current MJLHMP activities, and given the opportunity to provide comments and information on an annual basis to update and maintain the MJLHMP. The County Office of Emergency Services will be responsible to ensure the public is included and involved in the annual public plan update and outreach.

When the time comes to begin revising the 2017 MJLHMP, the plan update process will be implemented, which will include continued public involvement and input through attendance at designated public meetings, web postings, through press releases to local media, community fairs and events, and surveys. As part of this effort, a series of public meetings will be held and public comments will be solicited on the revisions to the MJLHMP per the five-year cycle.



## 8.0 Changes in Elements since Previous Effort

This section describes changes to the MJLHMP organization and structure since the previous plan.

### 8.1 Changes in Planning Process and Mitigation Actions

FEMA REGULATION CHECKLIST: PLAN UPDATE
<b>Plan Update to Reflect Development Changes</b>
<b>44 CFR § 201.6(d)(3):</b> A local jurisdiction must review and revise its plan to reflect changes in development.
<b>Element</b>
<b>D1.</b> Was the plan revised to reflect changes in development? 44 CFR § 201.6(d)(3)
Source: FEMA, <i>Local Mitigation Plan Review Tool</i> , March 2013.

The revised MJLHMP is a more comprehensive and actionable plan. While the 2011 LHMP provided a template for mitigation actions, it did not include jurisdiction-specific mitigation actions. This effort integrated the objectives and priorities of the General Plan Safety Element throughout the MJLHMP and included the impacts of climate change both as an individual hazard and as a component of other hazards. **Table 3.5** reflects the status of the 2011 Plan mitigation measures.

The planning team reviewed and approved the general outline of the new MJLHMP. Following the review, the planning team met to analyze and agree on the elements of the MJLHMP, approve the draft mitigation activities and priorities, and recommend forwarding the draft plan to the individual jurisdiction approval boards for approval and to FEMA and Cal OES for courtesy reviews.

To complete this planning effort, each jurisdiction reviewed previous assets, capabilities and hazard mitigation actions. The individual jurisdictions were required to complete a checklist describing changes since the 2011 planning effort. Those checklists are included in the individual jurisdiction **Annexes A** through **I**. Any new asset, capability or mitigation action is listed in **Annexes A** through **J**.

### 8.2 Changes to Identified Hazards

Two hazards were removed from the 2011 LHMP effort. Avalanche hazard was removed due to low frequency of occurrence and no impact to communities. Volcano hazard was removed due to no frequency in several hundred years.

Several hazards were added including climate change, dam failure, drought, and levee failure. Since 2011, climate change and drought have had a significant impact on the County and participating jurisdictions. Climate change directly affects the extremity of hazards and the impact of those hazards. The entire State of California has been under a State of Drought Emergency since 2014. The County agricultural industry is impacted significantly by the drought. The tree mortality mitigation action currently underway is a high priority to mitigate fuel for forest fires. Dam failures were added as hazards primarily due to aging

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infrastructure. The two USACE dams located within the County, if compromised, could have devastating effects to the County and jurisdictions within. Levee failures were added as hazards due to the lack of knowledge regarding whether they are in compliance with current FEMA requirements and the extent of which communities would potentially be impacted by levees that are not registered at all.

## Appendix A FEMA Local Hazard Mitigation Plan Review Tool

### REGION IX LOCAL HAZARD MITIGATION PLAN REVIEW TOOL

The *Local Hazard Mitigation Plan Review Tool* demonstrates how the Local Hazard Mitigation Plan meets the regulation in 44 CFR §201.6 and offers State and FEMA Mitigation Planners an opportunity to provide feedback to the community.

- The **Regulation Checklist** provides a summary of FEMA’s evaluation of whether the plan has addressed all requirements.
- The **Plan Assessment** identifies the plan’s strengths as well as documents areas for future improvement. This section also includes a list of resources for implementation of the plan.
- The **Multi-Jurisdiction Summary Sheet** is a mandatory worksheet for multi-jurisdictional plans that is used to document which jurisdictions are eligible to adopt the plan.
- The **Hazard Identification and Risk Assessment Matrix** is a tool for plan reviewers to identify if all components of Element B are met.

<b>Jurisdiction:</b> Tulare County	<b>Title of Plan:</b> The Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan	<b>Date of Plan:</b> October 2017
<b>Local Point of Contact:</b> Dave Lee		<b>Address:</b> 5957 S. Mooney Blvd. Visalia, CA 93277
<b>Title:</b> OES Specialist		
<b>Agency:</b> Tulare County Office of Emergency Services		
<b>Phone Number:</b> 599-624-7496		<b>E-Mail:</b> dlee@tularehhsa.org

<b>State Reviewer:</b>	<b>Title:</b>	<b>Date:</b>
<b>Date Received at State Agency</b>		
<b>Date Sent to FEMA</b>		

<b>FEMA Reviewer:</b> Bill Chapin Lindsey Robinson Alison Kearns	<b>Title:</b> Hazard Mitigation Planner Hazard Mitigation Planner Senior Community Planner	<b>Date:</b> February 26, 2018 February 27, 2018 March 7, 2018
<b>Date Received in FEMA Region IX</b>	First Submission: February 1, 2018 Second Submission: March 7, 2018	
<b>Date Not Approved</b>	After First Submission: March 2, 2018	
<b>Date Approvable Pending Adoption</b>	After Second Submission: March 7, 2018	
<b>Date Approved</b>		

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### SECTION 1: REGULATION CHECKLIST

**INSTRUCTIONS:** The Regulation Checklist must be completed by FEMA. The purpose of the Checklist is to identify the location of relevant or applicable content in the plan by element/sub-element and to determine if each requirement has been ‘Met’ or ‘Not Met.’ The ‘Required Revisions’ summary at the bottom of each element must be completed by FEMA to provide a clear explanation of the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is ‘Not Met.’ Sub-elements should be referenced in each summary by using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each Element and sub-element are described in detail in the *Local Plan Review Guide* in Section 4, Regulation Checklist.

<b>1. REGULATION CHECKLIST</b>		<b>Location in Plan</b> (section and/or page number)	<b>Met</b>	<b>Not Met</b>
<b>ELEMENT A. PLANNING PROCESS</b>				
A1. Does the plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))	a. Does the plan provide documentation of how the plan was prepared? This documentation must include the schedule or timeframe and activities that made up the plan’s development as well as who was involved.	Section 2 Appendix D	X	
	b. Does the plan list the jurisdiction(s) participating in the plan that are seeking approval?	Section 1.4 Section 4	X	
	c. Does the plan identify who represented each jurisdiction? (At a minimum, it must identify the jurisdiction represented and the person’s position or title and agency within the jurisdiction.)	Section 2.2 Section 7.1 Appendix D Samples 4, 8, 12 and 16	X	

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<b>1. REGULATION CHECKLIST</b>		<b>Location in Plan</b> (section and/or page number)	<b>Met</b>	<b>Not Met</b>
<b>Regulation (44 CFR 201.6 Local Mitigation Plans)</b>				
A2. Does the plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2))	a. Does the plan document an opportunity for neighboring communities, local, and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development, as well as other interested parties to be involved in the planning process?	Section 2.2	X	
	b. Does the plan identify how the stakeholders were invited to participate in the process?	Appendix D, Table D-1, Sample 1	X	
A3. Does the plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))	a. Does the plan document how the public was given the opportunity to be involved in the planning process?	Section 2.3 Appendix E	X	
	b. Does the plan document how the public's feedback was incorporated into the plan?	Section 2.3 Appendix E	X	
A4. Does the plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))		Section 2.2 Section 5.1 Section 6.2 Section 7.2.4 Appendix H	X	
A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii))		Sections 7.1 to 7.3	X	
A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))	a. Does the plan identify how, when, and by whom the plan will be <b>monitored</b> (how will implementation be tracked) over time?	Section 7.1 Section 7.2	X	
	b. Does the plan identify how, when, and by whom the plan will be <b>evaluated</b> (assessing the effectiveness of the plan at achieving stated purpose and goals) over time?	Section 7.1 Section 7.2	X	
	c. Does the plan identify how, when, and by whom the plan will be <b>updated</b> during the 5-year cycle?	Section 7.1 Section 7.2	X	
<b><u>ELEMENT A: REQUIRED REVISIONS</u></b>				

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Section 8

1. REGULATION CHECKLIST		Location in Plan	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)		(section and/or page number)		
<b>ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT</b>				
(Reviewer: See Section 4 for assistance with Element B)				
B1. Does the plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction(s)? (Requirement §201.6(c)(2)(i))	a. Does the plan include a general description of all natural hazards that can affect each jurisdiction?	Section 5.1	X	
	b. Does the plan provide rationale for the omission of any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area?	Section 5.1	X	
	c. Does the plan include a description of the <b>type</b> of all natural hazards that can affect each jurisdiction?	Section 5.2.2 Section 5.2.3 Section 5.2.4 Section 5.2.5 Section 5.2.7 Section 5.2.8 Section 5.2.9 Section 5.2.11 Section 5.2.12 Section 5.2.14 Section 5.2.16	X	
	d. Does the plan include a description of the <b>location</b> for all natural hazards that can affect each jurisdiction?	Section 5.2.2 Section 5.2.3 Section 5.2.4 Section 5.2.5 Section 5.2.7 Section 5.2.8 Section 5.2.9 Section 5.2.11 Section 5.2.12 Section 5.2.14 Section 5.2.16 Appendix B	X	
	e. Does the plan include a description of the <b>extent</b> for all natural hazards that can affect each jurisdiction?	Section 5.2.2 Section 5.2.3 Section 5.2.4 Section 5.2.5 Section 5.2.7 Section 5.2.8 Section 5.2.9 Section 5.2.11 Section 5.2.12 Section 5.2.14 Section 5.2.16 Appendix B Appendix C	X	



2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Section 8

1. REGULATION CHECKLIST		Location in Plan	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)		(section and/or page number)		
B2. Does the plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))	a. Does the plan include information on <b>previous occurrences</b> of hazard events for each jurisdiction?	Section 4.7 Section 5.2.2 Section 5.2.3 Section 5.2.4 Section 5.2.5 Section 5.2.7 Section 5.2.8 Section 5.2.9 Section 5.2.11 Section 5.2.12 Section 5.2.14 Section 5.2.16 Appendix C	X	
	b. Does the plan include information on the <b>probability</b> of future hazard events for each jurisdiction?	Section 5.2.2 Section 5.2.3 Section 5.2.4 Section 5.2.5 Section 5.2.7 Section 5.2.8 Section 5.2.9 Section 5.2.11 Section 5.2.12 Section 5.2.14 Section 5.2.16 Section 5.3.1 Appendix B	X	
B3. Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction? (Requirement §201.6(c)(2)(ii))	a. Is there a description of each hazard's <b>impacts</b> on each jurisdiction (what happens to structures, infrastructure, people, environment, etc.)?	Section 5.2.2 Section 5.2.3 Section 5.2.4 Section 5.2.5 Section 5.2.7 Section 5.2.8 Section 5.2.9 Section 5.2.11 Section 5.2.12 Section 5.2.14 Section 5.2.16 Annexes A – J, Summary of Vulnerabilities and Potential Loss Tables	X	

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Section 8

<b>1. REGULATION CHECKLIST</b>		<b>Location in Plan</b> (section and/or page number)	<b>Met</b>	<b>Not Met</b>
<b>Regulation (44 CFR 201.6 Local Mitigation Plans)</b>				
	b. Is there a description of each identified hazard’s overall <b>vulnerability</b> (structures, systems, populations, or other community assets defined by the community that are identified as being susceptible to damage and loss from hazard events) for each jurisdiction?	Section 4.6 Section 5.2.2 Section 5.2.3 Section 5.2.4 Section 5.2.5 Section 5.2.7 Section 5.2.8 Section 5.2.9 Section 5.2.11 Section 5.2.12 Appendix B Annexes A – J, See Section X.3 for each jurisdiction	X	
B4. Does the plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement §201.6(c)(2)(ii))		Section 6.4	X	
<b>ELEMENT B: REQUIRED REVISIONS</b>				
<b>ELEMENT C. MITIGATION STRATEGY</b>				
C1. Does the plan document each jurisdiction’s existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement §201.6(c)(3))	a. Does the plan document each jurisdiction’s existing authorities, policies, programs and resources?	Section 3 Section 5.2.2 Section 5.2.5 Annexes A – J See Section X.4 for each jurisdiction	X	
	b. Does the plan document each jurisdiction’s ability to expand on and improve these existing policies and programs?	Section 3 Annexes A – J See Section X.4 for each jurisdiction	X	
C2. Does the plan address each jurisdiction’s participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement §201.6(c)(3)(ii))		Section 6.4	X	
C3. Does the plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i))		Section 6.2	X	
C4. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being	a. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects to reduce the impacts from hazards?	Section 6.2 Section 6.3	X	

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Section 8

<b>1. REGULATION CHECKLIST</b>		<b>Location in Plan</b> (section and/or page number)	<b>Met</b>	<b>Not Met</b>
<b>Regulation (44 CFR 201.6 Local Mitigation Plans)</b>				
considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement §201.6(c)(3)(ii))	b. Does the plan identify mitigation actions for every hazard posing a threat to each participating jurisdiction?	Section 6.2 Section 6.3 Annexes A – J, See Section X.5 for each jurisdiction	X	
	c. Do the identified mitigation actions and projects have an emphasis on new and existing buildings and infrastructure?	Section 6.2 Section 6.3 Annexes A – J, See Section X.5 for each jurisdiction	X	
C5. Does the plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))	a. Does the plan explain how the mitigation actions will be prioritized (including cost benefit review)?	Section 6.3 Appendix F	X	
	b. Does the plan identify the position, office, department, or agency responsible for implementing and administering the action, potential funding sources and expected timeframes for completion?	Section 6.3 Annexes A – J, See Table X.11 or X.12 for each jurisdiction	X	
C6. Does the plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6(c)(4)(ii))	a. Does the plan identify the local planning mechanisms where hazard mitigation information and/or actions may be incorporated?	Section 1.3 Section 7.2.4 Appendix H	X	
	b. Does the plan describe each community’s process to integrate the data, information, and hazard mitigation goals and actions into other planning mechanisms?	Section 7.2.4, Appendix H Annexes A-J	X	
	c. The updated plan must explain how the jurisdiction(s) incorporated the mitigation plan, when appropriate, into other planning mechanisms as a demonstration of progress in local hazard mitigation efforts.	Section 7.2.4 Appendix H	X	
<b><u>ELEMENT C: REQUIRED REVISIONS</u></b>				
<b>ELEMENT D. PLAN REVIEW, EVALUATION, AND IMPLEMENTATION</b> (Applicable to plan updates only)				
D1. Was the plan revised to reflect changes in development? (Requirement §201.6(d)(3))		Section 4.5	X	

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Section 8

<b>1. REGULATION CHECKLIST</b>		<b>Location in Plan</b> (section and/or page number)	<b>Met</b>	<b>Not Met</b>
<b>Regulation (44 CFR 201.6 Local Mitigation Plans)</b>				
D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement §201.6(d)(3))	Section 3.5 Section 8.1 Annexes A-J, Table X-9 or X-10	X		
D3. Was the plan revised to reflect changes in priorities? (Requirement §201.6(d)(3))	Section 2.2 Section 6.3 Section 8 Appendix F	X		
<b><u>ELEMENT D: REQUIRED REVISIONS</u></b>				
<b>ELEMENT E. PLAN ADOPTION</b>				
E1. Does the plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement §201.6(c)(5))	Courtesy Review	NA		
E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5))	Courtesy Review	NA		
<b><u>ELEMENT E: REQUIRED REVISIONS</u></b>				
<b>ELEMENT F. ADDITIONAL STATE REQUIREMENTS</b> (Optional for State Reviewers only; not to be completed by FEMA)				
F1.				
F2.				
<b><u>ELEMENT F: REQUIRED REVISIONS</u></b>				

**SECTION 2:  
PLAN ASSESSMENT**

**A. Plan Strengths and Opportunities for Improvement**

This section provides a discussion of the strengths of the plan document and identifies areas where these could be improved beyond minimum requirements.

**Element A: Planning Process**

**Strengths:**

1) The plan provides detailed descriptions of the processes and methods that will be used to evaluate and update the plan.

**Opportunities for Improvement:**

1) Continue to build out your planning team with stakeholders who are interested in risk reduction.

**Element B: Hazard Identification and Risk Assessment**

**Strengths:**

1) Overall, the plan demonstrates a strong grasp of each of the required elements in the risk assessment.

2) Like the Summary of Vulnerabilities and Potential Loss tables in each Annex; they are clear and easy to read.

**Opportunities for Improvement:**

1) The vulnerability summary would benefit from clear statement about key problems/issues facing the county.

2) As vulnerability is usually informed by the risks identified, it is a little confusing that the list of vulnerable assets by hazard comes before the hazard profiles in the plan.

3) While following a template for jurisdictional annexes is OK, the annexes in the plan are in many ways nearly identical, with little indication of what makes the jurisdictions unique in terms of their vulnerabilities. Each annex includes a unique list of vulnerable facilities, but a vulnerability summary should go beyond this and highlight the key issues/problems facing a jurisdiction.

**Element C: Mitigation Strategy**

**Strengths:**

- 1) The main plan contains a particularly strong section on incorporation/integration.
- 2) The mitigation strategy considers a wide range of actions with a lot of genuine opportunities for reducing long-term risk for nearly all of the identified hazards.

**Opportunities for Improvement:**

- 1) With some exceptions, the jurisdiction-specific mitigation actions within each annex mostly consist of identical sets of actions. Each jurisdiction's mitigation strategy should be tailored to address the unique vulnerabilities that it faces.

**Element D: Plan Update, Evaluation, and Implementation (*Plan Updates Only*)**

**Strengths:**

- 1) The section devoted to summarizing what is different about the plan update is extremely helpful.

**Opportunities for Improvement:**

- 1) Consider adding a reference to Table 3.5 (p. 24) within Section 8.

## B. Resources for Implementing and Updating Your Approved Plan

This resource section is organized into three categories:

- 1) Guidance and Resources
- 2) Training Topics and Courses
- 3) Funding Sources

### **Guidance and Resources**

Local Mitigation Planning Handbook

<https://www.fema.gov/media-library/assets/documents/31598>

Beyond the Basics

<http://mitigationguide.org/>

Mitigation Ideas

<https://www.fema.gov/media-library/assets/documents/30627>

Plan Integration: Linking Local Planning Efforts

<https://www.fema.gov/media-library/assets/documents/108893>

Integrating Disaster Data into Hazard Mitigation Planning

<https://www.fema.gov/media-library/assets/documents/103486>

Integrating Historic Property and Cultural Resource Considerations into Hazard Mitigation Planning

<https://www.fema.gov/ar/media-library/assets/documents/4317>

Community Rating System User Manual

<https://www.fema.gov/media-library/assets/documents/8768>

U.S. Climate Resilient Toolkit

<https://toolkit.climate.gov/>

2014 National Climate Assessment

<http://nca2014.globalchange.gov/>

Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation

[http://ipcc-wg2.gov/SREX/images/uploads/SREX-All\\_FINAL.pdf](http://ipcc-wg2.gov/SREX/images/uploads/SREX-All_FINAL.pdf)

FY15 Hazard Mitigation Assistance Unified Guidance

<https://www.fema.gov/media-library/assets/documents/103279>

Climate Resilient Mitigation Activities for Hazard Mitigation Assistance

<https://www.fema.gov/media-library/assets/documents/110202>

### **Training**

More information at <https://training.fema.gov/emi.aspx> or through your State Training Officer

### **Mitigation Planning**

IS-318 Mitigation Planning for Local and Tribal Communities

<https://training.fema.gov/is/courseoverview.aspx?code=is-318>

IS-393 Introduction to Hazard Mitigation

<https://training.fema.gov/is/courseoverview.aspx?code=is-393.a>

G-318 Preparing and Reviewing Local Plans

G-393 Mitigation for Emergency Managers

**Hazard Mitigation Assistance (HMA) Grant Programs**

IS-212.b Introduction to Unified HMA

<http://www.training.fema.gov/is/courseoverview.aspx?code=IS-212.b>

IS-277 Benefit Cost Analysis Entry Level

<http://www.training.fema.gov/is/courseoverview.aspx?code=IS-277>

E-212 HMA: Developing Quality Application Elements

E-213 HMA: Application Review and Evaluation

E-214 HMA: Project Implementation and Programmatic Closeout

E-276 Benefit-Cost Analysis Entry Level

#### GIS and Hazus-MH

IS-922 Application of GIS for Emergency Management

<http://www.training.fema.gov/is/courseoverview.aspx?code=IS-922>

E-190 ArcGIS for Emergency Managers

E-296 Application of Hazus-MH for Risk Assessment

E-313 Basic Hazus-MH

#### Floodplain Management

E-273 Managing Floodplain Development through the NFIP

E-278 National Flood Insurance Program/ Community Rating System

### **Potential Funding Sources**

#### Hazard Mitigation Grant Program

POC: FEMA Region IX and State Hazard Mitigation Officer

Website: <https://www.fema.gov/hazard-mitigation-grant-program>

#### Pre-Disaster Mitigation Grant Program

POC: FEMA Region IX and State Hazard Mitigation Officer

Website: <https://www.fema.gov/pre-disaster-mitigation-grant-program>

#### Flood Mitigation Assistance Grant Program

POC: FEMA Region IX and State Hazard Mitigation Officer

Website: <https://www.fema.gov/flood-mitigation-assistance-grant-program>

#### Emergency Management Performance Grant Program

POC: FEMA Region IX

Website: <https://www.fema.gov/emergency-management-performance-grant-program>



**SECTION 3:  
MULTI-JURISDICTIONAL SUMMARY SHEET**

**INSTRUCTIONS:** For multi-jurisdictional plans, this summary sheet must be completed by listing each participating jurisdiction that is eligible to adopt the plan.

MULTI-JURISDICTION SUMMARY SHEET					
#	Jurisdiction Name	Jurisdiction Type	Eligible to Adopt the Plan?	Plan POC	Email
1	Tulare County	County	N	Andrew Lockman	alockman@tularehhsa.org
2	Dinuba	City	N	Chad Thompson	cthompson@dinuba.ca.gov
3	Exeter	City	N	Daymon Qualls	dqualls@exetercityhall.com
4	Farmersville	City	N	John Crivello	jcrivello@farmersvillepd.com
5	Lindsay	City	N	Mike Camarena	engineering@lindsay.ca.us
6	Porterville	City	N	Mike Reed	mreed@ci.porterville.ca.us
7	Tulare	City	N	Paul Melikian	pmelikian@tulare.ca.gov
8	Visalia	City	N	Norm Goldstrom	norm.goldstrom@visalia.city
9	Woodlake	City	N	Ramon Lara	rlara@ci.woodlake.ca.us
10	Tulare County Office of Education	Special District	N	Adam Valencia	avalencia@tcoe.org
11	Tule River Tribe	Tribe	N	Joe Boy Perez	joeboy.perez@tulerivertribe-nsn.gov



**SECTION 1:**

**REGULATION CHECKLIST**

**INSTRUCTIONS:** The Regulation Checklist must be completed by FEMA. The purpose of the Checklist is to identify the location of relevant or applicable content in the plan by element/sub-element and to determine if each requirement has been ‘Met’ or ‘Not Met.’ The ‘Required Revisions’ summary at the bottom of each element must be completed by FEMA to provide a clear explanation of the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is ‘Not Met.’ Sub-elements should be referenced in each summary by using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each Element and sub-element are described in detail in the *Local Plan Review Guide* in Section 4, Regulation Checklist.

<b>1. REGULATION CHECKLIST</b>		<b>Location in Plan</b>	<b>Met</b>	<b>Not Met</b>
Regulation (44 CFR 201.6 Local Mitigation Plans)		(section and/or page number)		
<b>ELEMENT A. PLANNING PROCESS</b>				
A1. Does the plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))	a. Does the plan document the planning process, including how it was prepared (with a narrative description, meeting minutes, sign-in sheets, or another method)?	Section 2.2, Appendix D		
	b. Does the plan list the jurisdiction(s) participating in the plan that are seeking approval?	Section 1, pg. 1, Section 1.4, pg. 4		
	c. Does the plan identify who represented each jurisdiction?  (At a minimum, it must identify the jurisdiction represented and the person’s position or title and agency within the jurisdiction.)	Section 2.2 Table 2.1,  Appendix D		

1. REGULATION CHECKLIST		Location in Plan	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)		(section and/or page number)		
A2. Does the plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2))	a. Does the plan document an opportunity for neighboring communities, local, and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development, as well as other interested parties to be involved in the planning process?	Section 2.2 Table 2.1		
	b. Does the plan identify how the stakeholders were invited to participate in the process?	Appendix D, Table D-1 Sample 10		
A3. Does the plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))		Section 2.3, Appendix E		
A4. Does the plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))		Section 7.2.4, Appendix H		
A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii))		Section 7.3		
A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))	a. Does the plan identify how, when, and by whom the plan will be <b>monitored</b> (how will implementation be tracked) over time?	Section 7.2		
	b. Does the plan identify how, when, and by whom the plan will be <b>evaluated</b> (assessing the effectiveness of the plan at achieving stated purpose and goals) over time?	Section 7.2.2		

1. REGULATION CHECKLIST		Location in Plan		Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)		(section and/or page number)			
	c. Does the plan identify how, when, and by whom the plan will be <b>updated</b> during the 5-year cycle?	Section 7.2.3			
<b>ELEMENT A: REQUIRED REVISIONS</b>					
<b>ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT</b>					
(Reviewer: See Section 4 for assistance with Element B)					
B1. Does the plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction(s)? (Requirement §201.6(c)(2)(i))	a. Does the plan include a general <b>description</b> of all natural hazards that can affect each jurisdiction?	Section 5.2			
	b. Does the plan provide rationale for the omission of any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area?	Section 5.1 pg. 43,  Section 5.5.2 addresses subsidence which is human caused in the Central Valley			
	c. Does the plan include a description of the <b>location</b> for all natural hazards that can affect each jurisdiction?	Section 5.2			
	d. Does the plan include a description of the <b>extent</b> for all natural hazards that can affect each jurisdiction?	Section 5.2			

1. REGULATION CHECKLIST		Location in Plan		
Regulation (44 CFR 201.6 Local Mitigation Plans)		(section and/or page number)	Met	Not Met
B2. Does the plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))	a. Does the plan include information on <b>previous occurrences</b> of hazard events for each jurisdiction?	Section 5.2		
	b. Does the plan include information on the <b>probability</b> of future hazard events for each jurisdiction?	Section 5.2		
B3. Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction? (Requirement §201.6(c)(2)(ii))	a. Is there a description of each hazard's <b>impacts</b> on each jurisdiction (what happens to structures, infrastructure, people, environment, etc.)?	Section 5.2		
	b. Is there a description of each identified hazard's overall <b>vulnerability</b> (structures, systems, populations, or other community assets defined by the community that are identified as being susceptible to damage and loss from hazard events) for each jurisdiction?	Sections 4.6, 5.2, 5.3, Appendix J Annexes A - J		
B4. Does the plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement §201.6(c)(2)(ii))		Section 6.4, pg. 112		
<b>ELEMENT B: REQUIRED REVISIONS</b>				
<b>ELEMENT C. MITIGATION STRATEGY</b>				
C1. Does the plan document each jurisdiction's existing authorities, policies, programs and resources and its ability to expand on and improve these	a. Does the plan document each jurisdiction's existing authorities, policies, programs and resources?	Section 3, Appendix J Annexes A - J		

<b>1. REGULATION CHECKLIST</b>		<b>Location in Plan</b>		<b>Met</b>	<b>Not Met</b>
<b>Regulation (44 CFR 201.6 Local Mitigation Plans)</b>		<b>(section and/or page number)</b>			
existing policies and programs? (Requirement §201.6(c)(3))	b. Does the plan document each jurisdiction's ability to expand on and improve these existing policies and programs?	Appendix J, Annexes A – J  See Section X.4 for each jurisdiction			
C2. Does the plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement §201.6(c)(3)(ii))		Section 6.4			
C3. Does the plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i))		Section 6.2			
C4. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement §201.6(c)(3)(ii))	a. Does the plan identify and analyze a comprehensive range (different alternatives) of specific mitigation actions and projects to reduce the impacts from hazards?	Sections 6.2, 6.3			
	b. Does the plan identify mitigation actions for every hazard posing a threat to each participating jurisdiction?	Sections 6.2, 6.3,  Appendix J Annexes A – J, See Section X.5 for each jurisdiction			

1. REGULATION CHECKLIST		Location in Plan		Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)		(section and/or page number)			
	c. Do the identified mitigation actions and projects have an emphasis on new and existing buildings and infrastructure?	Sections 6.2, 6.3, Appendix J Annexes A – J, See Section X.5 for each jurisdiction			
C5. Does the plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))	a. Does the plan explain how the mitigation actions and projects will be prioritized (including cost benefit review)?	Section 6.3, Appendix F			
	b. Does the plan identify the position, office, department, or agency responsible for implementing and administering the action/project, potential funding sources and expected timeframes for completion?	Section 6.3, Table 6.3			
C6. Does the plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6(c)(4)(ii))	a. Does the plan identify the local planning mechanisms where hazard mitigation information and/or actions may be incorporated?	Section 7.2.4, Appendix H			
	b. Does the plan describe each community's process to integrate the data, information, and hazard mitigation goals and actions into other planning mechanisms?	Section 7.2.4, Appendix H, Appendix J Annexes A -J			

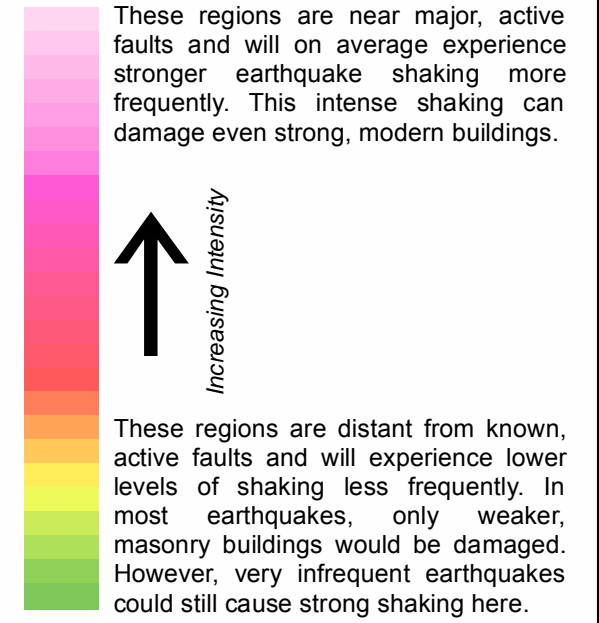
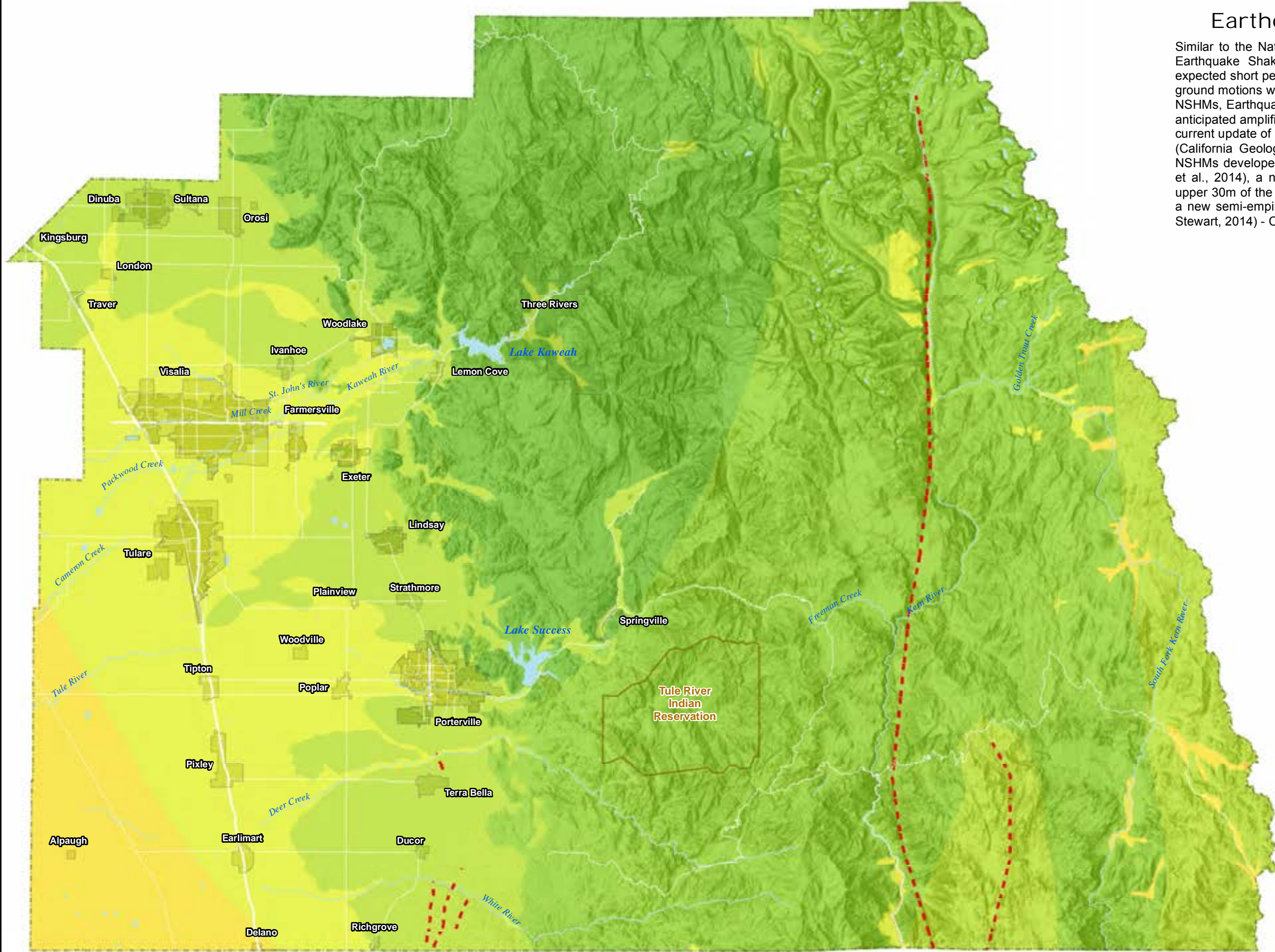


<b>1. REGULATION CHECKLIST</b>		<b>Location in Plan</b>		<b>Met</b>	<b>Not Met</b>
<b>Regulation (44 CFR 201.6 Local Mitigation Plans)</b>		<b>(section and/or page number)</b>			
	c. The updated plan must explain how the jurisdiction(s) incorporated the mitigation plan, when appropriate, into other planning mechanisms as a demonstration of progress in local hazard mitigation efforts.	Appendix H			
<b><u>ELEMENT C: REQUIRED REVISIONS</u></b>					
<b>ELEMENT D. PLAN REVIEW, EVALUATION, AND IMPLEMENTATION</b>					
(Applicable to plan updates only)					
D1. Was the plan revised to reflect changes in development? (Requirement §201.6(d)(3))		Sections 4.4, 4.5			
D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement §201.6(d)(3))		Section 8.1			
D3. Was the plan revised to reflect changes in priorities? (Requirement §201.6(d)(3))		Section 6.4, Appendix F			
<b><u>ELEMENT D: REQUIRED REVISIONS</u></b>					
<b>ELEMENT E. PLAN ADOPTION</b>					
E1. Does the plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement §201.6(c)(5))		Pending approval			

1. REGULATION CHECKLIST	Location in Plan		
Regulation (44 CFR 201.6 Local Mitigation Plans)	(section and/or page number)	Met	Not Met
E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5))	Pending approval		
<b><u>ELEMENT E: REQUIRED REVISIONS</u></b>			
<b>ELEMENT F. ADDITIONAL STATE REQUIREMENTS</b> (Optional for State Reviewers only; not to be completed by FEMA)			
F1.			
F2.			
<b><u>ELEMENT F: REQUIRED REVISIONS</u></b>			

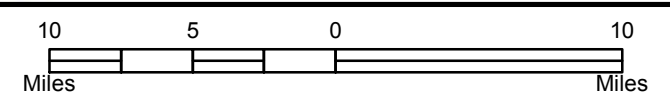
# Earthquake Shaking Potential

Similar to the National Seismic Hazard Maps (NSHM) by USGS, the Earthquake Shaking Potential Maps for California by CGS depict expected short period (0.2s or 5hz) and intermediate period (1s or 1hz) ground motions with 2% exceedance probability in 50 years. Unlike the NSHMs, Earthquake Shaking Potential Maps for California incorporate anticipated amplification of ground motions by local soil conditions. The current update of the Earthquake Shaking Potential Maps for California (California Geological Survey Map Sheet 48) is based on the 2014 NSHMs developed by the United States Geological Survey (Petersen et al., 2014), a new map of the average shear wave velocity in the upper 30m of the earth's surface for California (Wills et al., 2015), and a new semi-empirical nonlinear site amplification model (Seyhan and Stewart, 2014) - Credit: CGS.



- - - Quaternary Fault
- Tule River Reservation

Note: Both City Limit (darker) and Urban Development Boundaries (lighter) are displayed.



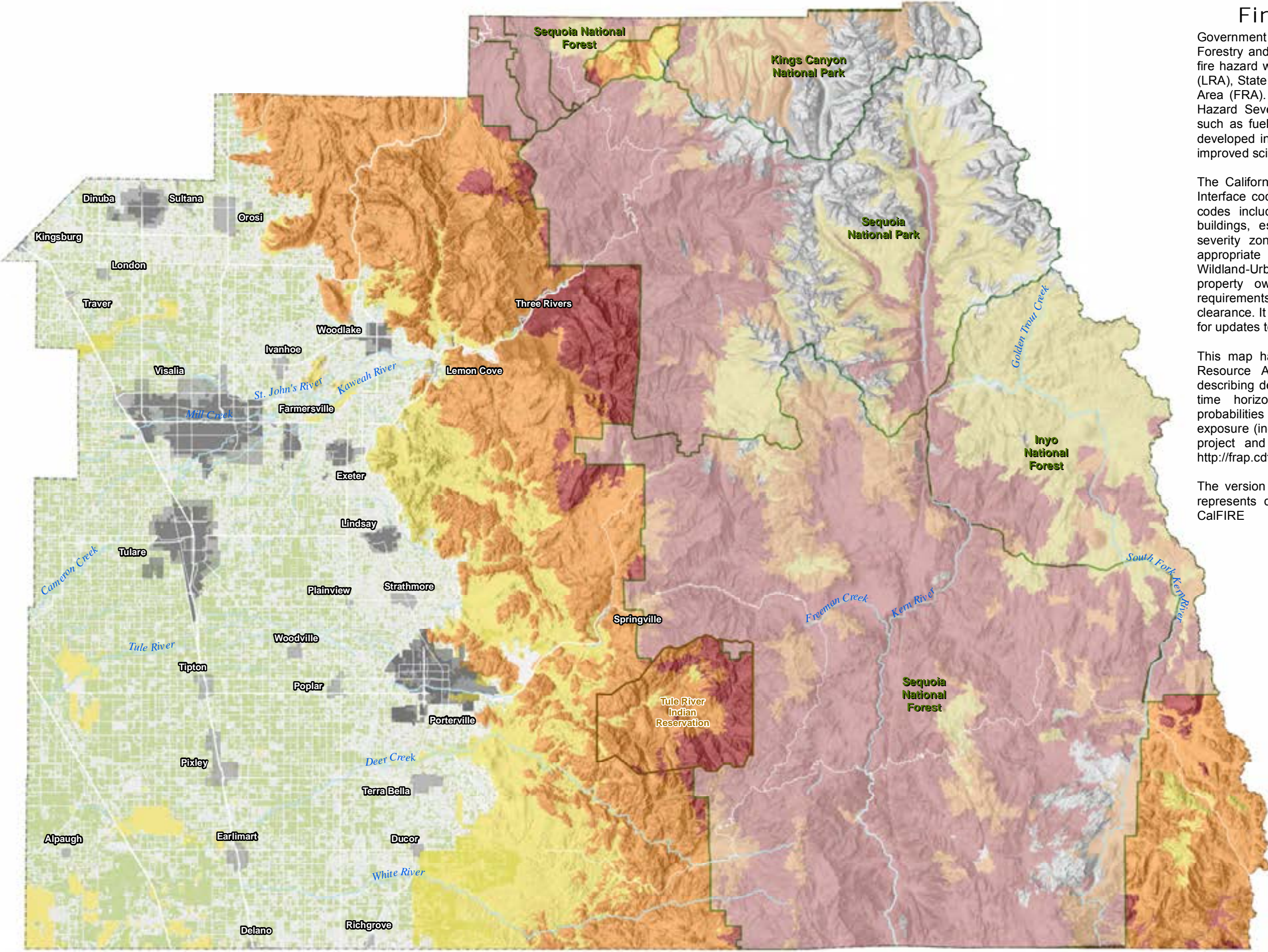
# Fire Hazard Severity Zones

Government Code 51175-89 direct the California Department of Forestry and Fire Protection (CalFIRE) to map areas of very high fire hazard within the state and includes Local Responsibility Area (LRA), State Responsibility Area (SRA), and Federal Responsibility Area (FRA). Mapping of the areas, referred to as Very High Fire Hazard Severity Zones (VHFHSZ), is based on relevant factors such as fuels, terrain, and weather. VHFHSZ maps were initially developed in the mid-1990s but are now being updated based on improved science, mapping techniques, and data.

The California Building Commission adopted the Wildland-Urban Interface codes in late 2005 to be effective in 2008. These new codes include provisions to improve the ignition resistance of buildings, especially from firebrands. The updated fire hazard severity zones will be used by building officials to determine appropriate construction materials for new buildings in the Wildland-Urban Interface. The updated zones will also be used by property owners to comply with natural hazards disclosure requirements at time of property sale and 100-foot defensible space clearance. It is likely that the fire hazard severity zones will be used for updates to the safety element of general plans.

This map has been created using data from CalFIRE's Fire & Resource Assessment Program (FRAP) which uses models describing development patterns, potential fuels over a 30-50 year time horizon, expected fire behavior, and expected burn probabilities to quantify the likelihood and nature of vegetation fire exposure (including firebrands) to new construction. Details on the project and specific modeling methodology can be found at <http://frap.cdf.ca.gov/projects/hazard/methods.htm>.

The version dated September 17, 2007 of the map shown here represents draft VHFHSZs within LRA, SRA, and FRA. Credit: CalFIRE



## Fire Hazard Severity Zone

- Very High
- High
- Moderate
- Agriculture
- Tule River Reservation
- National Forest

Note: both City limit (darker) and Urban Development Boundary (lighter) are displayed.



# Special Flood Hazard Area

Special Flood Hazard Areas (SFHA) are identified by the FEMA National Flood Insurance Program (NFIP) as an area with special flood, mudflow, or flood related erosion hazard, as shown on a Flood Hazard Boundary Map (FHBM) or Flood Insurance Rate Map. FHBM and FRIM denote classifications, or zones, for flood risk. Areas of Special Flood Hazard include the following Zones: A, AO, A1-A30, AE, A99, AH, AR, AR/A, AR/AE, AR/AH, AR/AO, AR/A1-A30, V1-V30 or V.

SFHAs are areas subject to inundation by the one percent annual chance flood. The one percent annual flood (100-year flood), also known as the base flood, is the flood that has a one percent chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the one percent annual chance flood.

Zone A: No Base Flood Elevations determined.

Zone AE: Base Flood Elevations determined.

Zone AH: Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

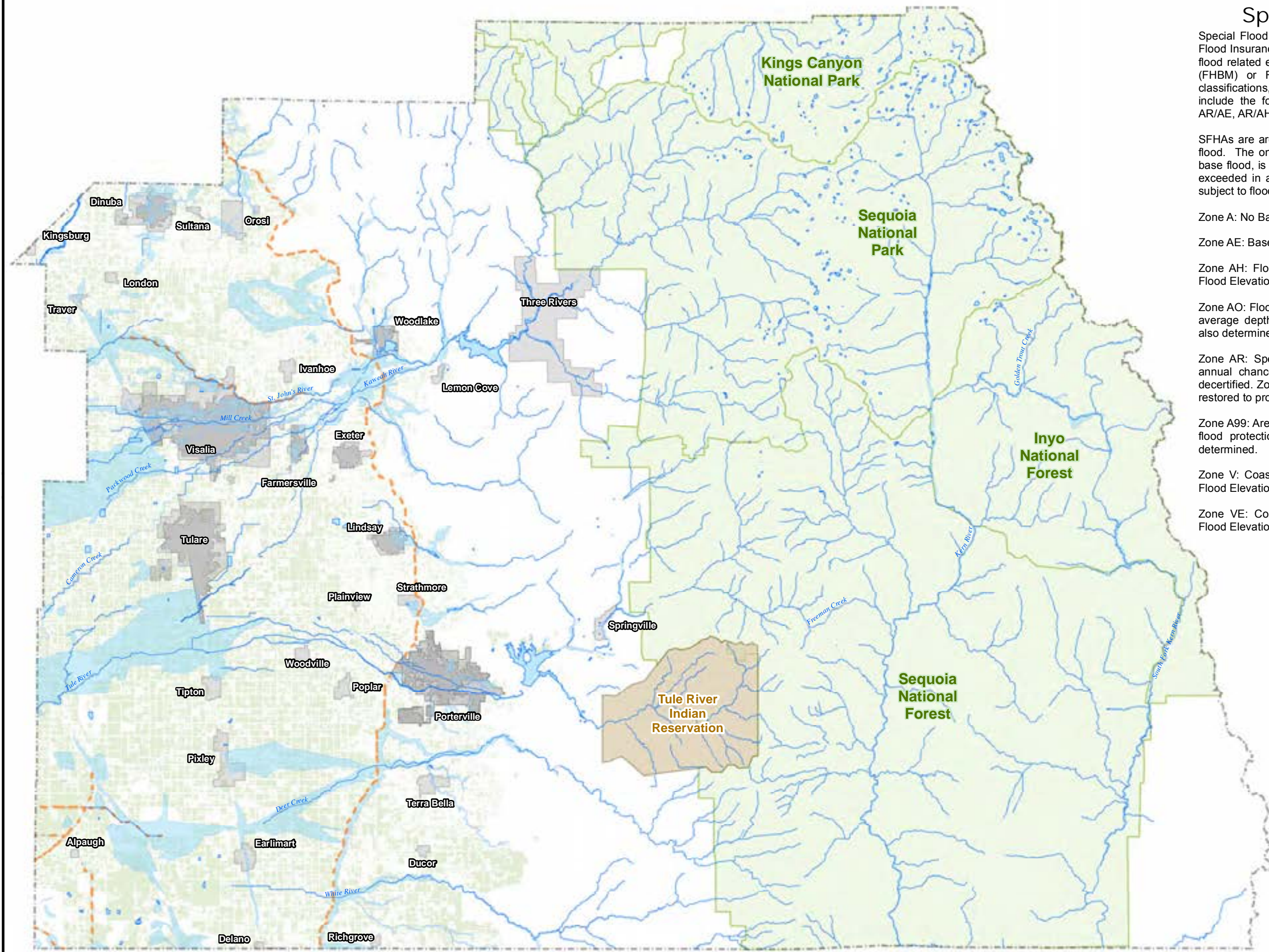
Zone AO: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

Zone AR: Special Flood Hazard Area formerly protected from the 1 % annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1 % annual chance or greater flood.

Zone A99: Area to be protected from 1 % annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

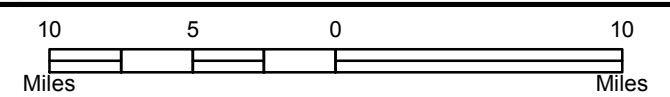
Zone V: Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

Zone VE: Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.



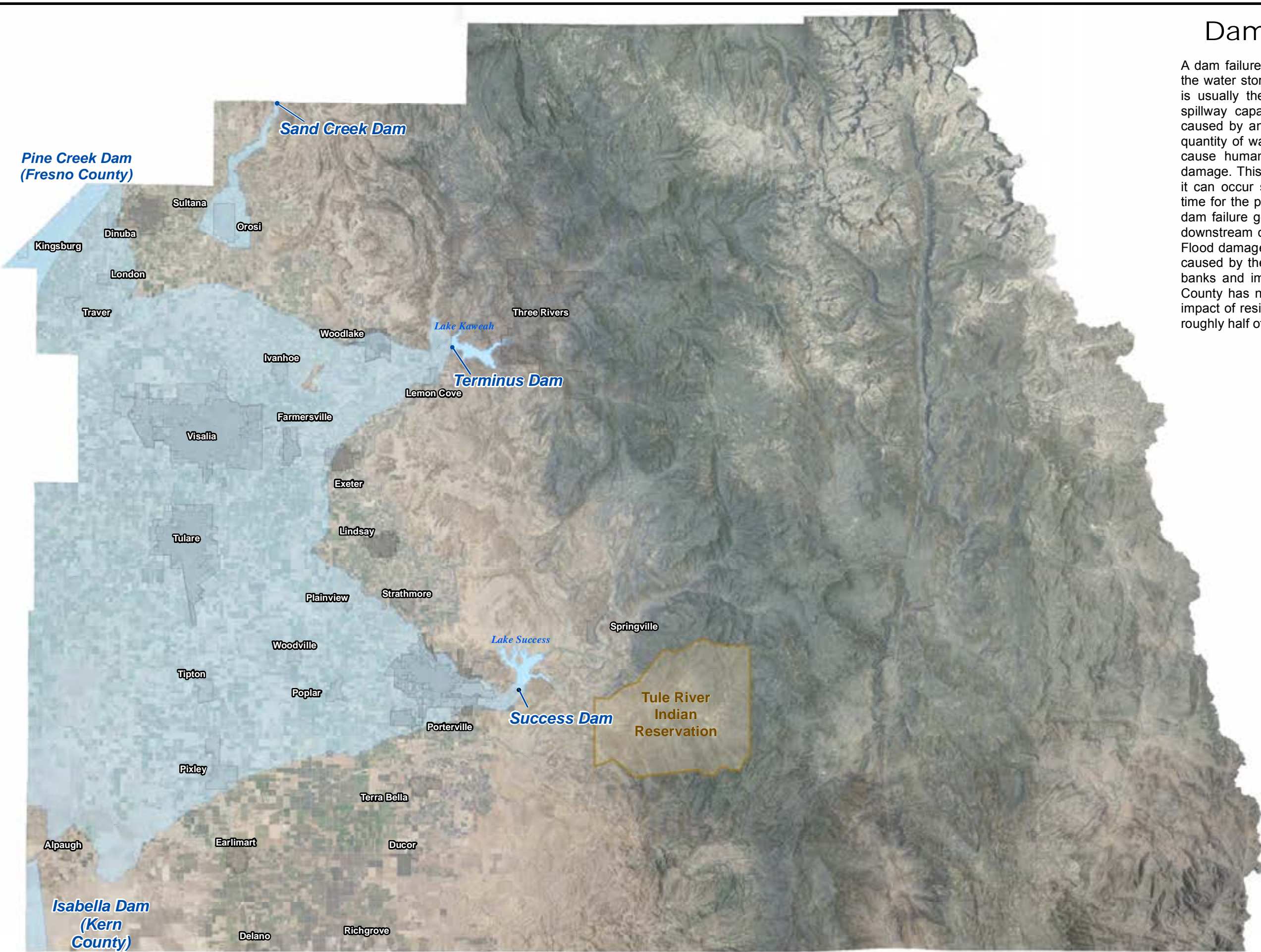
- Flood Inundation
- Levee
- Agriculture
- Tule River Reservation
- National Forest

Note: both City limit (darker) and Urban Development Boundary (lighter) are displayed.



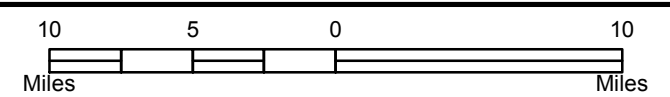
# Dam Failure Inundation

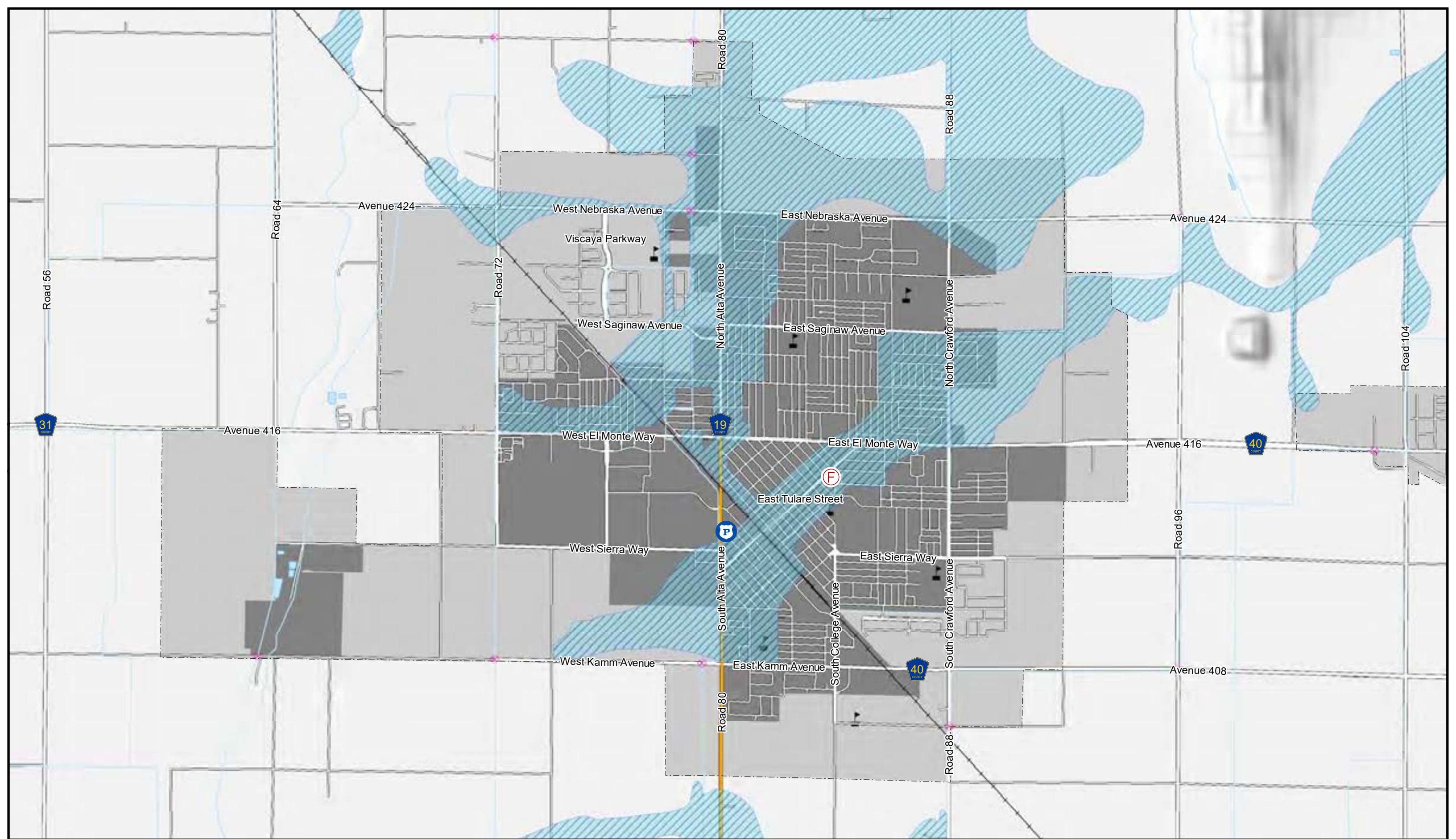
A dam failure is the structural collapse of a dam that releases the water stored in the reservoir behind the dam. A dam failure is usually the result of the age of the structure, inadequate spillway capacity used in construction, or structural damage caused by an earthquake or flood. When a dam fails, a large quantity of water is suddenly released with a great potential to cause human casualties, economic loss, and environmental damage. This type of disaster is especially dangerous because it can occur suddenly, providing little warning and evacuation time for the people living downstream. The flows resulting from dam failure generally are much larger than the capacity of the downstream channels and therefore lead to extensive flooding. Flood damage occurs as a result of the momentum of the flood caused by the sediment-laden water flooding over the channel banks and impact debris carried by the flow. To date, Tulare County has not experienced a dam failure. The estimated for impact of residents for a failure at Terminus Dam is 255,237 or roughly half of the county's entire population.



- Dam Inundation Area
- Tule River Reservation

Note: both City limit (darker) and Urban Development Boundary (lighter) are displayed.

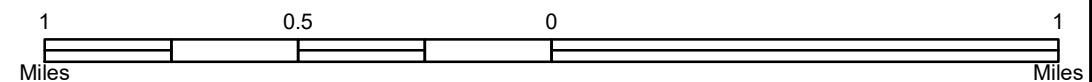










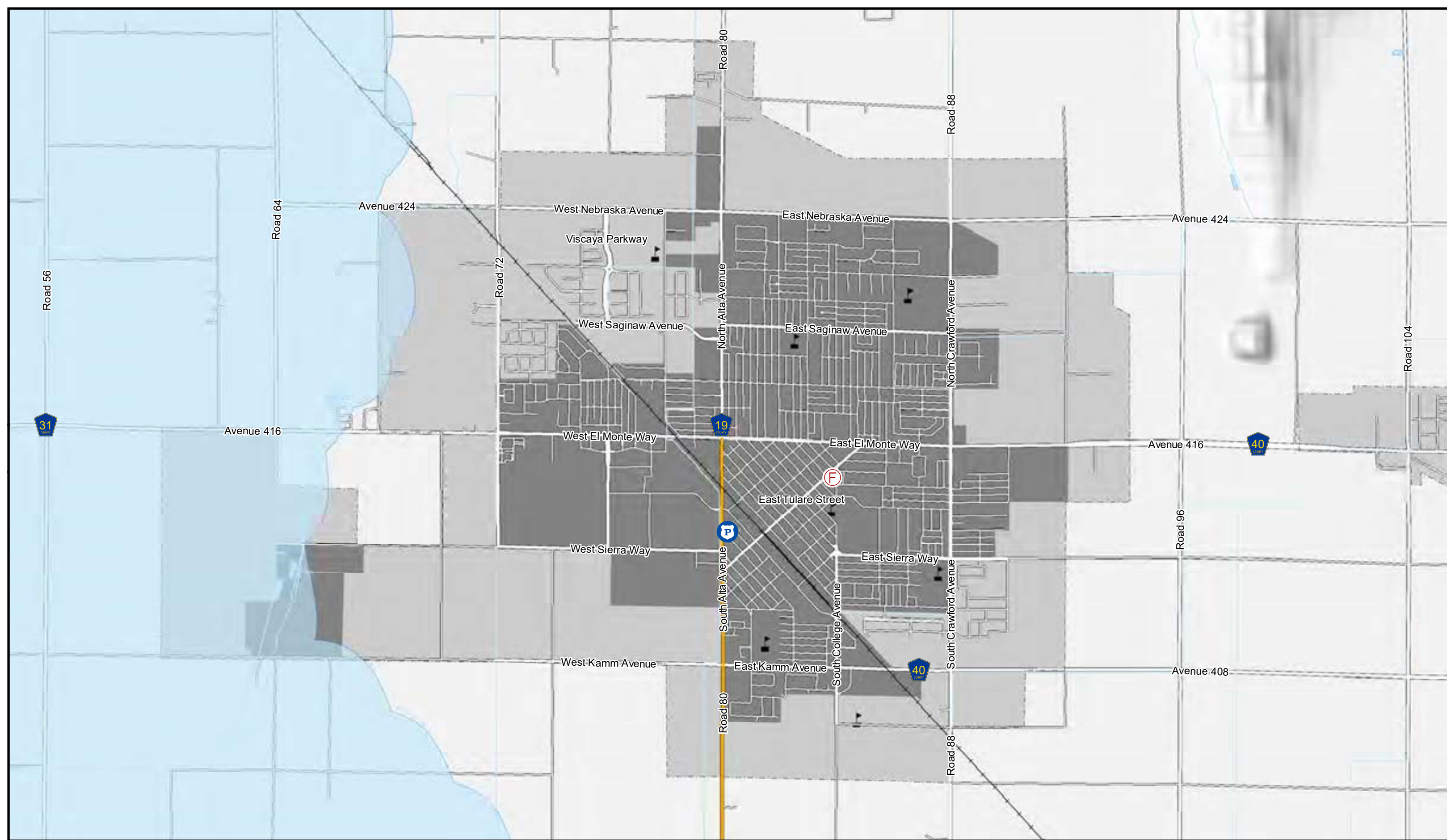
**Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan**

**City of Dinuba Special Flood Hazard Area**

Scale: 1 inch = 0.38 miles  
 Projection: Lambert Conformal Conic  
 Coordinate System: NAD 1983 State Plane CA IV FIPS 0404 (ft.)  
 Data: Tulare County, FEMA, USGS, USDA, US Census



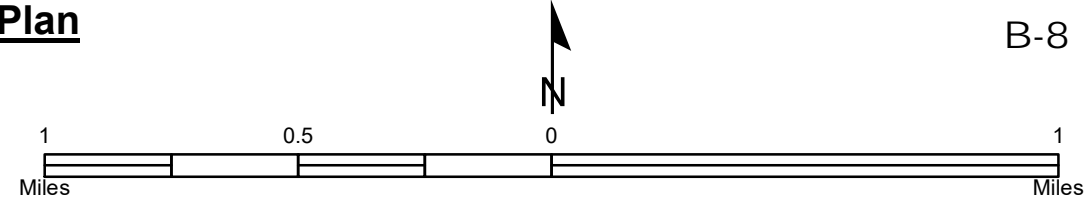
-  Railroad
-  Urban Development Boundary
-  City Limit
-  Culverts
-  Levee
-  Flood Inundation







**Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan**

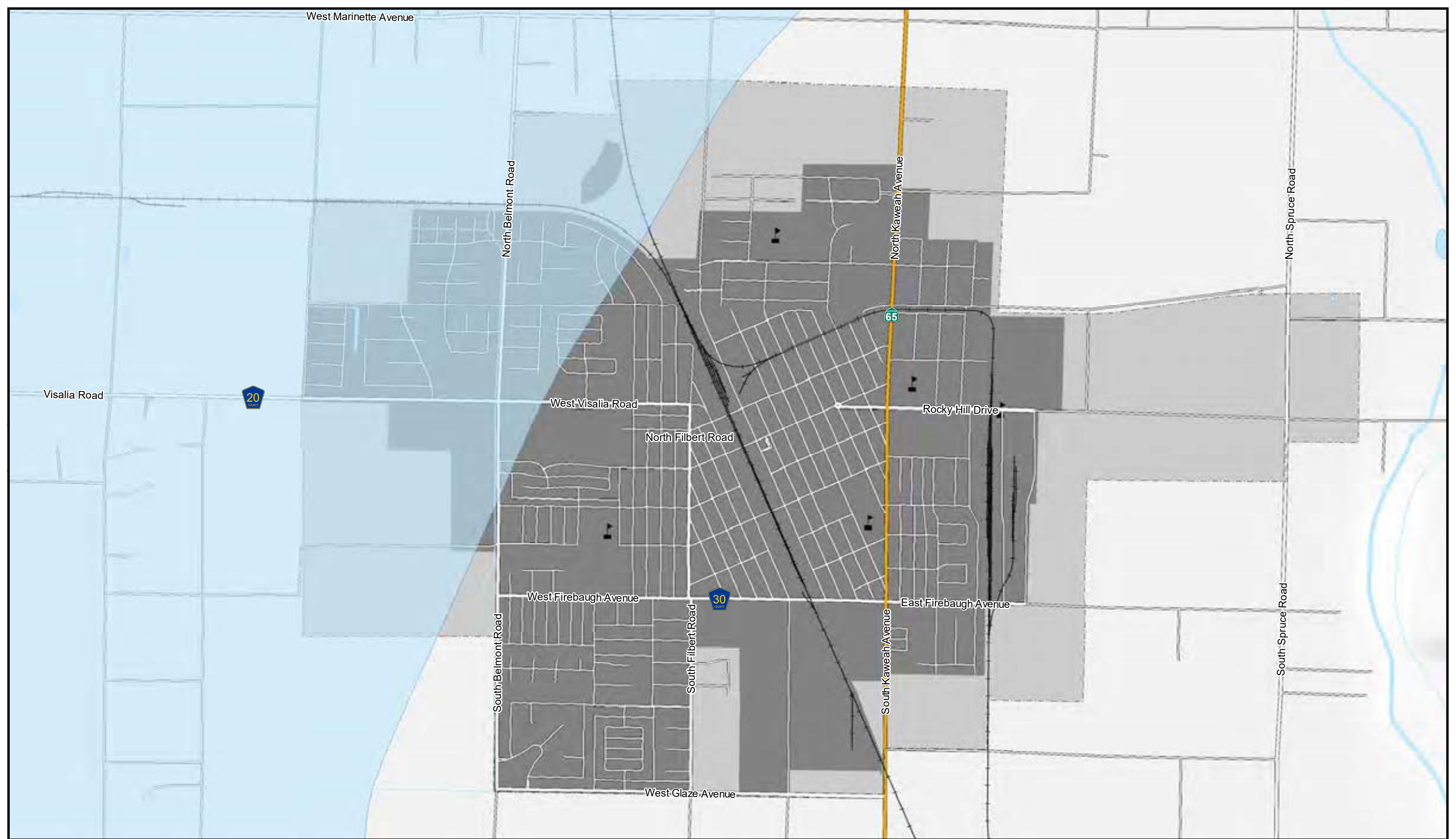
**City of Dinuba Dam Inundation**

Scale: 1 inch = 0.38 miles  
 Projection: Lambert Conformal Conic  
 Coordinate System: NAD 1983 State Plane CA IV FIPS 0404 (ft.)  
 Data: Tulare County, FEMA, USGS, USDA, US Census



-  Railroad
-  Dam Inundation Area
-  Urban Development Boundary
-  City Limit










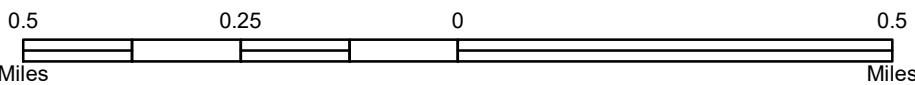
**Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan**

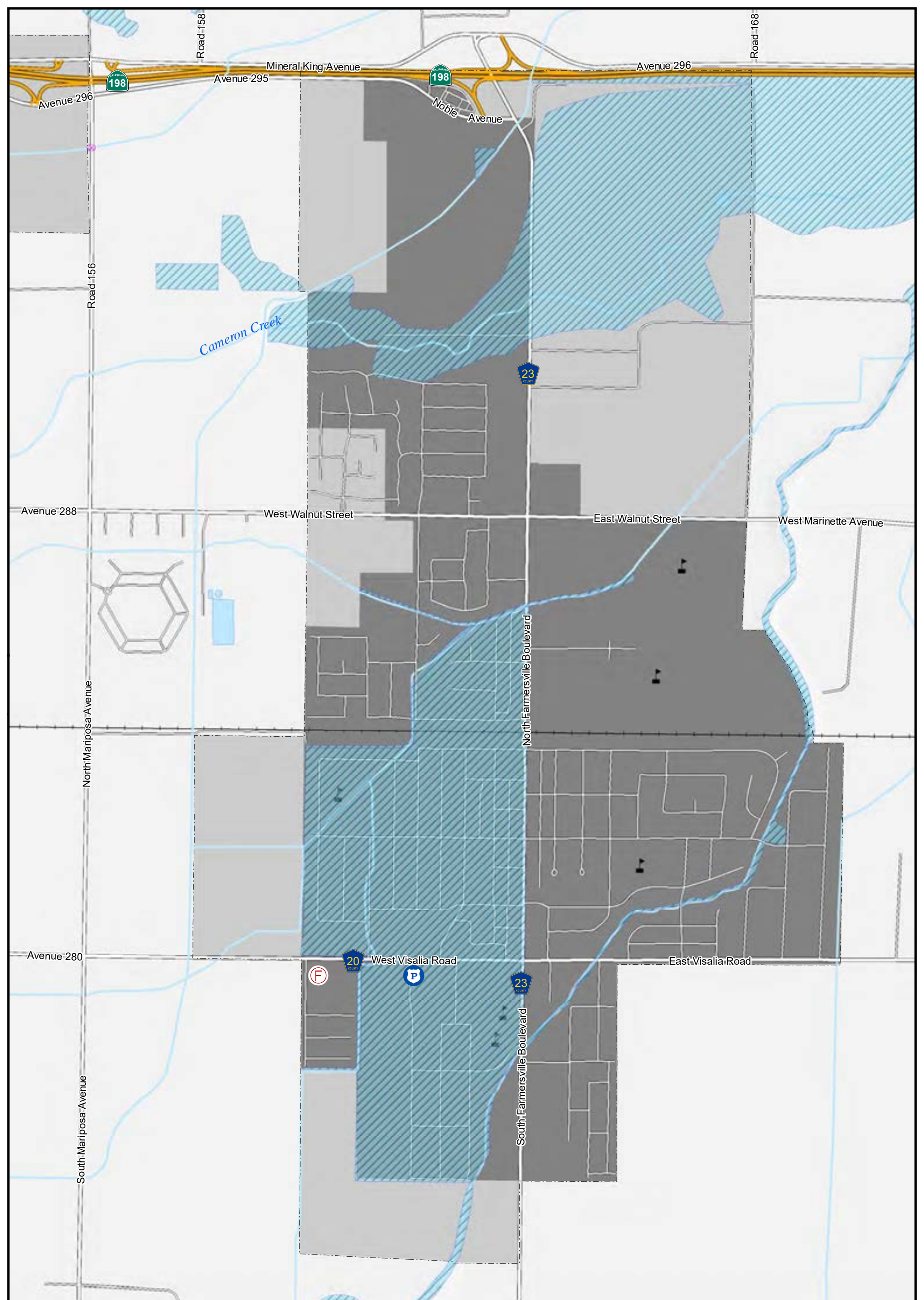
**City of Exeter Dam Inundation**

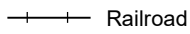




Scale: 1 inch = 0.22 miles  
 Projection: Lambert Conformal Conic  
 Coordinate System: NAD 1983 State Plane CA IV FIPS 0404 (ft.)  
 Data: Tulare County, FEMA, USGS, USDA, US Census

-  Railroad
-  Dam Inundation Area
-  Urban Development Boundary
-  City Limit

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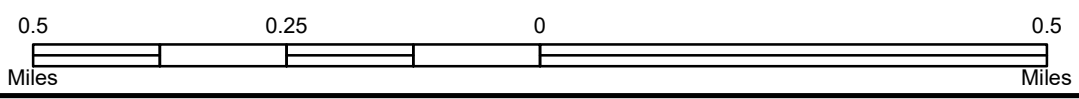



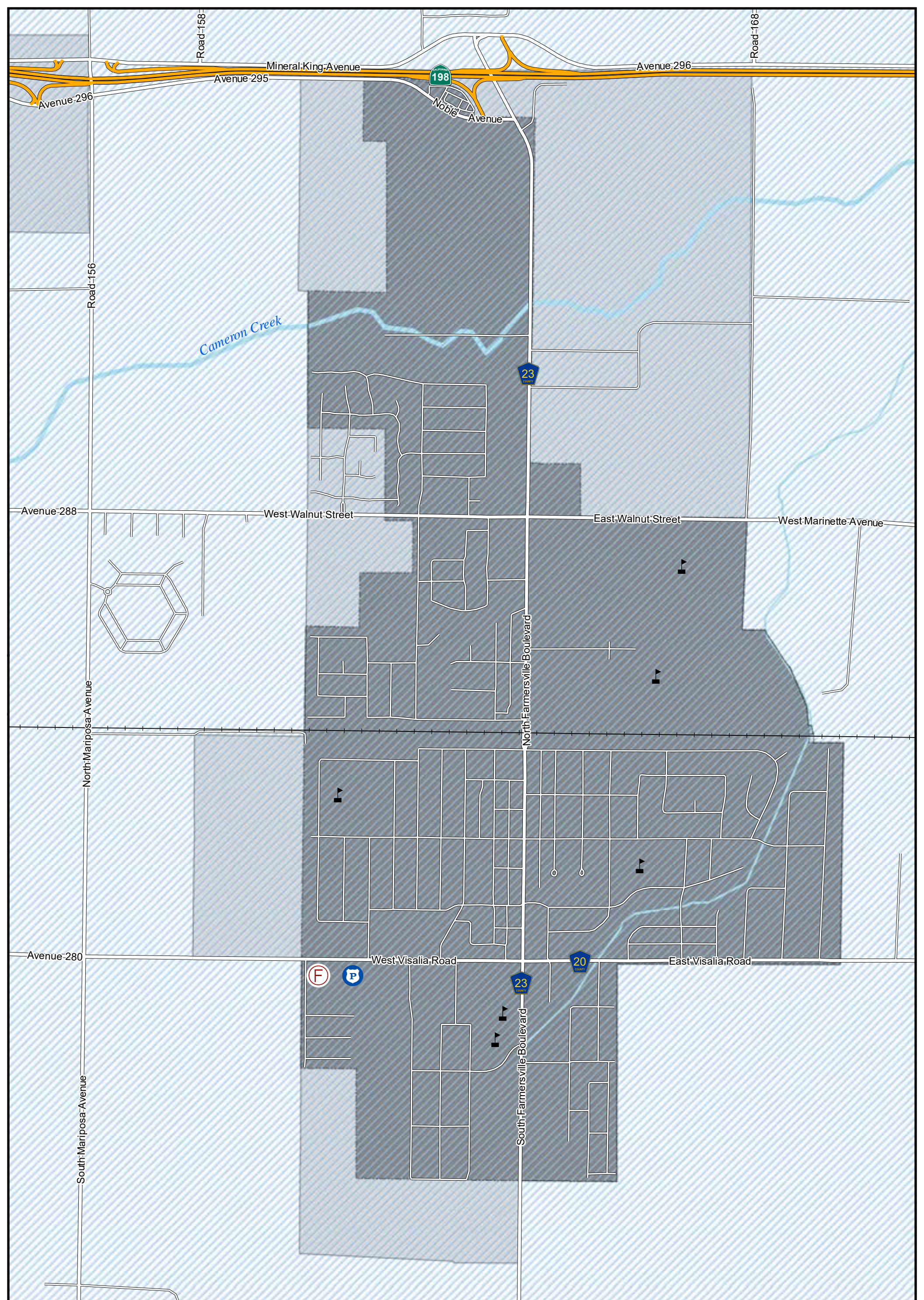


-  Railroad
-  Culverts
-  Flood Inundation
-  Urban Development Boundary
-  City Limit

**Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan**  
**City of Farmersville Special Flood Hazard Area**





Scale: 1 inch = 0.19 miles  
 Projection: Lambert Conformal Conic  
 Coordinate System: NAD 1983 State Plane CA IV FIPS 0404 (ft.)  
 Data: Tulare County, FEMA, USGS, USDA, US Census



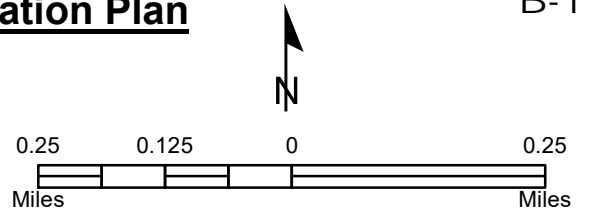


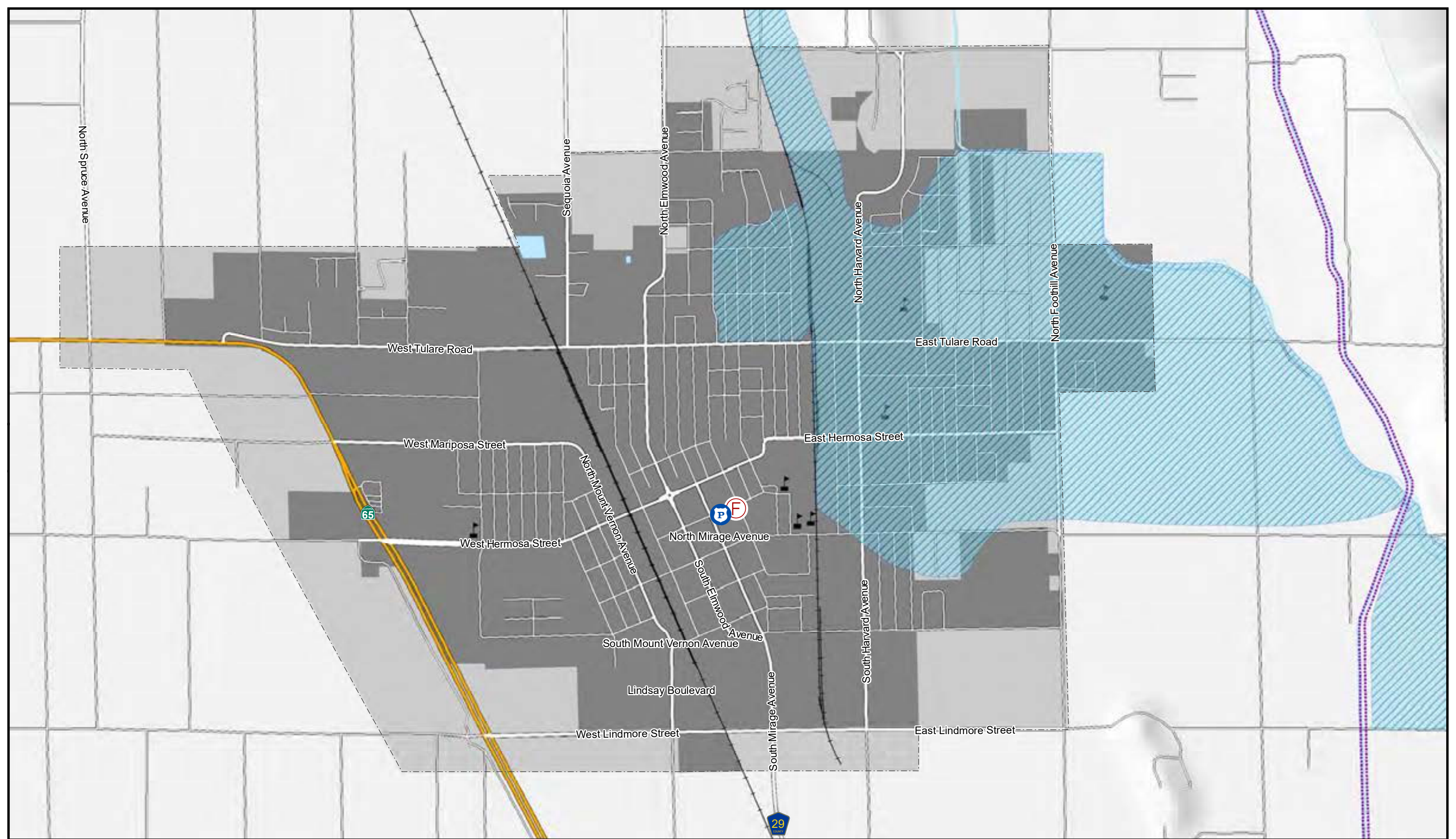
**Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan**  
**City of Farmersville Dam Inundation**

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-  Railroad
-  Dam Inundation Area
-  Urban Development Boundary
-  City Limit

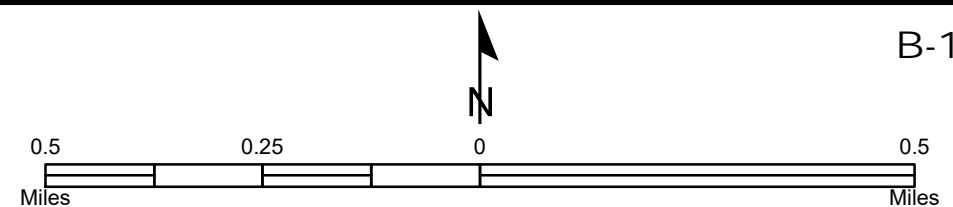
Scale: 1 inch = 0.19 miles  
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 Coordinate System: NAD 1983 State Plane California IV FIPS 0404 (feet)  
 Data: Tulare County, USACE, URS, USGS, USDA, US Census



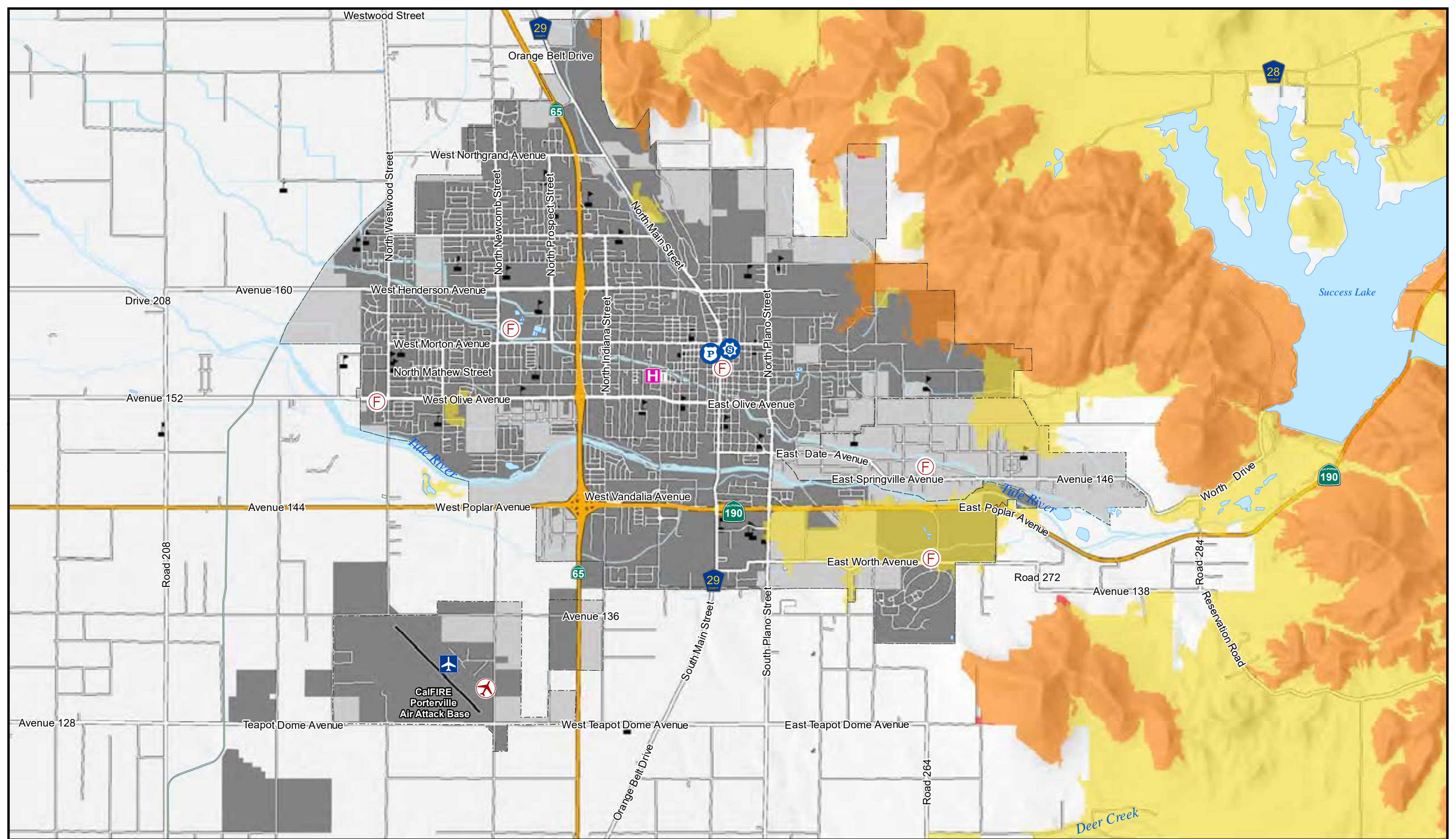


**Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan**  
**City of Lindsay Special Flood Hazard Area**

Scale: 1 inch = 0.22 miles  
 Projection: Lambert Conformal Conic  
 Coordinate System: NAD 1983 State Plane CA IV FIPS 0404 (ft.)  
 Data: Tulare County, FEMA, USGS, USDA, US Census



- Railroad
- Urban Development Boundary
- City Limit
- Culverts
- Levee
- Flood Inundation



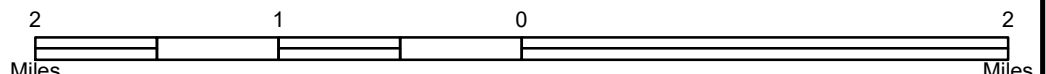
**Fire Hazard Severity Zone**

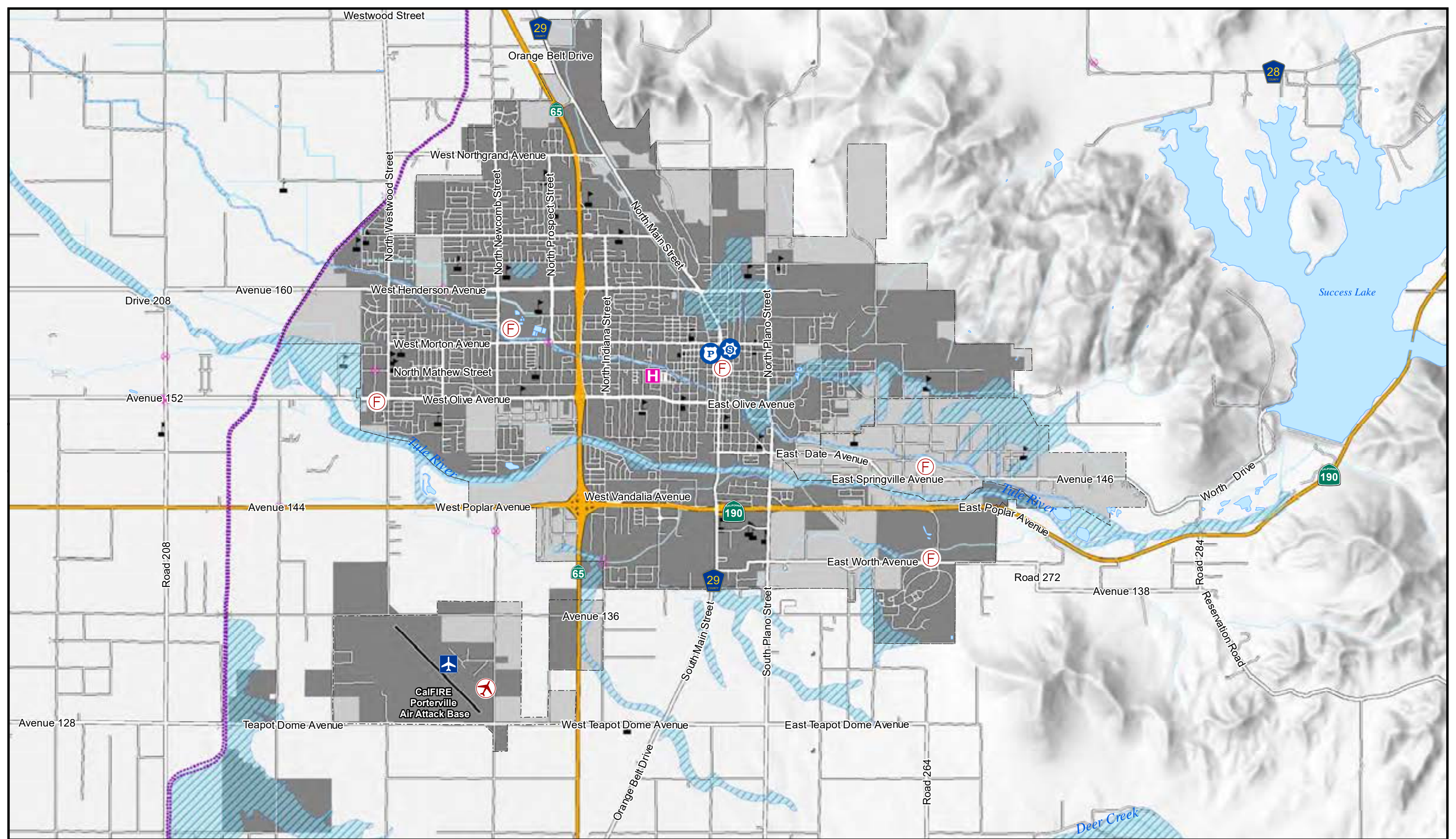
- Very High
- High
- Moderate
- Railroad
- Urban Development Boundary
- City Limit

**Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan**

**City of Porterville Fire Hazard Severity Zone**







Scale: 1 inch = 0.79 miles  
 Projection: Lambert Conformal Conic  
 Coordinate System: NAD 1983 State Plane CA IV FIPS 0404 (ft.)  
 Data: Tulare County, CalFIRE, USGS, USDA, US Census



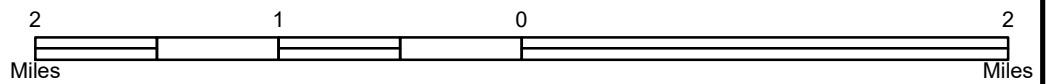


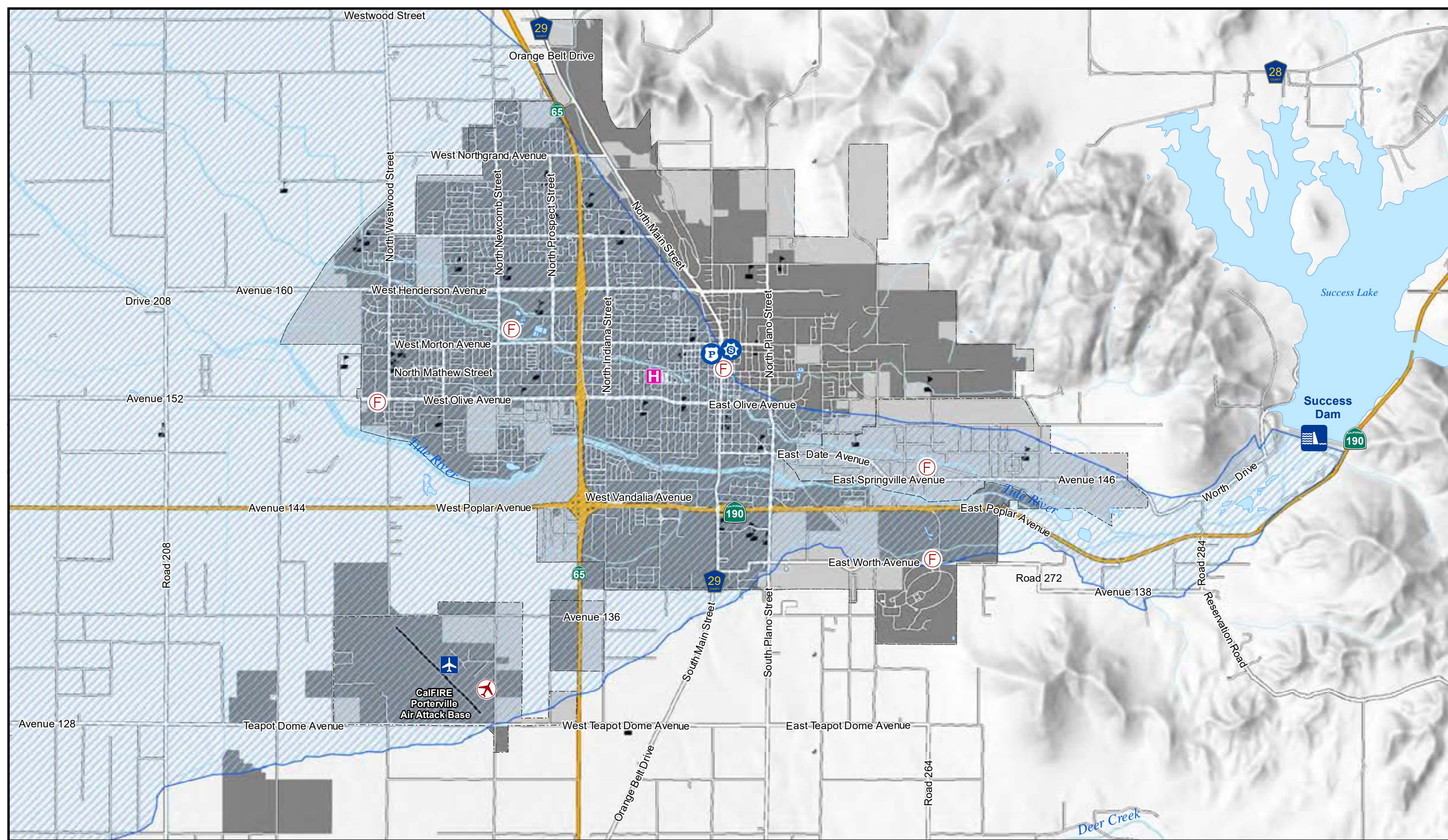
**Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan**  
*City of Porterville Special Flood Hazard Area*





B-14

-  Railroad
-  Urban Development Boundary
-  City Limit
-  Culverts
-  Levee
-  Flood Inundation

Scale: 1 inch = 0.79 miles  
 Projection: Lambert Conformal Conic  
 Coordinate System: NAD 1983 State Plane CA IV FIPS 0404 (ft.)  
 Data: Tulare County, FEMA, USGS, USDA, US Census

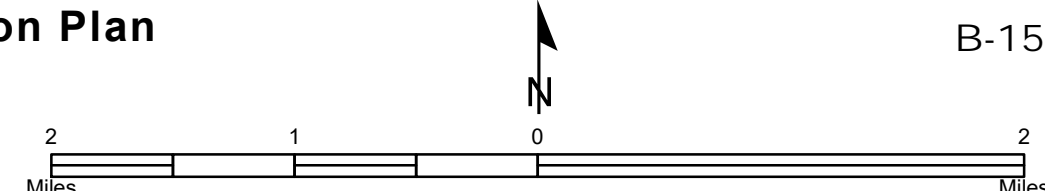


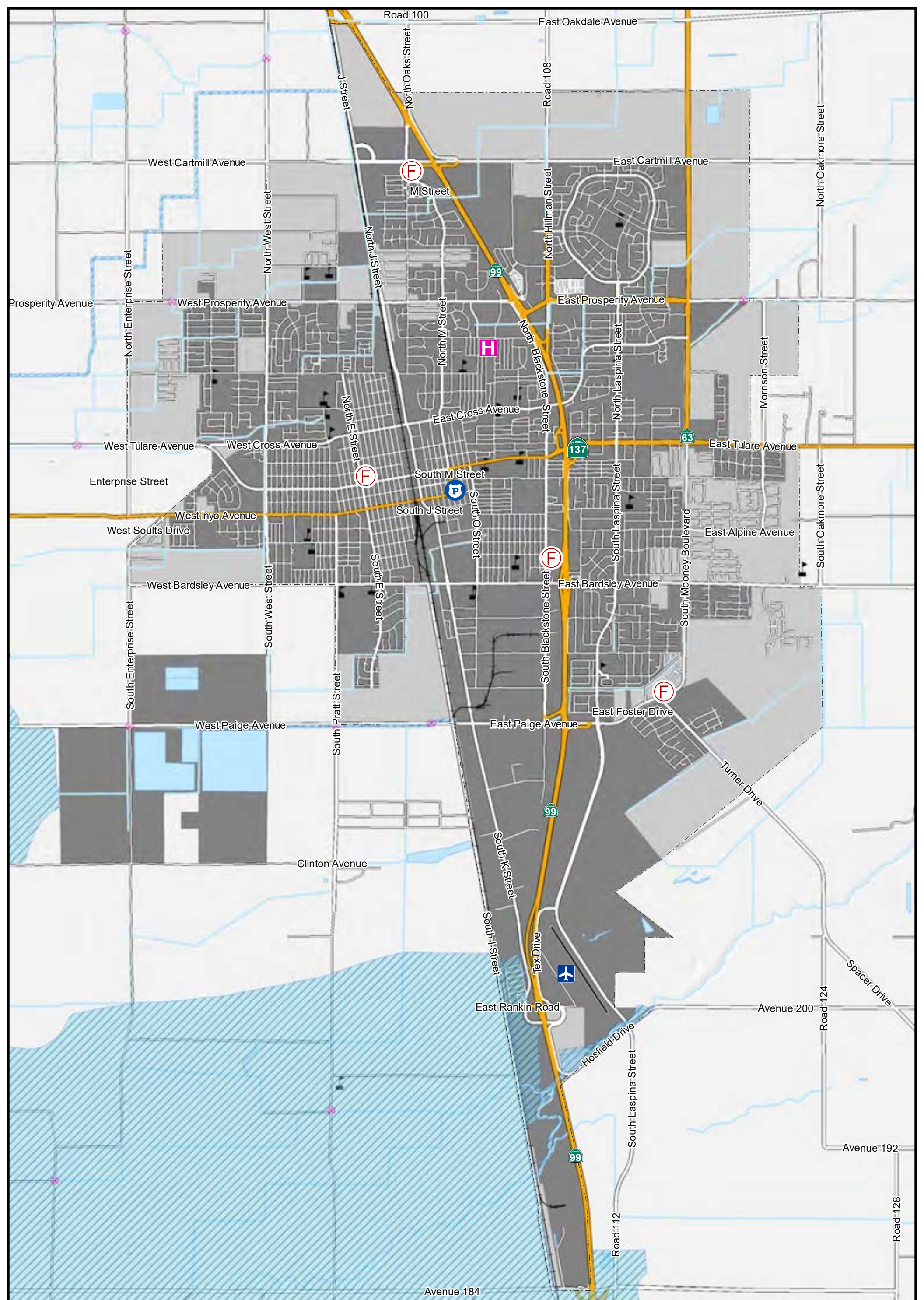







-  Railroad
-  Dam Inundation Area
-  Urban Development Boundary
-  City Limit

**Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan**  
*City of Porterville Success Dam Inundation*

Scale: 1 inch = 0.79 miles  
 Projection: Lambert Conformal Conic  
 Coordinate System: NAD 1983 State Plane CA IV FIPS 0404 (ft.)  
 Data: Tulare County, USACE, URS, USGS, USDA, US Census

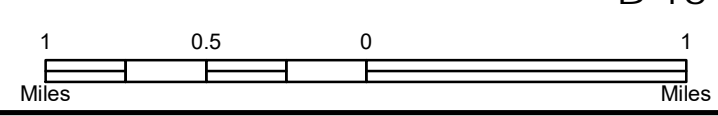




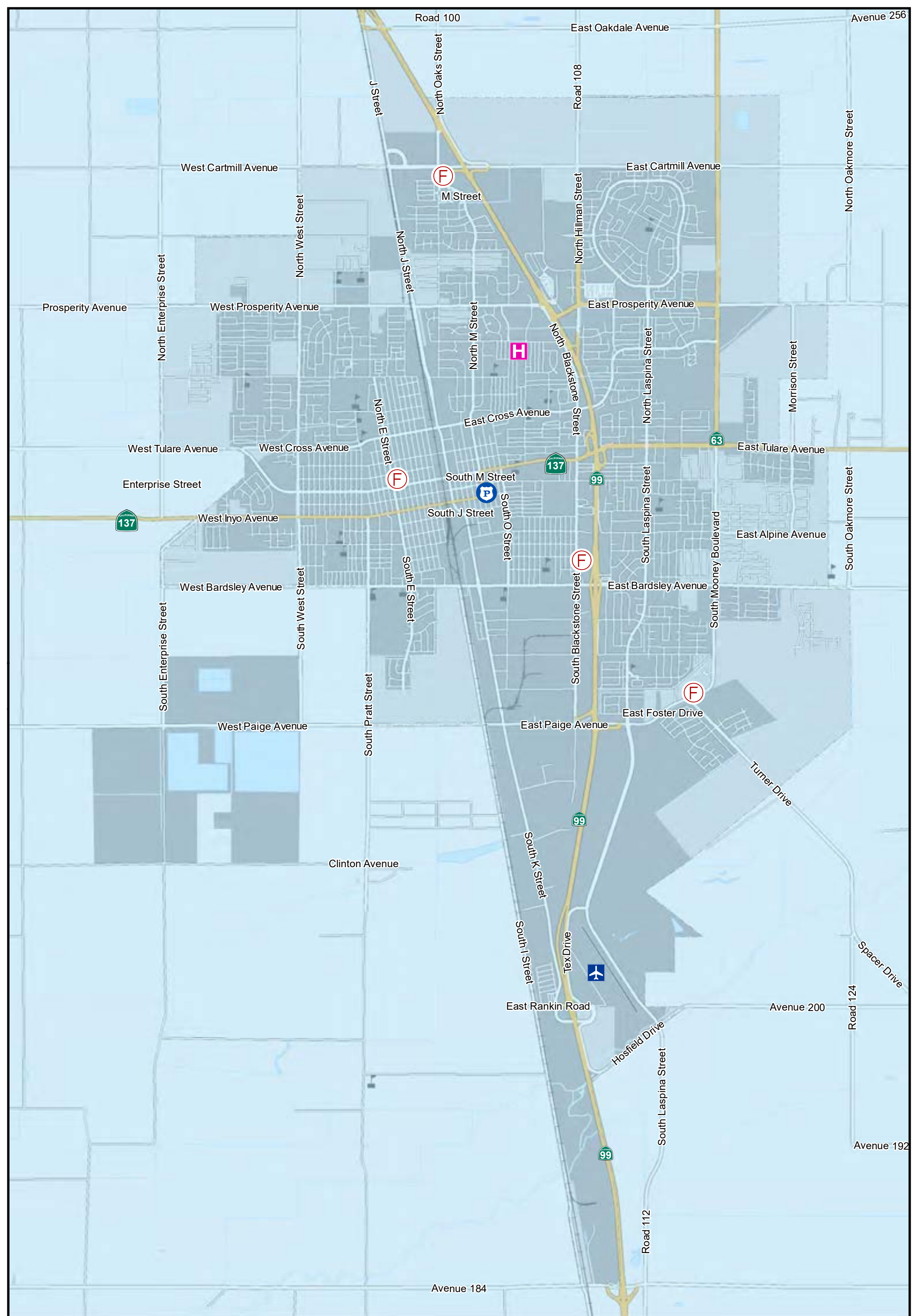
-  Railroad
-  Culverts
-  Flood Inundation
-  Urban Development Boundary
-  City Limit

**Tulare County Multi-Jurisdictional  
Local Hazard Mitigation Plan**  
*City of Tulare Special Flood Hazard Area*

Scale: 1 inch = 0.6 miles  
Projection: Lambert Conformal Conic  
Coordinate System: NAD 1983 State Plane CA IV FIPS 0404 (ft.)  
Data: Tulare County, FEMA, USGS, USDA, US Census







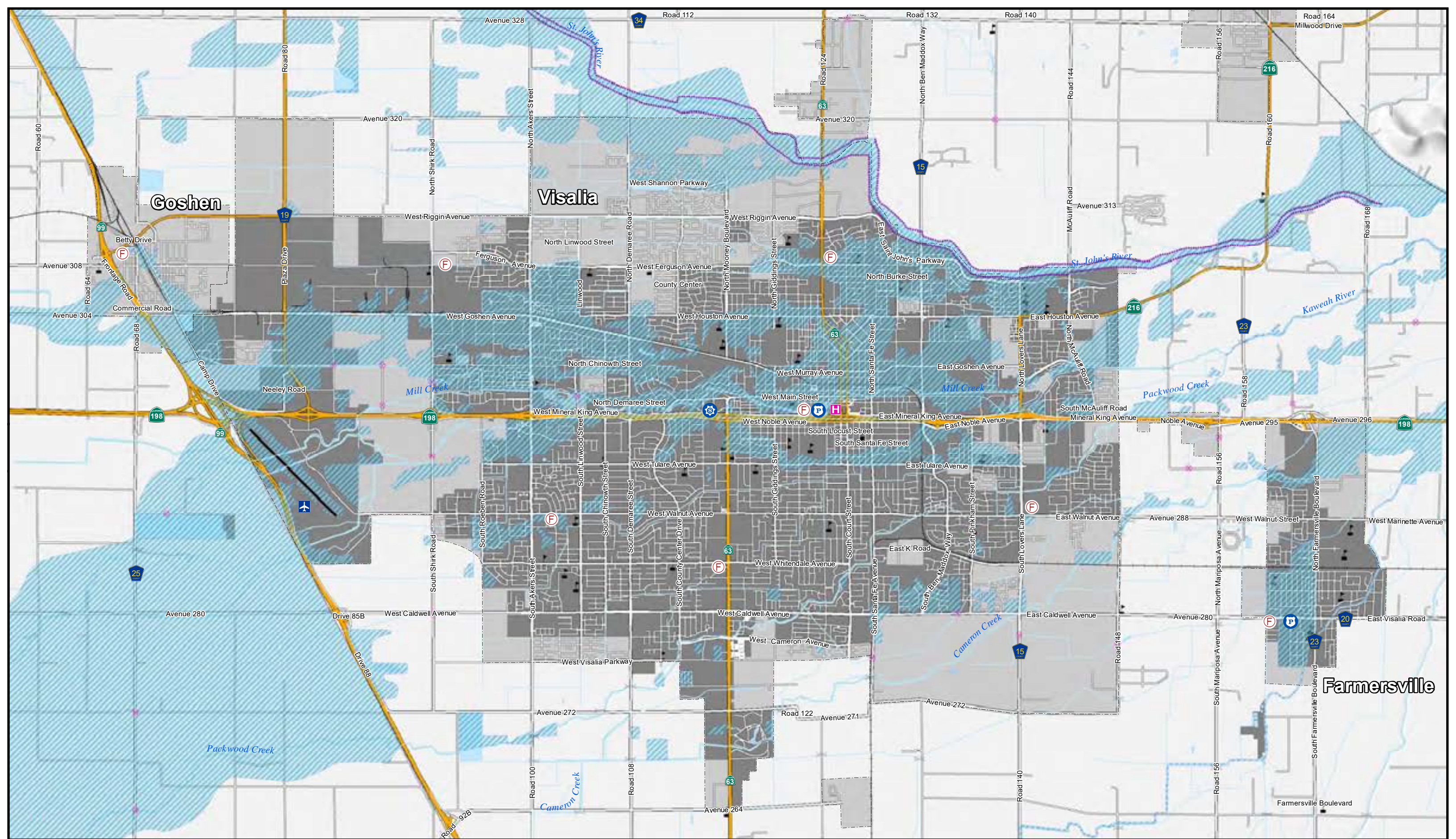
**Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan**  
*City of Tulare Dam Inundation*

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Scale: 1 inch = 0.6 miles  
 Projection: Lambert Conformal Conic  
 Coordinate System: NAD 1983 State Plane CA IV FIPS 0404 (ft.)  
 Data: Tulare County, FEMA, USGS, USDA, US Census

- Railroad
- Dam Inundation Area
- Urban Development Boundary
- City Limit

Miles



# Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan

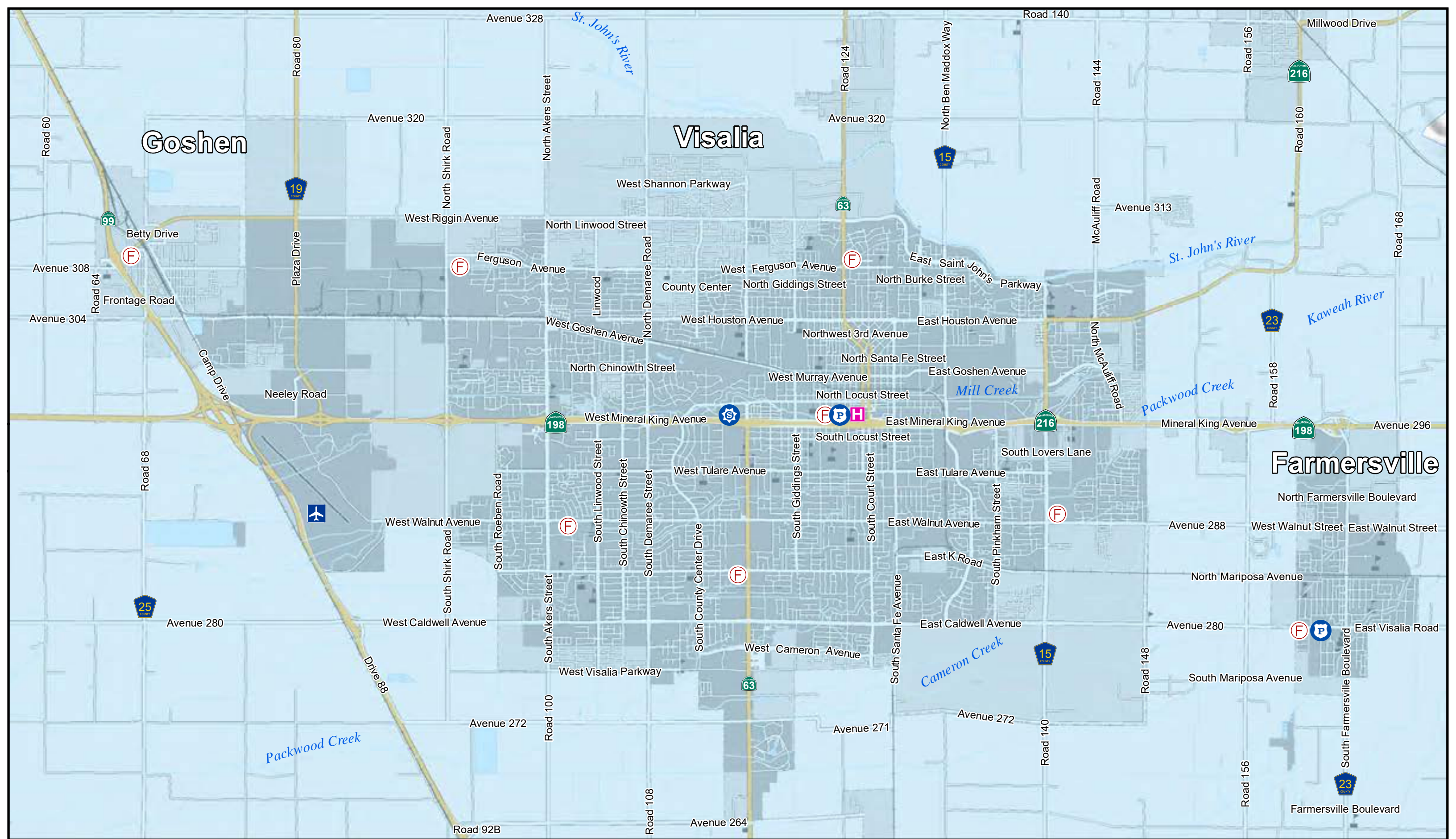
## City of Visalia Special Flood Hazard Area

Scale: 1 inch = 0.87 miles  
 Projection: Lambert Conformal Conic  
 Coordinate System: NAD 1983 State Plane CA IV FIPS 0404 (ft.)  
 Data: Tulare County, FEMA, USGS, USDA, US Census

- Railroad
- Urban Development Boundary
- City Limit
- Culverts
- Levee
- Flood Inundation

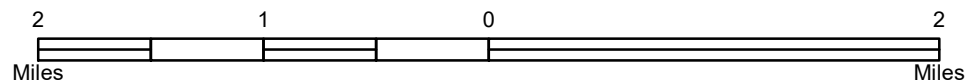
B-18





Miles

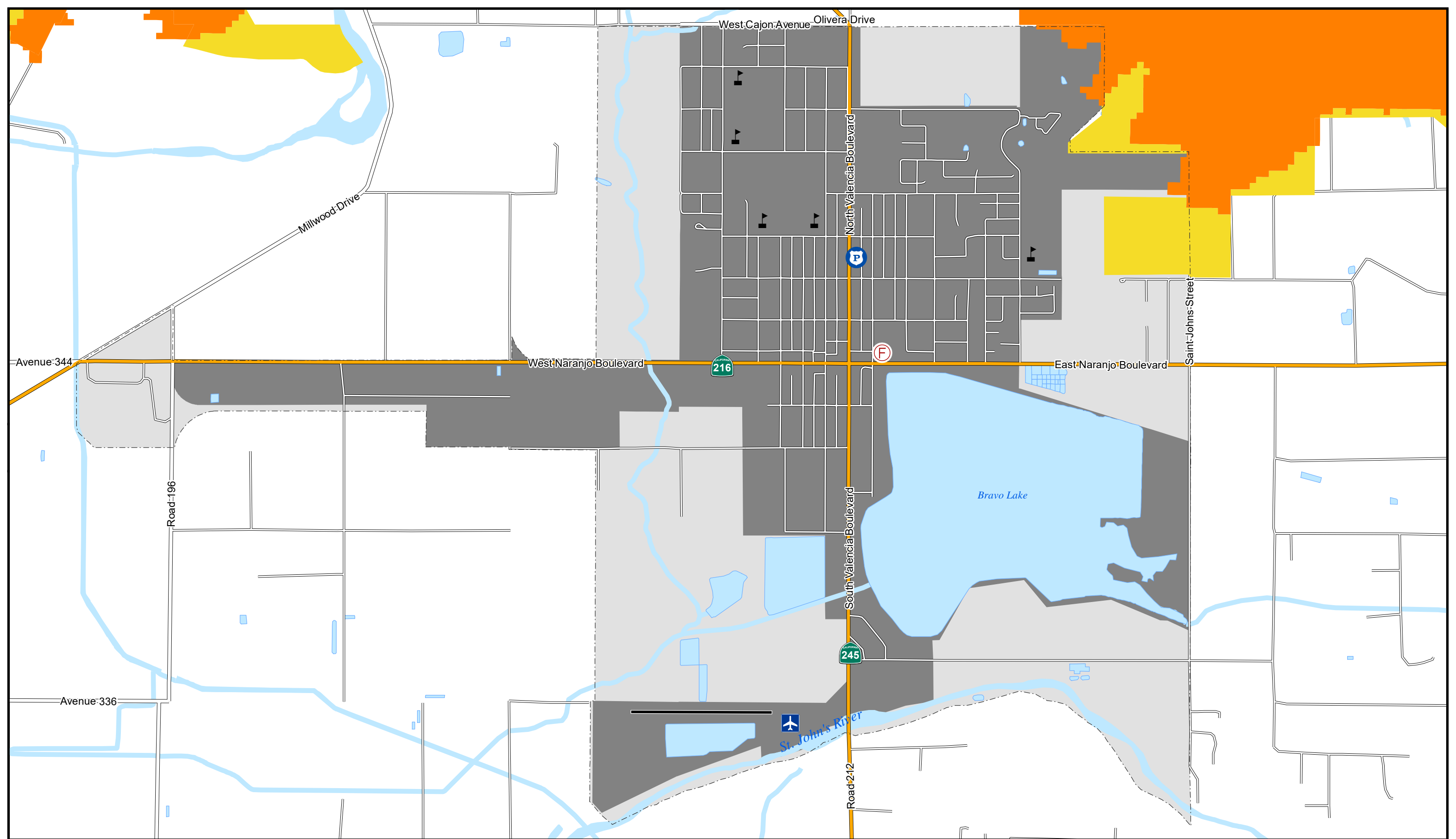


**Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan**  
*City of Visalia Dam Inundation*

Scale: 1 inch = 0.85 miles  
 Projection: Lambert Conformal Conic  
 Coordinate System: NAD 1983 State Plane CA IV FIPS 0404 (ft.)  
 Data: Tulare County, FEMA, USGS, USDA, US Census



-  Railroad
-  Dam Inundation Area
-  Urban Development Boundary
-  City Limit




**Fire Hazard Severity Zone**

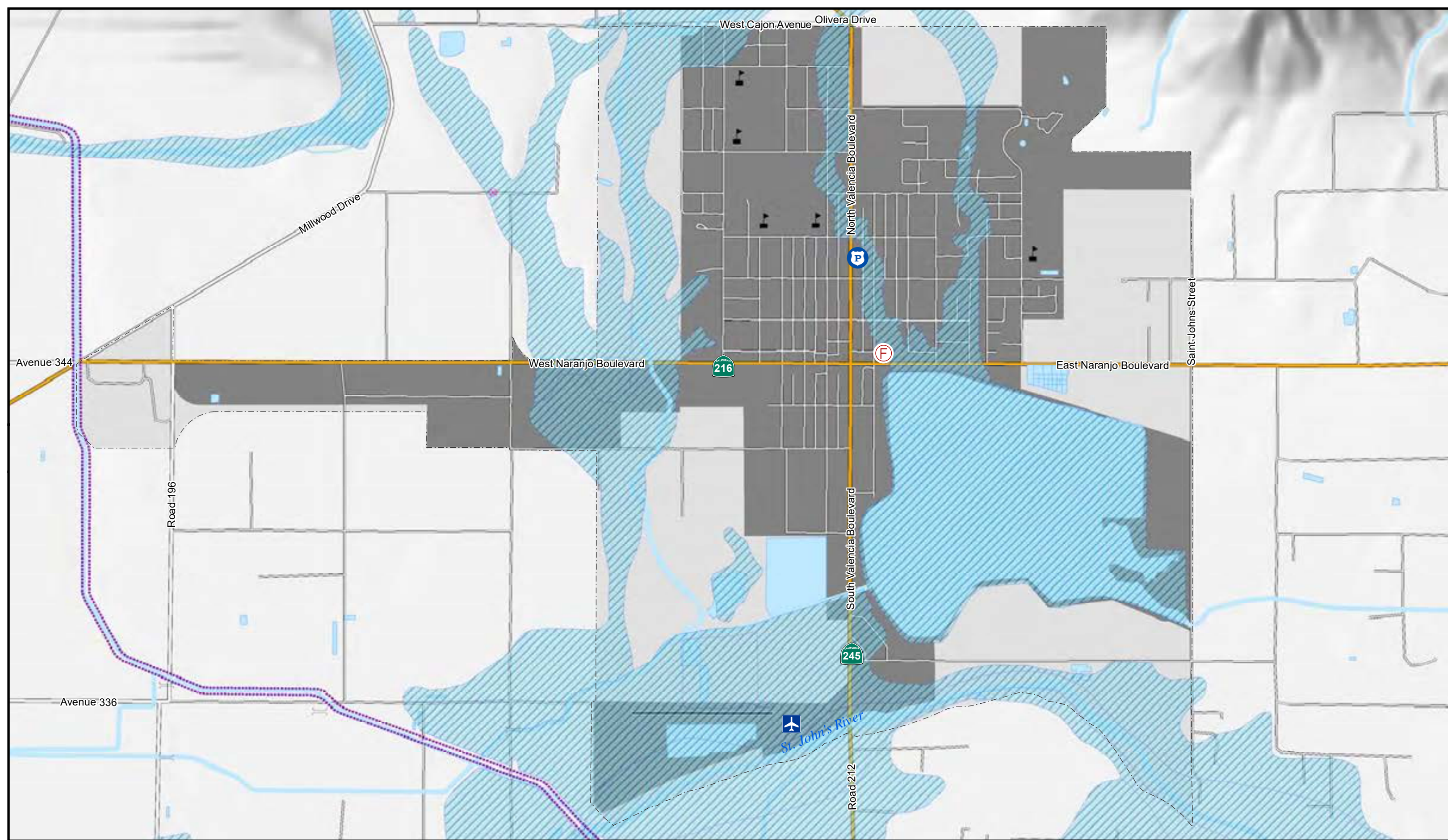
- Very High
- High
- Moderate
- Railroad
- Urban Development Boundary
- City Limit

**Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan**  
*City of Woodlake Fire Hazard Severity Zones*







Scale: 1 inch = 0.25 miles  
 Projection: Lambert Conformal Conic  
 Coordinate System: NAD 1983 State Plane CA IV FIPS 0404 (ft.)  
 Data: Tulare County, CalFIRE, USGS, USDA, US Census

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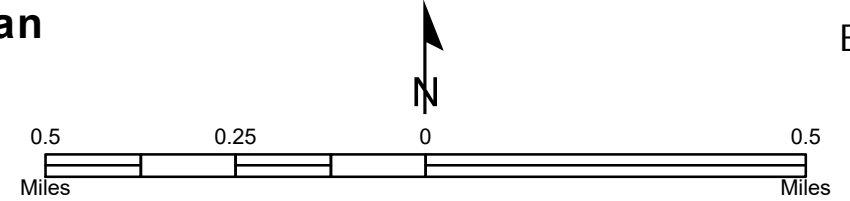
  
 0.5      0.25      0      0.5  
 Miles      Miles

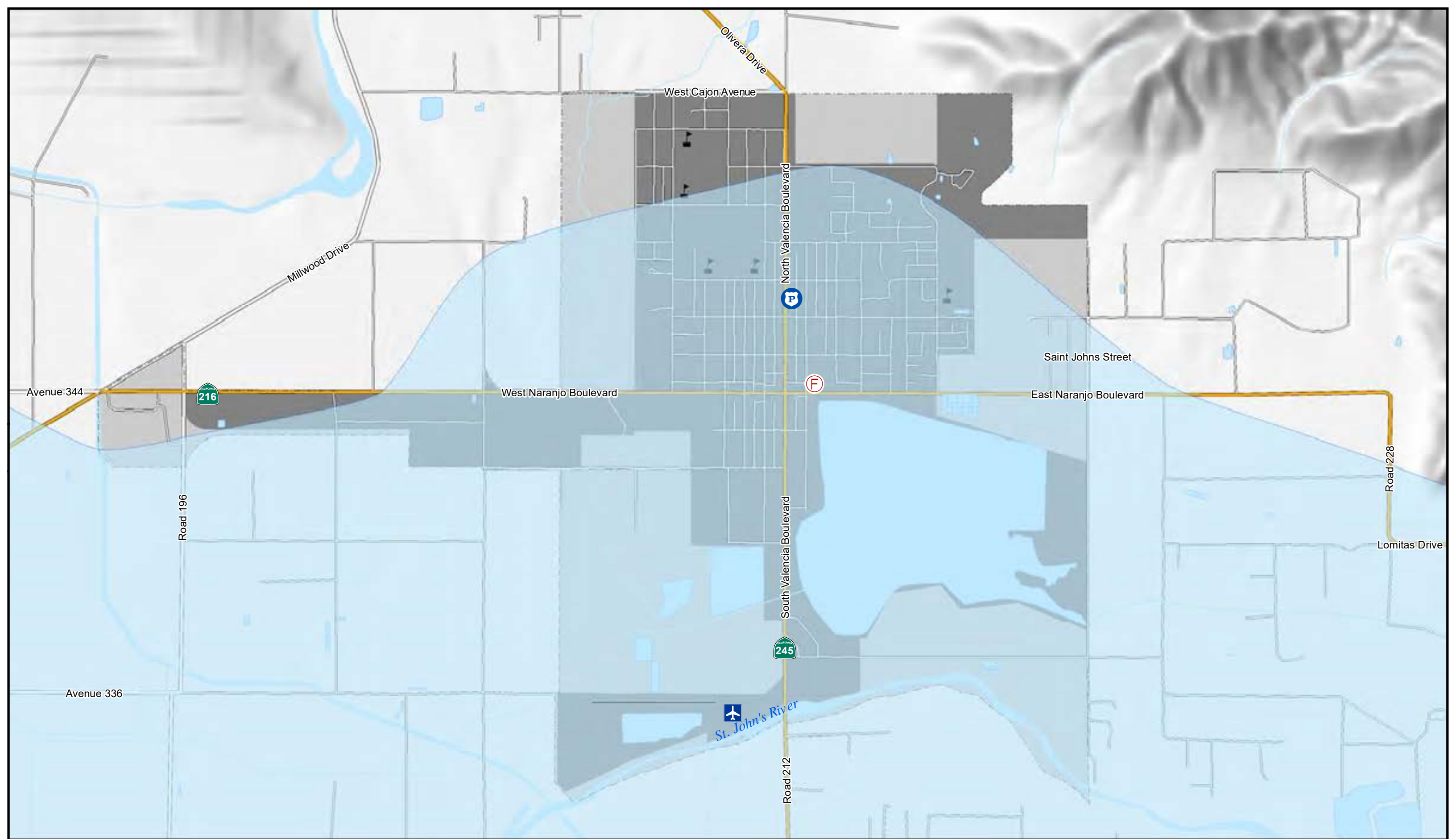


**Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan**  
*City of Woodlake Special Flood Hazard Area*

-  Railroad
-  Urban Development Boundary
-  City Limit
-  Culverts
-  Levee
-  Flood Inundation

Scale: 1 inch = 0.25 miles  
 Projection: Lambert Conformal Conic  
 Coordinate System: NAD 1983 State Plane CA IV FIPS 0404 (ft.)  
 Data: Tulare County, FEMA, USGS, USDA, US Census



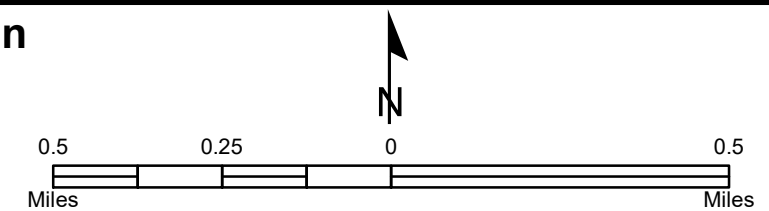


# Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan

## City of Woodlake Dam Inundation

- Railroad
- Dam Inundation Area
- Urban Development Boundary
- City Limit

Scale: 1 inch = 0.28 miles  
 Projection: Lambert Conformal Conic  
 Coordinate System: NAD 1983 State Plane CA IV FIPS 0404 (ft.)  
 Data: Tulare County, FEMA, USGS, USDA, US Census



2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix D  
Planning Process Documentation

**Appendix C Wildfire Table**

<b>Name</b>	<b>Start Date</b>	<b>Acres Affected (1)</b>	<b>Name</b>	<b>Start Date</b>	<b>Acres Affected (1)</b>
Case	1987	4,723	Alpaugh	2006	1,700
Lopez/Kern Company #8	1995	1,985	Kern 19 Cottonwood	2006	2,500
Oak Flat	1996	1,000	Grouse	2007	1,022
Kaweah	1996	4,479	Goldledge	2007	4,196
White Oak	1996	7,150	F#88 Shannon Inc.	2007	2,140
Castle Complex	1996	1,633	Honey Bee	2008	1,225
Coffee	1997	2,420	Clover	2008	15,300
Fernandez	1997	43,700	Hidden	2008	3,668
King (2)	2000	3,243	Lion	2009	3,988
Manter	2000	74,439	Granite	2009	1,417
Chance (2)	2000	1,200	Lion	2011	20,674
Borel	2002	3,430	George	2012	1,707
McNally	2002	150,696	Fish	2013	2,060
Cooney (TIA 2415)	2003	1,928	Soda	2014	1,612
NPS #6 Paradise	2003	1,298	Rough (3)	2015	151,623
Millwood	2005	2,600	Cabin Fire	2015	6,980
Pine	2005	1,600	Cedar (2)	2016	29,322

(1) Acres affected = total acreage.

(2) Fire occurred in both Tulare and Kern counties.

(3) Largest fire in California for year.

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## Appendix D Planning Process Documentation

Appendix D contains documentation of the planning process including meetings of the planning team. The planning process material is presented in chronological order along with a brief explanation of its contents. Key planning process events are summarized in **Table D-1**.

<b>Table D-1: Planning Team Meeting Schedule</b>		
<b>Date</b>	<b>Activity</b>	<b>Purpose</b>
September 1, 2016  Stakeholders were invited by Outlook email	Planning Team Meeting Nr. 1,	Kicked off the MJLHMP update project and solicit participation by stakeholder agencies
October 4, 2016  Data collection	Provided data collection tool template to all participating organizations.  See example 17	Collect information on: <ul style="list-style-type: none"> <li>• Incidents and declarations since last Plan</li> <li>• Update capabilities</li> <li>• Update facilities</li> <li>• Update previous mitigation activities.</li> </ul>
November 29, 2016  Stakeholders were invited by Outlook email	Planning Team Meeting Nr. 2	Provided vulnerability and risk assessment guidance as a read ahead. Reviewed hazard analysis, discussed risk and vulnerability and identified capabilities.
January 17, 2017  Stakeholders were invited by Outlook email	Planning Team Meeting Nr. 3	Provided draft mitigation activities. Discussed mitigation implementation priorities and actions.
March 14, 2017  Stakeholders were invited by Outlook email	Planning Team Meeting Nr. 4	Review jurisdiction annexes. Prioritize County mitigation activities.
March 5, 2018	City of Woodlake	Reached out to the City to solicit input on past mitigation actions and new mitigation activities. The City's Community Development Manager provided input.
Various	Survey	Solicit public input

# 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix D Planning Process Documentation

On September 1, 2016, the planning team held its initial meeting. The meeting read-ahead for participants, the agenda, sign in sheets, the meeting presentation cover sheet and meeting notes follow:

## Sample 1

### TULARE COUNTY 2016/2017 HAZARD MITIGATION PLAN PROJECT KICK OFF MEETING

#### MEETING PURPOSE

This is an overview to prepare for the Tulare County Multi-Jurisdictional Local Hazard Mitigation Plan Update kick-off meeting. This will be informal to meet and brief all of the planning team on the process, approach, and roles and responsibilities of personnel participating in the multi-jurisdictional planning project.

During this kick-off meeting, we will accomplish the following objectives:

1. Ensure the planning team members understand the project, and agree with the project approach and timeline
2. Convey to the planning team members the purpose and necessity of having a HMP, the project scope of work, and the importance of their input for the successful completion of the project
3. Provide the planning team members with a description of what their roles and responsibilities will be during the planning process
4. Establish points of contact designated for each city, tribe, districts and departments to be included as members of the planning team
5. Determine a schedule for the planning project and determine the best means of communicating between the project managers and the planning team
6. Identify hazards for the plan

#### WHAT IS HAZARD MITIGATION?

Hazard mitigation is “**any action taken to reduce or eliminate the long-term risk to human life and property from natural hazards.**”<sup>1</sup> Although the requirements set by 44 Code of Federal Regulations (CFR), Subpart M Section 206.401 requires a planning area to describe only natural hazards that may affect the jurisdictions, most planning areas include technological and human-caused hazards in the HMP to represent the total risk from hazards to the planning area. In addition, the State of California enacted Senate Bill No. 379 which requires all local planning areas to assess vulnerabilities associated with climate change, and incorporate the plan into the County’s General Plan’s Safety Element.

Hazards can result in human death and destruction of property and infrastructure. The

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work done to minimize the impact of hazard events to life and property is called hazard mitigation. Often, these damaging events occur in the same locations over time (i.e. earthquakes along fault lines), and cause repeated damage. Because of this, hazard mitigation is often focused on reducing repetitive losses, thereby breaking the disaster cycle. The essential steps of hazard mitigation are:

- Identify and profile hazards that affect the local area
- Analyze the people and facilities at risk from those hazards
- Develop mitigation actions to lessen or reduce the impact of the profiled hazards

### WHY THE NEED FOR A HAZARD MITIGATION PLAN?

The Federal Disaster Mitigation Act (2000), Federal Register 44 CFR Parts 201 and 206 requires local governments to develop and submit HMPs as a condition of receiving Hazard Mitigation Grant Program and other mitigation project grants. This includes pre-disaster mitigation funding and post-disaster mitigation funding.

### WHAT ARE THE REQUIREMENTS FOR A HAZARD MITIGATION PLAN?

The requirements for an HMP are described in 44 CFR Parts 201 and 206. FEMA has produced a *Local Mitigation Plan Review Tool* to demonstrate how the mitigation plan meets the regulation in 44 CFR § 201.6. The plan review tool has a regulation checklist that provides a summary of FEMA's evaluation of whether the plan has addressed all requirements. Local planners can also use the checklist prior to submitting the plan for approval to ensure they have addressed all the requirements.

The primary tasks that will take place during the planning process include:

1. Capability analysis
2. Vulnerability assessment
3. Hazard identification
4. Defining a hazard mitigation strategy through actions and projects
5. Implementing the hazard mitigation actions and projects

### CONSULTANT FACILITATED PROJECT

Navigating Preparedness Associates (NPA) was selected as the consultant firm to facilitate the development of the County HMP. NPA has successfully conducted similar projects, and understands the importance of developing and implementing an HMP. Responsibilities of the NPA project manager include the following:

- Remain as the consultant point of contact through the project
- Facilitate meetings with the planning team, stakeholders and the public
- Develop the plan with project related material, information and associated data received within the project schedule
- Provide project deliverables within the developed schedule
- Respond to e-mails and phone calls (typically within a 24-hour period)
- Inform the County's project manager of any anticipated delays

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### COUNTY HAZARD MITIGATION PLAN PROJECT MANAGER ROLES AND RESPONSIBILITIES

The County project manager will liaison with the NPA project manager throughout the project. Responsibilities of the County project manager include the following:

- Remain as the point of contact throughout the project
- Coordinate and host meetings with the planning team, stakeholders and the public
- Provide project related material, information and associated data within the project schedule
- Provide timely review of project deliverables (typically 10 working days)
- Inform NPA's project manager of any anticipated delays

### PROJECT STAKEHOLDERS AND THE PUBLIC

The HMP planning process includes stringent requirements to include input from stakeholders and the public. Generally, project stakeholders include local jurisdictions, neighboring jurisdictions and their agencies and County departments that might respond during a disaster. It's important to ensure consistent representation from participating organizations. The public is represented by community members and community organizations that have interests in the projects and actions selected to mitigate hazards, and save lives and property.

NPA will gather input from planning team members, stakeholders, and the public and current documents that may assist in the development of the HMP. The planning team will be responsible to provide information related to their specific tribe, department or jurisdiction.

### NEXT STEPS

The next step following the HMP project kick-off meeting is to schedule a meeting with the planning team to gather any documents that may provide input for the capability analysis, vulnerability assessment, and hazard identification. We look forward to getting started on this project and anticipate a successful venture for all.

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**Sample 2**

**TULARE COUNTY  
 HAZARD MITIGATION PLAN PROJECT  
 Hazard Mitigation Planning Team  
 Meeting #1**

AGENDA: Time	Item	Lead
2:00 - :15	Introductions <ul style="list-style-type: none"> <li>• Tulare County Office of Emergency Services (OES)</li> <li>• Hazard Mitigation Planning Team</li> <li>• Navigating Preparedness (NPA)</li> </ul>	Dave Lee, OES
2:15 - :25	Review of Hazard Mitigation Plan Requirements and Planning Process <ul style="list-style-type: none"> <li>• Background</li> <li>• Purpose</li> <li>• Components</li> <li>• Schedule</li> </ul>	Lee Rosenberg, NPA
2:25 - :40	Responsibilities of the Planning Team Potential Hazards to Include Sources of Data for Hazard Analysis and Vulnerability Assessment	Lee Rosenberg, NPA
2:40 - 3:15	Hazard Identification Exercise	Lee Rosenberg, NPA
3:15 - 3:30	Questions and Answers and Recap	Dave Lee, OES Lee Rosenberg, NPA





**Sample 3**

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Sign in Sheets

<b>Tulare Multi-jurisdiction Hazard Mitigation Plan: Team Meeting Nr. 1 Aug 31, 2016</b>			
<b>Jurisdiction</b>	<b>Agency/Department</b>	<b>Name</b>	<b>Title</b>
City of Exeter	Police Department	Cliff Bush	Police Chief
City of Lindsay	Dept of Public Safety	Mari Carillo	
Tulare County	County Admin Office	Eric Coyne	Deputy CAO
Tulare County	County Admin Office	Mike Spata	County Administrative Off
Tulare County	General Services	John Hess	
Tulare County	HHS Agency	Andrew Lockman	Manager
Tulare County	HHS Agency	Cheryl Duerkson	Agency Director
Tulare County	HHS Agency	Dave Lee	OES Specialist
Tulare County	HHS Agency	Sabrina Bustamante	OES Specialist
Tulare County	HHS Agency	Timothy Lutz	Fiscal Operations Director
Tulare County	Info and Comms Tech.	Bob Irvine	Division Manager
Tulare County	Res Management Agency	Ben Ruiz	Interim RMA Director
Tulare County	Sheriff's Office	Larry Micari	Captain
Tulare County	Sheriff's Office	Mike Boudreaux	Sheriff
Tulare County	Sheriff's Office	Robin Skiles	Undersheriff
Tulare County	Sheriff's Office	Sue Gunderman	Administrative Secretary
City of Dinuba	Administration	Luis Patlan	City Manager
City of Dinuba	Fire Department	Chad Thompson	Fire Chief
City of Dinuba	Fire Department	Sean Doyle	Battalion Chief
City of Dinuba	Police Department	Devon Popovich	Chief
City of Dinuba	Public Works	Blanca Beltran	Public Works Director
City of Exeter	Administration	Randy Groom	City Manager
City of Exeter	Police Department	Brett Inglehart	Sergeant
City of Exeter	Public Works	Daymon Qualls	Public Works Director
City of Farmersville	Administration	John Jansons	City Manager
City of Farmersville	Fire Department	John Crivello	Fire Chief
City of Farmersville	Public Works	Dake Wyckoff	Public Works Director
City of Lindsay	Administration	Bill Zigler	City Manager

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City of Lindsay	Dept of Public Safety	Chris Hughes	Chief	
City of Lindsay	Public Works	Mike Camarena	City Services Director	
City of Porterville	Administration	John Lollis	City Manager	
City of Porterville	Fire Department	Glenn Irish	Fire Chief	
City of Porterville	Public Works	Mike Reed	Public Works Director	
City of Tulare	Administration	Don Dorman	City Manager	
City of Tulare	Fire Department	Cameron Long	Chief	
City of Tulare	Fire Department	Willard Epps	Fire Chief	
City of Tulare	Public Works	Joseph Carlini	Public Works Director	
City of Visalia	Administration	Mike Olmos	City Manager	
City of Visalia	Fire Department	Danny Wristen	Chief	
City of Visalia	Fire Department	Doug McBee	Fire Chief	
City of Visalia	Natural Resources	Lupe Garcia		
City of Visalia	Public Works	Norm Goldstrom	Public Works Manager	
City of Woodlake	Administration	Ramon Lara	City Manager	
City of Woodlake	Fire Protection District	Anthony Perez	Fire Chief	
City of Woodlake	Public Works	Adrian Ornelas	Public Works Supervisor	
College of the Sequoias	Police Department	Kevin Mizner	Police Chief	
Tulare County	Agriculture	Marilyn Kinoshita	Ag-Commissioner/Sealer	
Tulare County	County Counsel	Jennifer Takchana	Deputy County Counsel	
Tulare County	County Counsel	Robyn Henry	Risk Manager	
Tulare County	Fire Department	Charles Norman	Fire Chief	
Tulare County	Fire Department	Clay Smith	Chief	
Tulare County	Fire Department	Jeffery McLaughlin	Chief CAPTAIN	
Tulare County	General Services	Mike Dickerson		
Tulare County	General Services	Neil Pilegard	Parks Manager	
Tulare County	HHS Agency	Carrie Amador	Staff Services Analyst	
Tulare County	HHS Agency	David Rozell	Manager	
Tulare County	HHS Agency	Jason Britt	Public Health Director	
Tulare County	HHS Agency	Karen Haught	Health Officer	
Tulare County	HHS Agency	Nilsa Gonzalez	Env. Health Director	



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Tulare County	Info and Comms Tech.	Mark Clark		<i>Mark Clark</i>
Tulare County	Res Management Agency	Bryce Howard	Director	<i>Bryce Howard</i>
Tulare County	Res Management Agency	Dave Bryant	Chief Planner	
Tulare County	Res Management Agency	Dennis Lehman	Manager	
Tulare County	Res Management Agency	Johnny Wong	Engineer	
Tulare County	Res Management Agency	Mike Washam	Director	
Tulare County	Res Management Agency	Reed Schenke	Chief Engineer	
Tulare County	Res Management Agency	Ross Miller	Engineer	
Tulare County	Sheriff's Office	Robert Schimpt	Lieutenant	
Tulare County Office of E	General Services	Jeff Ramsay	Director	
Tulare County Office of E	TCOE	Adam Valencia		
Tulare County Office of E	TCOE	John Caudle	Assistant Superintendent	
Tule River Indian Tribe	Administration	Victor Silvas	Tribal Administrator	
Tule River Indian Tribe	Emergency Services	Joe Boy Perez	Dir. of Emergency Services	

*CITY OF PORTERVILLE FIRE*

*GLEN HALL*

*BATTALION CHIEF ghall@ci-porterville.ca.us*

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Tulare Multi-jurisdiction Hazard Mitigation Plan: Team Meeting Nr. 1 Aug 31, 2016				
Jurisdiction	Agency/Department	Name	Title	
City of Exeter	Police Department	Cliff Bush	Police Chief	
City of Lindsay	Dept of Public Safety	Mari Carillo		
Tulare County	County Admin Office	Eric Coyne	Deputy CAO	<i>Kyrin MacInnes</i>
Tulare County	County Admin Office	Mike Spata	County Administrative Off	
Tulare County	General Services	John Hess		
Tulare County	HHS Agency	Andrew Lockman	Manager	<i>AL</i>
Tulare County	HHS Agency	Cheryl Duerkson	Agency Director	
Tulare County	HHS Agency	Dave Lee	OES Specialist	
Tulare County	HHS Agency <i>Jaqueli Buda</i>	<del>Sabrina Bustamante</del>	<del>OES Specialist Admin Aide</del>	<i>JB</i>
Tulare County	HHS Agency	Timothy Lutz	Fiscal Operations Director	
Tulare County	Info and Comms Tech.	Bob Irvine	Division Manager	
Tulare County	Res Management Agency	Ben Ruiz	Interim RMA Director	
Tulare County	Sheriff's Office	Larry Micari	Captain	
Tulare County	Sheriff's Office	Mike Boudreaux	Sheriff	
Tulare County	Sheriff's Office	Robin Skiles	Undersheriff	
Tulare County	Sheriff's Office	<del>Joe Gordon</del>	<del>Administrative Secretary</del>	<i>Joe Gordon</i>
City of Dinuba	Administration	Luis Patlan	City Manager	
City of Dinuba	Fire Department	Chad Thompson	Fire Chief	<i>CT</i>
City of Dinuba	Fire Department	Sean Doyle	Battalion Chief	<i>SD</i>
City of Dinuba	Police Department	Devon Popovich	Chief	<i>DP</i>
City of Dinuba	Public Works	Blanca Beltran	Public Works Director	
City of Exeter	Administration	Randy Groom	City Manager	
City of Exeter	Police Department	Brett Inglehart	Sergeant	
City of Exeter	Public Works	Daymon Qualls	Public Works Director	
City of Farmersville	Administration	John Jansons	City Manager	
City of Farmersville	Fire Department	John Crivello	Fire Chief	<i>John A. Crivello</i>
City of Farmersville	Public Works	Dake Wyckoff	Public Works Director	
City of Lindsay	Administration	Bill Zigler	City Manager	

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City of Lindsay	Dept of Public Safety	Chris Hughes	Chief	
City of Lindsay	Public Works	Mike Camarena	City Services Director	
City of Porterville	Administration	John Lollis	City Manager	
City of Porterville	Fire Department	Glenn Irish	Fire Chief	<i>Glenn Irish</i>
City of Porterville	Public Works	Mike Reed	Public Works Director	<i>Mike Reed</i>
City of Tulare	Administration	Don Dorman	City Manager	
City of Tulare	Fire Department	Cameron Long	Chief	
City of Tulare	Fire Department	Willard Epps	Fire Chief	
City of Tulare	Public Works	Joseph Carlini	Public Works Director	
City of Visalia	Administration	Mike Olmos	City Manager	
City of Visalia	Fire Department	Danny Wristen	Chief	<i>Danny Wristen</i>
City of Visalia	Fire Department	Doug McBee	Fire Chief	<i>Doug McBee</i>
City of Visalia	Natural Resources	Lupe Garcia		<i>Lupe Garcia</i>
City of Visalia	Public Works	Norm Goldstrom	Public Works Manager	<i>Norm Goldstrom</i>
City of Woodlake	Administration	Ramon Lara	City Manager	
City of Woodlake	Fire Protection District	Anthony Perez	Fire Chief	
City of Woodlake	Public Works	Adrian Ornelas	Public Works Supervisor	
College of the Sequoias	Police Department	Kevin Mizner	Police Chief	<i>Kevin Mizner</i>
Tulare County	Agriculture	Marilyn Kinoshita	Ag-Commissioner/Sealer	
Tulare County	County Counsel	Jennifer Takehana	Deputy County Counsel	
Tulare County	County Counsel	Robyn Henry	Risk Manager	
Tulare County	Fire Department	Charles Norman	Fire Chief	
Tulare County	Fire Department	Clay Smith	Chief	
Tulare County	Fire Department	Jeffery McLaughlin	Chief	
Tulare County	General Services	Mike Dickerson		
Tulare County	General Services	Neil Pilegard	Parks Manager	
Tulare County	HHS Agency	Carrie Amador	Staff Services Analyst	<i>Carrie Amador</i>
Tulare County	HHS Agency	David Rozell	Manager	<i>David Rozell</i>
Tulare County	HHS Agency	Jason Britt	Public Health Director	
Tulare County	HHS Agency	Karen Haught	Health Officer	
Tulare County	HHS Agency	Nilsa Gonzalez	Env. Health Director	<i>Nilsa Gonzalez</i>

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Tulare County	Info and Comms Tech.	Mark Clark		
Tulare County	Res Management Agency	Bryce Howard	Director	
Tulare County	Res Management Agency	Dave Bryant	Chief Planner	<i>DB</i>
Tulare County	Res Management Agency	Dennis Lehman	Manager	
Tulare County	Res Management Agency	Johnny Wong	Engineer	
Tulare County	Res Management Agency	Mike Washam	Director	<i>mw</i>
Tulare County	Res Management Agency	Reed Schenke	Chief Engineer	
Tulare County	Res Management Agency	Ross Miller	Engineer	
Tulare County	Sheriff's Office	Robert Schimpt	Lieutenant	<i>ROB SCHIMPT</i>
Tulare County Office of E	General Services	Jeff Ramsay	Director	<i>Jeff Ramsay</i>
Tulare County Office of E	TCOE	Adam Valencia		
Tulare County Office of E	TCOE	John Caudle	Assistant Superintendent	
Tule River Indian Tribe	Administration	Victor Silvas	Tribal Administrator	
Tule River Indian Tribe	Emergency Services	Joe Boy Perez	Dir. of Emergency Services	<i>Joe Boy Perez</i>

*Tule River Tribe*  
*Tulare County* RMA *Richard Brown*  
 " " AgComm *D. Lehman* *Building OFFICIAL*  
*Tulare County* CAO *Marilyn Kusshita* AgComm *Michelle*  
*Kyria Martinez* Analyst *Kyria Martinez*  
 CITY OF VISALIA PUBLIC WORKS *ADAM FENNIS* DIRECTOR *adamennis@visalia-city*  
 City of Visalia Fire Dept *Karl Kessner* 799-3024 *Karl Kessner @visalia-city*

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## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix D Planning Process Documentation

### Sample 4

September 5, 2016

**To: Andrew Lockman**

**From: Lee Rosenberg**

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On September 1, 2016, the County of Tulare (County) hosted a meeting to initiate the process of updating its multi-jurisdictional local hazard mitigation plan (HMP) for the County. Attendees, which form the HMP planning team, included representatives from County agencies, participating jurisdictions and special districts, and the Tule River Indian Tribe. Table 1 provides a complete list.

**Table 1: Planning Team Meeting #1 Attendees**

Jurisdiction	Agency/Department	Name	Title
City of Dinuba	Fire Department	Chad Thompson	Fire Chief
City of Dinuba	Police Department	Devon Popovich	Chief
City of Dinuba	Fire Department	Sean Doyle	Battalion Chief
City of Exeter	Public Works	Daymon Qualls	Public Works Director
City of Exeter	Administration	Randy Groom	City Manager
City of Farmersville	Fire Department	John Crivello	Fire Chief
City of Porterville	Fire Department	Glenn Hall	Battalion Chief
City of Porterville	Fire Department	Glenn Irish	Fire Chief
City of Porterville	Administration	John Lollis	City Manager
City of Porterville	Public Works	Mike Reed	Public Works Director
City of Visalia	Public Works	Adam Ennis	Director
City of Visalia	Fire Department	Danny Wristen	Chief
City of Visalia	Fire Department	Darrin Hughes	Battalion Chief
City of Visalia	Fire Department	Karl Kassner	Captain
City of Visalia	Natural Resources	Lupe Garcia	
City of Visalia	Public Works	Norm Goldstrom	Public Works Manager
College of the Sequoias	Police Department	Kevin Mizner	Police Chief
Tulare County	Information & Communications Tech.	Bob Irvine	Division Manager
Tulare County	Resource Management Agency	Bryce Howard	Director
Tulare County	Health and Human Services Agency	Carrie Amador	Staff Services Analyst
Tulare County	Resource Management Agency	Dave Bryant	Chief Planner
Tulare County	Health and Human Services Agency	Dave Lee	OES Specialist
Tulare County	Health and Human Services Agency	Andrew Lockman	Emergency Services Manager
Tulare County	Health and Human Services Agency	Jacqui Balderas	Administrative Aid
Tulare County	Fire Department	David Cornett	Captain
Tulare County	Health and Human Services Agency	David Rozell	Manager
Tulare County	Resource Management Agency	Dennis Lehman	Manager

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Jurisdiction	Agency/Department	Name	Title
Tulare County	County Administrative Office	Eric Coyne	Deputy CAO
Tulare County	Office of Emergency Services	Jacqui Balderas	Administrative Aide
Tulare County	County Counsel	Jennifer Takehana	Deputy County Counsel
Tulare County	Sheriff's Office	Kevin Kemmerling	Sergeant
Tulare County	County Administrative Office	Kyria Martinez	Analyst, Economic Development
Tulare County	Agriculture	Marilyn Kinoshita	Ag-Commissioner/Sealer
Tulare County	Information & Communications Tech.	Mark Clark	GIS Coordinator
Tulare County	Resource Management Agency	Mike Washam	Director
Tulare County	Health and Human Services Agency	Nilsa Gonzalez	Env. Health Director
Tulare County	Sheriff's Office	Robert SchimpfSchimpf	Lieutenant
Tulare County	Health and Human Services Agency	Timothy Lutz	Fiscal Operations Director
Tulare County Office of Education	General Services	Jeff Ramsay	Director
Tule River Indian Tribe	Emergency Services	Joe Boy Perez	Director of Emergency Services
Tule River Indian Tribe	Fire Department	Richard Brown	Fire Chief
Navigating Preparedness Assoc.		Lee Rosenberg	Managing Director

### Summary of Discussion

1. The group introduced themselves and the agency/jurisdiction they represent.
2. Navigating Preparedness Associates (NPA) presented a detailed review of the hazard mitigation planning process and the value of updating the County's Hazard Mitigation Plan (HMP). Key topics included:
  - Overview of hazard mitigation planning
  - Hazard Mitigation Plan requirements
  - Responsibilities and project planning schedule
  - Hazards review
  - Planning team and planning process
3. Several planning team members asked questions or provided input into the discussion. Notable issues were:
  - Michael Washam, County Resource Management Agency – Described the requirements of Senate Bill 379 (SB 379) which mandates that local planning areas assess vulnerabilities associated with climate change and incorporate a climate action plan into their General Plan Safety Element. This requirement may be met by addressing climate change vulnerabilities and describing implementation measures to reduce climate change related hazards in a FEMA approved hazard mitigation plan adopted as the safety element of the County's General Plan.  
Lee Rosenberg from Navigating Preparedness Assoc. (NPA) stated that climate change would be addressed in the updated HMP. He will work with the County to include elements of General Plan Safety Element, the 2012 County Climate Action Plan and additional technical information in the

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HMP in order to allow the County to adopt the HMP as the General Plan Safety Element and meet the requirements of SB 379.

- Norm Goldstrom, Visalia Public Works – Asked about meeting the requirements of the National Flood Insurance Program (NFIP) Community Rating System (CRS) in order to continue to support reduced flood insurance premiums for City residents.  
Lee Rosenberg answered that the project contains a component to address CRS and that NPA will work with the City to meet the requirements to maintain or improve their CRS rating.
- ??? – Asked if the HMP must go through the National Environmental Policy Act (NEPA)/California Environmental Quality Act (CEQA) process.  
Andrew Lockman responded that the HMP itself is not subject to NEPA/CEQA review. However, any projects that are funded through Hazard Mitigation Program grants are subject to a full CEQA environmental impact review.

Attention also needs to be given to other potential CEQA concerns. If the HMP is adopted as the General Plan Safety Element and the County climate action plan, then the updated General Plan will be considered a project under CEQA. The County as a local government must analyze – and where feasible mitigate – the project’s significant impacts. Unlike project-by-project permitting, CEQA review for the general plan looks at the “big picture,” allowing a community to align its long-term vision with important objectives, such as reducing greenhouse gas emissions and advancing environmental justice by avoiding additional impacts to communities already affected by pollution.

After reviewing the project record, the County can determine that there is no substantial evidence that the General Plan Safety Element/Local Hazard Management Plan update will have a significant effect on the environment and a Negative Declaration of Environmental Impact may be prepared in accordance with CEQA.



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**Action Items**

Action Item	Responsible Party	Due Date	Status
Provide data collection templates for infrastructure, hazards, capabilities and completed mitigation activities	Navigating Preparedness	September 16, 2016	Open
Provide updated data for infrastructure, hazards, capabilities and completed mitigation activities	All HMP participants	October 16, 2016	Open
Review the County 2012 Climate Action Plan for inclusion in the HMP update	Navigating Preparedness	September 30, 2016	Open
Review the General Plan Safety Element for inclusion in the HMP update	Navigating Preparedness	September 30, 2016	Open
Review material to support the City of Visalia maintaining/improving their CRS score	Navigating Preparedness/City of Visalia	September 30, 2016	Open
Initiate drafting the HMP by completing Sections 1, 4 and 5	Navigating Preparedness	September 30, 2016	Open

**Points of Contact**

For concerns or questions regarding these notes, please contact:

Lee Rosenberg, (925) 381-0583 or [lee.rosenberg@navigatingpreparedness.com](mailto:lee.rosenberg@navigatingpreparedness.com) or Dave Lee (559) 624-7496 or [DLEE@tularehhsa.org](mailto:DLEE@tularehhsa.org)

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix D Planning Process Documentation

On November 29, 2016, a second planning team meeting was conducted at the offices of the County Department of Health and Human Services. The meeting read-ahead, presentation cover page and notes follow:

### Sample 5

#### TULARE COUNTY

#### 2016-2017 MULTI-JURISDICTION LOCAL HAZARD MITIGATION PLAN PROJECT

##### MEETING PURPOSE

This document is an overview to prepare for Tulare County (County) Multi-jurisdiction Local Hazard Mitigation Plan (HMP) project second planning meeting. This informal meeting will include a brief on the County HMP current status and next steps of the planning process in the HMP project.

During this planning meeting, we will accomplish the following objectives:

1. Update the planning team members on current status of the project and review the project timeline
2. Review identified hazards and confirm their application to County and jurisdiction properties
3. Identify past occurrences of confirmed hazards
4. Risk assessment
  - a. Identify facilities with previous and potential hazards
  - b. Identify frequency of previous impacts from hazards
  - c. Prioritize structures based on criticality
  - d. Identify level of loss per structure
  - e. Identify costs associated with previous hazards and replacement value
  - f. Identify opportunities for mitigation
5. Identify capabilities based on core capabilities
6. Review current and identify future stakeholder and public outreach

##### DEFINING AND PRIORITIZING HAZARD VULNERABILITY AND RISK

According to the International Organization for Standardization (ISO), Risk Management, risk is defined as the potential losses associated with a hazard, defined in terms of expected probability and frequency, exposure, and consequences. Risk is the

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix D Planning Process Documentation

combination of the probability of an event and its consequences, where: probability is the extent to which an event is likely to occur, event is the occurrence of a particular set of circumstances, and consequences are the outcome of an event.

Once hazards are identified, previous and potential losses are used to prioritize risk based on the hazard. To correlate hazards with risk, the following tools are used: level of loss, geographic extent, frequency and return periods, and mitigation potential.

Level of loss includes injury or death, costs of losses to structures and property, and impacts to the environment. Geographic extent includes identifying how many properties are potentially at risk from a hazardous event. Frequency and return periods refers to how often a hazard occurs in a specified timeframe. Mitigation potential prioritizes structures or projects that are already integrated into the planning process either through hazard mitigation or other planning mechanisms. The mitigation efforts can be integrated into other planning process in many ways but the County and jurisdictions have the opportunity to account for those projects as hazard mitigation projects.

### FEMA MISSION AREAS AND CORE CAPABILITIES ANALYSIS

Mission areas, as identified by FEMA, are prevention, protection, mitigation, response and recovery. To address mitigation, we focus on mitigation and response. The State HMP uses the mitigation mission area to further define mitigation core capabilities that focus on:

- Community resilience
- Long-term vulnerability reduction
- Risk and disaster resilience
- Assessment of threats and hazards identification

The State HMP additionally considers response core capabilities that include:

- Critical transportation
- Infrastructure systems
- Mass search and rescue operations
- Operational communications
- Public and private services and resources along with several others.

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The County's and jurisdictions' mission and services are directly correlated to these core capabilities. They can use these as the framework to define jurisdiction-specific capabilities. Defining these capabilities provides the framework for identifying mitigation actions. The County and jurisdictions can use the State of California's capability priorities align mitigation priorities. Integration of these priorities can help both County departments and jurisdiction agencies obtain funding and to implement a broader mitigation strategy.

The County and jurisdictions should also review the National Flood Insurance Program and work with local agencies to identify structures within Flood Insurance Rate Maps (FIRMs). Local jurisdictions then work within the community rating system (CRS), if applicable to reduce flood insurance rates. The City of Visalia is working within the framework of the HMP to obtain CRS credits and reduce rates.

#### PROJECT STAKEHOLDERS AND THE PUBLIC

The initial step in reaching out to the public included notification on the County website that the HMP update had begun and that public engagement was desired to support the project. As the HMP is more fully developed, additional outreach and feedback are required. As part of a comprehensive outreach plan, the planning team should consider the following, potential outreach efforts and select those that are most applicable to their jurisdiction:


- Developing and conducting an online survey of potential hazards and applicable mitigation activities
- Placing information on the County's and jurisdictions' Facebook and Twitter accounts that references the Website page that contain HMP update information
- Developing and posting a Facebook Live video about the HMP project that highlights potential hazards and solicits feedback via on them and potential mitigation activities on the County or jurisdictions' accounts
- Public meetings
- Placing draft copies of the HMP in libraries

#### NEXT STEPS

The next step is to identify mitigation actions. Once identified, we will begin formulating how to achieve mitigation actions and integrate them into general planning efforts. Once that's complete, we'll finalize the HMP.

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**Tulare Multi-Jurisdictional Hazard Mitigation Plan Update Meeting #2**  
**November 29, 2016**  
**2:30 pm - 4:00 pm**

Name	Title	Jurisdiction	Agency/Department	Signature
Eric Coyne	Deputy CAD	Tulare County	County Administrative Office	
Glenn Hall	Battalion Chief	City of Porterville	Fire Department	
Glenn Irish	Fire Chief	City of Porterville	Fire Department	
Jacqui Balderas	Administrative Aide	Tulare County	Office of Emergency Services	
Jason Britt	Public Health Director	Tulare County	Health and Human Services Agency	
Jeff Ramsay	Director	Tulare County Office of Ed	General Services	
Jeffery McLaughlin	Chief	Tulare County	Fire Department	
Jennifer Takehana	Deputy County Counsel	Tulare County	County Counsel	
Joe Boy Perez	Director of Emergency Services	Tule River Indian Tribe	Emergency Services	
John Caudle	Assistant Superintendent	Tulare County Office of Ed	TCOE	
John Crivello	Fire Chief	City of Farmersville	Fire Department	
John Hess		Tulare County	General Services	
John Jansons	City Manager	City of Farmersville	Administration	
John Lollis	City Manager	City of Porterville	Administration	
Johnny Wong	Engineer	Tulare County	Resource Management Agency	


Luis Nevarez D.C  
 Joanne Bear FC

Tulare City Fire  
 Tulare County Fire

Joanne

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**Tulare Multi-Jurisdictional Hazard Mitigation Plan Update Meeting #2**  
**November 29, 2016**  
**2:30 pm - 4:00 pm**

Name	Title	Jurisdiction	Agency/Department	Signature
Cheryl Duerksen	Agency Director	Tulare County	Health and Human Services Agency	
Chris Hughes	Chief	City of Lindsay	Department of Public Safety	
Clay Smith	Chief	Tulare County	Fire Department	
Cliff Bush	Police Chief	City of Exeter	Police Department	
Dake Wyckoff	Public Works Director	City of Farmersville	Public Works	
Danny Wristen	Chief	City of Visalia	Fire Department	
Darrin Hughes	Battalion Chief	City of Visalia	Fire Department	
Dave Bryant	Chief Planner	Tulare County	Resource Management Agency	
Dave Lee	DES Specialist	Tulare County	Health and Human Services Agency	
David Cornett	Captain	Tulare County	Fire Department	
David Rozell	Manager	Tulare County	Health and Human Services Agency	
Daymon Qualls	Public Works Director	City of Exeter	Public Works	
Dennis Lehman	Manager	Tulare County	Resource Management Agency	
Devon Popovich	Chief	City of Dinuba	Police Department	
Doug McBee	Fire Chief	City of Visalia	Fire Department	

**Tulare Multi-Jurisdictional Hazard Mitigation Plan Update Meeting #2**  
**November 29, 2016**  
**2:30 pm - 4:00 pm**

Name	Title	Jurisdiction	Agency/Department	Signature
Adam Ennis	Director	City of Visalia	Public Works	
Adam Valencia		Tulare County Office of Ed	TCOE	
Adrian Ornelas	Public Works Supervisor	City of Woodlake	Public Works	
Andrew Lockman	Manager	Tulare County	Health and Human Services Agency	Andrew
Anthony Perez	Fire Chief	City of Woodlake	Fire Protection District	
Ben Ruiz	RMA Director	Tulare County	Resource Management Agency	
Bill Zigler	City Manager	City of Lindsay	Administration	
Blanca Beltran	Public Works Director	City of Dinuba	Public Works	
Bob Irvine	Division Manager	Tulare County	Information & Communications Tech.	
Brett Inglehart	Sergeant	City of Exeter	Police Department	
Bryce Howard	Director	Tulare County	Resource Management Agency	
Cameron Long	Chief	City of Tulare	Fire Department	
Carrie Amador	Staff Services Analyst	Tulare County	Health and Human Services Agency	
Chad Thompson	Fire Chief	City of Dinuba	Fire Department	
Charles Norman	Fire Chief	Tulare County	Fire Department	



**Tulare Multi-Jurisdictional Hazard Mitigation Plan Update Meeting #2**  
**November 29, 2016**  
**2:30 pm - 4:00 pm**

Name	Title	Jurisdiction	Agency/Department	Signature
Ross Miller	Engineer	Tulare County	Resource Management Agency	
Sabrina Bustamante	OES Specialist	Tulare County	Health and Human Services Agency	
Sean Doyle	Battalion Chief	City of Dinuba	Fire Department	
Sue Gunderman	Administrative Secretary	Tulare County	Sheriff's Office	
Timothy Lutz	Fiscal Operations Director	Tulare County	Health and Human Services Agency	
Victor Silvas	Tribal Administrator	Tule River Indian Tribe	Administration	
Willard Epps	Fire Chief	City of Tulare	Fire Department	

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**Tulare Multi-Jurisdictional Hazard Mitigation Plan Update Meeting #2**  
**November 29, 2016**  
**2:30 pm - 4:00 pm**

Name	Title	Jurisdiction	Agency/Department	Signature
Mike Olmos	City Manager	City of Visalia	Administration	
Mike Reed	Public Works Director	City of Porterville	Public Works	<i>Michael K. Reed</i>
Mike Spata	County Administrative Officer	Tulare County	County Administrative Office	
Mike Washam	Director	Tulare County	Resource Management Agency	<i>Mike Washam</i>
Neil Pilegard	Parks Manager	Tulare County	General Services	
Nilsa Gonzalez	Env. Health Director	Tulare County	Health and Human Services Agency	<i>Nilsa Gonzalez</i>
Norm Goldstrom	Public Works Manager	City of Visalia	Public Works	<i>Norm Goldstrom</i>
Paul Melikian	Interim City Manager	City of Tulare	Administration	
Ramon Lara	City Manager	City of Woodlake	Administration	
Randy Groom	City Manager	City of Exeter	Administration	
Reed Schenke	Chief Engineer	Tulare County	Resource Management Agency	
Richard Brown	Fire Chief	Tule River Indian Tribe	Fire Department	
Robert Schimpf	Lieutenant	Tulare County	Sheriff's Office	<i>LT ROB SCHIMPF</i>
Robin Skiles	Undersheriff	Tulare County	Sheriff's Office	
Robyn Henry	Risk Manager	Tulare County	County Counsel	

*John Crivello Fire chief City of Farmersville FIRE Dept John Crivello*

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**Tulare Multi-Jurisdictional Hazard Mitigation Plan Update Meeting #2**  
**November 29, 2016**  
**2:30 pm - 4:00 pm**

Name	Title	Jurisdiction	Agency/Department	Signature
Joseph Carlini	Public Works Director	City of Tulare	Public Works	
Karen Haught	Health Officer	Tulare County	Health and Human Services Agency	
Karl Kassner	Captain	City of Visalia	Fire Department	
Kevin Kemmerling	Sergeant	Tulare County	Sheriff's Office	
Kevin Mizner	Police Chief	College of the Sequoias	Police Department	
Kyria Martinez	Analyst, Economic Development	Tulare County	Resource Management Agency	
Larry Micari	Captain	Tulare County	Sheriff's Office	
Luis Patlan	City Manager	City of Dinuba	Administration	
Lupe Garcia	Associate Engineer	City of Visalia	Community Development	
Mari Carillo		City of Lindsay	Department of Public Safety	
Marilyn Kinoshita	Ag-Commissioner/Sealer	Tulare County	Agriculture	
Mark Clark		Tulare County	Information & Communications Tech.	
Mike Boudreaux	Sheriff	Tulare County	Sheriff's Office	
Mike Camarena	City Services Director	City of Lindsay	Public Works	
Mike Dickerson	FACILITIES MAINTENANCE	Tulare County	General Services	

*Richard Brown Tule River Fire Dept.*

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**Sample 6**



**Sample 7**

December 1, 2016

**To: Andrew Lockman**

**From: Lee Rosenberg**

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On November 29, 2016, the County of Tulare (County) hosted a meeting to continue the process of updating its multi-jurisdictional local hazard mitigation plan (HMP) for the County. Attendees, which form the HMP planning team, included representatives from County agencies, participating jurisdictions and special districts, and the Tule River Indian Tribe. **Table 1** provides a complete list.

**Table 1: Planning Team Meeting #2 Attendees**

Jurisdiction	Agency/Department	Name	Title
City of Dinuba	Fire Department	Chad Thompson	Fire Chief
City of Dinuba	Police Department	Devon Popovich	Chief
City of Dinuba	Fire Department	Sean Doyle	Battalion Chief
City of Exeter	Public Works	Daymon Qualls	Public Works Director
City of Farmersville	Fire Department	John Crivello	Fire Chief
City of Porterville	Fire Department	Glenn Hall	Battalion Chief

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix D Planning Process Documentation

Jurisdiction	Agency/Department	Name	Title
City of Porterville	Fire Department	Glenn Irish	Fire Chief
City of Porterville	Public Works	Mike Reed	Public Works Director
City of Tulare	Fire Department	Cameron Long	Chief
City of Visalia	Public Works	Adam Ennis	Director
City of Visalia	Fire Department	Danny Wristen	Chief
City of Visalia	Public Works	Norm Goldstrom	Public Works Manager
Tulare County	Information & Communications Tech.	Bob Irvine	Division Manager
Tulare County	Health and Human Services Agency	Carrie Amador	Staff Services Analyst
Tulare County	Resource Management Agency	Dave Bryant	Chief Planner
Tulare County	Resource Management Agency	Ross Miller	Engineer
Tulare County	Resource Management Agency	Johnny Wong	Engineer
Tulare County	Health and Human Services Agency	Dave Lee	OES Specialist
Tulare County	Health and Human Services Agency	Andrew Lockman	Emergency Services Manager
Tulare County	Fire Department	David Cornett	Captain
Tulare County	Fire Department	Joanne Bear	Fire Chief
Tulare County	County Administrative Office	Eric Coyne	Deputy CAO
Tulare County	General Services	Mike Dickerson	Facilities Manager
Tulare County	Sheriff's Office	Kevin Kemmerling	Sergeant
Tulare County	Agriculture	Marilyn Kinoshita	Ag-Commissioner/Sealer
Tulare County	Information & Communications Tech.	Mark Clark	GIS Coordinator
Tulare County	Resource Management Agency	Mike Washam	Director
Tulare County	Health and Human Services Agency	Nilsa Gonzalez	Env. Health Director
Tulare County	Sheriff's Office	Robert Schimpf	Lieutenant
Tulare County	Health and Human Services Agency	Timothy Lutz	Fiscal Operations Director
Tule River Indian Tribe	Emergency Services	Joe Boy Perez	Director of Emergency Services
Tule River Indian Tribe	Tule River Fire Department	Richard Brown	Chief
Navigating Preparedness Assoc.		Lee Rosenberg	Managing Director

### Summary of Discussion

1. The group introduced themselves and the agency/jurisdiction they represent.
2. Navigating Preparedness Associates (NPA) reviewed progress in updating the County's Hazard Mitigation Plan (HMP) and stressed the need to provide inputs on infrastructure, completed and ongoing mitigation activities from the 2011 HMP and information on recent hazard incidents. The remainder of the meeting involved reviewing the hazards in the current HMP and potential additional hazards. The hazards reviewed and suggested jurisdictions affected are listed in **Table 2**:

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**Table 2: Potential Hazard for Inclusion in the HMP**

Hazard	Tulare County	City of Dinuba	City of Exeter	City of Farmersville	City of Lindsay	City of Porterville	City of Tulare	City of Visalia	City of Woodlake	Tulare County Office of Education	Tule River Tribe
Civil disturbance	X	X	X	X	X	X	X	X	X	X	X
Climate change	X	X	X	X	X	X	X	X	X	X	X
Drought	X	X	X	X	X	X	X	X	X	X	X
Earthquake	X	X	X	X	X	X	X	X	X	X	X
Energy emergency	X	X	X	X	X	X	X	X	X	X	X
Extreme Heat	X	X	X	X	X	X	X	X	X	X	X
Flood (1)	X	X	X	X	X	X	X	X	X	X	X
Fog	X	X	X	X	X	X	X	X	X	X	X
Hazardous materials	X	X	X	X	X	X	X	X	X	X	X
Heat	X	X	X	X	X	X	X	X	X	X	X
Landslide/Mudslide/Debris Flow											
Severe winter storm	X	X								X	X
Terrorism/WMD <sup>2</sup>	X	X	X	X	X	X	X	X	X	X	X
Wildfire	X					X			X	X	X

(1) Includes riverine, shallow and localized flooding; dam failure and levee failure

(2) Weapons of mass destruction

Based on the planning team recommendations and using the criteria in **Table 3**, a calculated risk priority index was developed. The results are contained in **Table 4**.

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On January 17, 2017, a third planning team meeting was conducted. The meeting read-ahead, presentation cover page and notes follow:

### Sample 8

#### Section 6.2 Mitigation Goals

Mitigation goals are guidelines that represent what the community wants to accomplish through the mitigation plan. Goals are broad statements that represent a long-term, community-wide vision. The planning team reviewed example goals and objectives, and determined which goals best met the County's objectives for mitigation. In addition to the overarching hazard mitigation goals, the County worked with CAL FIRE to develop the strategies in alignment with the County General Plan Health and Safety Element. The goals align with the hazards in the 2016 General Plan and reflect input provided by stakeholders and the public. **Table 6-1** lists the goals for the 2016 HMP.

<b>Table 6-1 Hazard Mitigation Goals</b>
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.

Many of the County's mitigation strategies from the 2011 HMP are still relevant to this update. **Table 6-2** contains an updated set of future County-specific mitigation actions. Mitigation actions were developed from numerous sources including the General Plan, the Climate Action Plan and input from the public and stakeholders.

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<b>Table 6-2: County-Specific Actions and Hazards Mitigated</b>				
<b>Goal</b>	<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
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.	All	Mit.
1	1-2	Integrate the Tulare County HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	All	Mit.
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.	All	Mit.
1	1-4	Designate areas with a potential for significant hazardous conditions for open space, agriculture, and other appropriate low intensity uses.	All	Mit.
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).	All	Mit.
1	1-6	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.	FR	Mit.
1	1-7	Continue to evaluate areas to determine levels of earthquake risk.	EC	Mit.
1	1-8	Discourage construction and grading on slopes in excess of 30 percent	LS	Mit.
1	1-9	Request Federal and State financial assistance to implement corrective seismic safety measures required for existing County buildings and structures.	EQ	Mit



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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.	EQ	Mit.
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.	All	Mit.
1	1-12	Encourage and support the development of new agricultural related industries featuring alternative energy, utilization of agricultural waste, and solar or wind farms.	CC, DR, EH, EN	Mit.
1	1-13	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.	FL	Mit.
1	1-14	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.	FR	Mit.
1	1-15	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. Identify plans and actions to improve substandard housing structures and neighborhoods.	FR	Mit.
1	1-16	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.	FR	Mit.

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1	1-17	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.	FR	Mit.
1	1-18	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.	FR	Mit.
1	1-19	Incorporate native species habitat needs as part of long term fire protection and fire restoration plans.	FR	Mit.
1	1-20	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.	FR	Mit.
1	1-21	Develop dead tree removal projects that are actionable based on available resources, rules, regulatory approvals and available funding.	FR	Mit.
1	1-22	Create a database that accounts for all levees in Tulare County and their condition.	FL, LF	Mit.
1	1-23	Acquire, relocate, or elevate residential structures, in particular those that have been identified as Repetitive Loss (RL) properties that are located within the 100-year floodplain.	FL	Mit.
1	1-24	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	FL	
1	1-25	Reinforce County and local ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	FL	
1	1-26	Work with FEMA Region IX to address any floodplain management issues that may have arisen/arise from the countywide Digital Flood Insurance Rate Map (DFIRM), Community Assessment Visits, and/or the Department of Water Resources (DWR).	FL	Mit.

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1	1-27	Increase participation in the National Flood Insurance Program (NFIP) by entering the Community Rating System program which through enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	FL	Mit.
1	1-28	Provide flood protection for the County's Juvenile Detention Facility and Records Storage Facility located north of Avenue 368.	FL	Mit.
1	1-29	Construct 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.	FL	Mit.
1	1-30	Complete the Yettem Button ditch project by 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.	FL	Mit.
1	1-31	Contract and proceed with preparation of the Flood Control Master Plan Update for the Fresno-Tulare Unit	FL	Mit.
1	1-32	Conduct annual retention basin maintenance that includes weed abatement, fence repair, and drainage inlet flushing	FL	Mit.
1	1-33	Inspect and cycle these flood control pumps Annually to ensure functionality. Clear shrubs and debris in proximity to the basins and channels of the pumps to minimize potential blockage during operation. If required, contract with local pump repair contractors to service the equipment.	FL	Mit.

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1	1-34	<p>Regulate development in the 100-year floodplain zones as designated on maps prepared by FEMA in accordance with the following:</p> <ol style="list-style-type: none"> <li>1. Critical facilities (those facilities which should be open and accessible during emergencies) shall not be permitted.</li> <li>2. Passive recreational activities (those requiring non-intensive development, such as hiking, horseback riding, picnicking) are permissible.</li> <li>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.</li> </ol>	FL	Mit.
1	1-35	Continue to participate in the National Flood Insurance Program (NFIP).	FL	Mit.
1	1-36	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.	FL, DF	Mit.
1	1-37	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.	HZ	Mit.
1	1-38	Continue to cooperate with the California Highway Patrol (CHP) to establish procedures for the movement of hazardous wastes and explosives within the County.	HZ	Mit.
1	1-39	Implement post-fire debris flow hill-slope and channel treatments, such as seeding, mulching, check dams, and debris racks, as needed.	LS	Mit.
1	1-40	Manage vegetation in areas within and adjacent to rights of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid creation of wind acceleration corridors within vegetated areas.	WS	Mit.
1	1-41	Develop a free annual tree chipping and tree pick-up day that encourages residents living in wind hazard areas to manage trees and shrubs at risk to falling on nearby structures.	WS	Mit.

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1	1-42	Bolt down the roofs of critical facilities in wind gust hazard areas in order to prevent wind damage.	WS	Mit
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.	All	Prep.
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.	EQ, FL, FR	Mit.
2	2-2	Develop a public outreach program that informs property owners located in the dam or levee inundation areas about voluntary flood insurance.	FL, DF, LF	Mit.
2	2-3	Promote public safety programs, including neighborhood watch programs, child identification and fingerprinting, public awareness and prevention of fire hazards, and other public education efforts.	CT	Mit.
3	3-1	Conduct site investigations in areas planned for new development to determine susceptibility to landslides, subsidence/settlement, contamination, and/or flooding.	CC, FL, HZ, LS,	Mit.
3	3-2	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.	CC	Mit.
3	3-3	Consider developing an Agricultural Conservation Easement Program (ACEP) to help protect and preserve agricultural lands (including "Important Farmlands"), as defined in the General Plan Safety 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.	CC	Mit.
3	3-4	Seek to protect and enhance surface water and groundwater resources critical to agriculture.	CC	Mit.

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3	3-5	Identify opportunities for infill development projects near employment areas within all unincorporated communities to reduce vehicle trips.	CC	Mit.
3	3-6	Encourage high-density residential development (greater than 16.1 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.	CC	Mit.
3	3-7	Review LEED and LEED-ND certification requirements and develop an implementation program.	CC	Mit.
3	3-8	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.	CC	Mit.
3	3-9	Encourage new streets 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: <ul style="list-style-type: none"> <li>• Street tree planting adjacent to curbs and between the street and sidewalk to provide a buffer between pedestrians and automobiles, where appropriate</li> <li>• Minimize curb cuts along streets</li> <li>• Sidewalks on both sides of streets, where feasible</li> <li>• Bike lanes and walking paths, where feasible on collectors and arterials</li> </ul>	CC	Mit.
3	3-10	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 paths to schools.	CC	Mit.
3	3-11	Work to comprehensively study methods of transportation, which may contribute to a reduction in air pollution in Tulare County.	CC	Mit.
3	3-12	Encourage all new development, including rehabilitation, renovation, and redevelopment, to incorporate energy conservation and green building practices to maximum extent feasible. Such practices include building orientation and shading, landscaping, and the use of active and passive solar heating and water systems.	CC	Mit

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4	4-1	Coordinate with cities to develop cohesive fire safety plans with overlapping coverage.	FR	Mit.
4	4-2	Work with local and Federal agencies to support efforts to reduce fuel related hazards on public lands.	FR	Mit.
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 utilizing SEMS and NIMS.	All	Resp.
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.	All	Resp.
4	4-5	Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about severe valley fog and extreme heat conditions.	FG, EH	Resp.
5	5-1	Utilize Geographic Information Systems (GIS) technology to track fire and law enforcement response times and provide technical assistance to fire and law enforcement agencies.	FR, TR	Mit.
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	All	Mit.
5	5-3	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, ensure that such facilities are located within reasonable distance of fire and law enforcement stations	FR	Mit.
5	5-4	Expand the Street Names and House Numbering Ordinance to all areas of the County, including private roads, for emergency 911 purposes.	All	Mit.

Codes:

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix D Planning Process Documentation

All – All Hazards  
CD – Civil Disturbance  
CC – Climate Change  
DF – Dam Failure  
EQ – Earthquake  
EN – Energy Emergency  
EH – Extreme Heat  
FR – Fire  
FL – Flood  
FG – Fog  
HZ – Hazardous Materials  
LS – Landslides/Mudslides/Debris Flows  
LF – Levee Failure  
PD – Pandemics and Vector Borne Disease  
SW – Storms and High Winds  
TR – Terrorism  
Mit. – Mitigation  
Prep. – Preparedness  
Res. – Response

### **Section 6.3 Mitigation Action Plan**

Mitigation actions are specific activities or projects that serve to meet the goals that the community has identified. Mitigation actions and projects are more specific than goals or objectives, and often include a mechanism, such as an assigned timeframe, to measure the success and ensure the actions are accomplished. The planning team conducted a review of the mitigation actions and strategies from the 2011 HMP. With information from the risk analysis, capability assessment, and status of the actions implemented since the 2011 HMP, the planning team integrated outstanding action items with other County planning efforts to develop new mitigation actions and projects to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure. Current mitigation projects identified by the County are included in **Table 6-3**. A complete list of mitigation actions for all jurisdictions is included in individual jurisdiction annexes.

The requirements for prioritization of mitigation actions, as provided as provided in the federal regulations implementing the Stafford Act as amended by DMA 2000, are described below.



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<p><b>FEMA REGULATION CHECKLIST: MITIGATION STRATEGY; PLAN REVIEW AND REVISION</b></p> <p><b>Implementation of Mitigation Actions</b></p> <p>44 CFR § 201.6(c)(3)(iii): The mitigation strategy section shall include “an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction.</p> <p>Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.”</p> <p><b>Element</b></p> <p><b>C5.</b> Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost-benefit review), implemented, and administered by the jurisdiction? 44 CFR § 201.6(c)(3)(iii)</p> <p><b>Plan Review and Revision</b></p> <p><b>44 CFR § 201.6(d)(3):</b> “A local jurisdiction must review and revise its plan to reflect...changes in priorities...”</p>
--

Based on these criteria, the County prioritized potential mitigation projects and included them in the action plan discussed below in **Table 6-3**. The mitigation action plan developed by the planning team includes the action items that County intends to implement during the next five years, assuming funding availability. The action plan includes the implementing department, an estimate of the timeline for implementation, and potential funding sources.

The planning team does not presume the expertise to prescribe which projects will be implemented. The prioritization of projects in the HMP is a means to provide a basis for implementing the mitigation strategies, but all new mitigation actions and projects will be formally prioritized and selected by the implementing department. This will accommodate the project funding, schedule of the department, staff requirements, and ability to integrate the new project into existing and ongoing projects. Departments will take into account the funding source, the cost effectiveness of the project, alternative projects, the compatibility of the new project with ongoing projects, the extent to which the project addresses the risks assessed in Section 3, and the potential of economic and social damage.

These actions are being taken by the County and are all encompassing for the jurisdictions within the County. These actions can also be used as guidance for individual jurisdictions as applicable. Individual detailed jurisdiction hazard mitigation action tables are included in **Appendix F**.

**Prioritization**

To assist with implementing the Mitigation Action Plan, the planning team used the following ranking process to provide a method to prioritize the projects for the Action Plan. Designations of High, Medium, and Low priorities have been assigned to each action item using the following criteria:

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- Does the action:
- Solve the problem?
  - Address vulnerability assessment?
  - Reduce the exposure or vulnerability to the highest priority hazard?
  - Address multiple hazards?
  - Offer benefits that equal or exceed costs?
  - Implement a goal, policy, or project identified in the General Plan or Capital Improvement Plan?
- Can the action:
- Be implemented with existing funds?
  - Be implemented by existing state or federal grant programs?
  - Be completed within the five-year life cycle of the LHMP?
- Will the action:
- Be implemented with currently available technologies?
  - Be accepted by the community?
  - Be supported by community leaders?
  - Adversely affect segments of the population or neighborhoods?
  - Require a change in local ordinances or zoning laws?
  - Result in positive or neutral impact on the environment?
  - Comply with all local, state, and federal environmental laws and regulations?
- Is there:
- Sufficient staffing to undertake the project?
  - Existing authority to undertake the project?

Each positive response is equal to one point. Answers to the criteria above determined the priority according to the following scale:

1–6 = Low priority

7–12 = Medium priority

13–18 = High priority

When direct benefits or grants were not available, indirect costs were analyzed through the analysis of the social, technical, administrative, political, legal, economic and environmental (STAPLEE) benefit method. **Appendix F** contains analysis of each of the Mitigation Activities based upon the STAPLEE method.

### ***Benefit-Cost Analysis***

Conducting benefit/cost analysis for a mitigation activity can assist WETA in determining whether a project is worth undertaking now, in order to avoid disaster related damages later. Cost-effectiveness analysis evaluates how to best spend a given amount of money to achieve a specific goal. Determining the economic feasibility of mitigating hazards can provide decision makers with an understanding of the potential benefits and costs of an activity, as well as a basis for comparing alternative projects.

### ***Funding***

The funds required to implement the mitigation action plan will come from a variety of sources including: Federal Hazard Mitigation Grants, fares, bonds, fees and assessments, and others. Some projects are (or will be) included in capital improvement budgets, while some, especially ongoing projects, are included in department operating budgets.

Prior to beginning a project or when federal funding is involved, the implementing department will use a FEMA approved benefit/cost analysis approach to identify the actual costs and benefits of implementing these mitigation actions. For non-structural projects, implementing departments will use other appropriate methods to weigh the costs and benefits of each action item, and then develop a prioritized list.

### ***Implementation***

Mitigation projects were assigned one of three categories as a tentative schedule for implementation: short-range, mid-range, and long-range. Implementation of short-range projects will typically begin within

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the next three years. Mid-range projects will require some planning and likely require funding beyond what is currently allocated to the WETA general fund. Projects in the mid-range category will generally begin implementation in the next three to five years. Long range projects will require great planning and funding, and will generally begin implementation within five years and beyond.

Table 6-3 County Hazard Mitigation Actions					
Status	Project Name	Description	Hazards Addressed	Estimate	Prioritization

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**Sample 9**

Sign in Sheet

**Tulare Multi-Jurisdictional Hazard Mitigation Plan Update Meeting #3**  
**January 17, 2017**  
**2:30 pm - 4:00 pm**

Name	Title	Jurisdiction	Agency/Department	Signature
Daymon Qualls	Public Works Director	City of Exeter	Public Works	
Dennis Lehman	Manager	Tulare County	Resource Management Agency	
Devon Popovich	Chief	City of Dinuba	Police Department	
Doug McBee	Fire Chief	City of Visalia	Fire Department	
Eric Coyne	Deputy CAO	Tulare County	County Administrative Office	
Glenn Hall	Battalion Chief	City of Porterville	Fire Department	
Glenn Irish	Fire Chief	City of Porterville	Fire Department	
Jacqui Balderas	Administrative Aide	Tulare County	Office of Emergency Services	
Jason Britt	Public Health Director	Tulare County	Health and Human Services Agency	
Jeff Ramsay	Director	Tulare County Office of Ed	General Services	
Jeffery McLaughlin	Chief	Tulare County	Fire Department	
Jennifer Takehana	Deputy County Counsel	Tulare County	County Counsel	

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**Tulare Multi-Jurisdictional Hazard Mitigation Plan Update Meeting #3**  
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Name	Title	Jurisdiction	Agency/Department	Signature
Carrie Amador	Staff Services Analyst	Tulare County	Health and Human Services Agency	
Chad Thompson	Fire Chief	City of Dinuba	Fire Department	
Charles Norman	Fire Chief	Tulare County	Fire Department	
Chris Hughes	Chief	City of Lindsay	Department of Public Safety	
Cliff Bush	Police Chief	City of Exeter	Police Department	
Dake Wyckoff	Public Works Director	City of Farmersville	Public Works	
Danny Wristen	Chief	City of Visalia	Fire Department	
Darrin Hughes	Battalion Chief	City of Visalia	Fire Department	
Dave Bryant	Chief Planner	Tulare County	Resource Management Agency	
Dave Lee	OES Specialist	Tulare County	Health and Human Services Agency	
David Cornett	Captain	Tulare County	Fire Department	
David Rozell	Manager	Tulare County	Health and Human Services Agency	

*DOUG McBee* | Fire Chief | VISALIA CITY | FIRE DEPT



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**Tulare Multi-Jurisdictional Hazard Mitigation Plan Update Meeting #3**  
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Name	Title	Jurisdiction	Agency/Department	Signature
Adam Ennis	Director	City of Visalia	Public Works	
Adam Valencia		Tulare County Office of Ed	TCOE	
Adrian Ornelas	Public Works Supervisor	City of Woodlake	Public Works	
Andrew Lockman	Manager	Tulare County	Health and Human Services Agency	
Anthony Perez	Fire Chief	City of Woodlake	Fire Protection District	
Ben Ruiz	RMA Director	Tulare County	Resource Management Agency	
Bill Zigler	City Manager	City of Lindsay	Administration	
Blanca Beltran	Public Works Director	City of Dinuba	Public Works	
Bob Irvine	Division Manager	Tulare County	Information & Communications Tech.	
Brett Inglehart	Sergeant	City of Exeter	Police Department	
Bryce Howard	Director	Tulare County	Resource Management Agency	
Cameron Long	Chief	City of Tulare	Fire Department	

*Richard Brown Tulare Fire Dept.*

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**Tulare Multi-Jurisdictional Hazard Mitigation Plan Update Meeting #3**  
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Name	Title	Jurisdiction	Agency/Department	Signature
Mike Marquez	Police Chief	City of Woodlake	Police Department	
Mike Olmos	City Manager	City of Visalia	Administration	
Mike Reed	Public Works Director	City of Porterville	Public Works	
Mike Spata	County Administrative Officer	Tulare County	County Administrative Office	
Mike Washam	Director	Tulare County	Resource Management Agency	
Neil Pilegard	Parks Manager	Tulare County	General Services	
Nisa Gonzalez	Env. Health Director	Tulare County	Health and Human Services Agency	
Norm Goldstrom	Public Works Manager	City of Visalia	Public Works	
Paul Melikian	Interim City Manager	City of Tulare	Administration	
Pete Marquez	Division Chief	Tulare County	Fire Department	
Ramon Lara	City Manager	City of Woodlake	Administration	
Randy Groom	City Manager	City of Exeter	Administration	

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**Tulare Multi-Jurisdictional Hazard Mitigation Plan Update Meeting #3**  
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Name	Title	Jurisdiction	Agency/Department	Signature
Kevin Mizner	Police Chief	College of the Sequoias	Police Department	
Kyria Martinez	Analyst, Economic Development	Tulare County	Resource Management Agency	
Larry Micari	Captain	Tulare County	Sheriff's Office	
Luis Nevarez	Chief	City of Tulare	Fire Department	
Luis Patlan	City Manager	City of Dinuba	Administration	
Lupe Garcia	Associate Engineer	City of Visalia	Community Development	
Mari Carillo		City of Lindsay	Department of Public Safety	
Marilyn Kinoshita	Ag-Commissioner/ Sealer	Tulare County	Agriculture	
Mark Clark		Tulare County	Information & Communications Tech.	
Mike Boudreaux	Sheriff	Tulare County	Sheriff's Office	
Mike Camarena	City Services Director	City of Lindsay	Public Works	
Mike Dickerson		Tulare County	General Services	



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**Tulare Multi-Jurisdictional Hazard Mitigation Plan Update Meeting #3**  
**January 17, 2017**  
**2:30 pm - 4:00 pm**

Name	Title	Jurisdiction	Agency/Department	Signature
Joanne Bear	Captain	Tulare County	Fire Department	
Joe Boy Perez	Director of Emergency Services	Tule River Indian Tribe	Emergency Services	
John Caudle	Assistant Superintendent	Tulare County Office of Ed	TCOE	
John Crivello	Fire Chief	City of Farmersville	Fire Department	
John Hess		Tulare County	General Services	
John Jansons	City Manager	City of Farmersville	Administration	
John Lolis	City Manager	City of Porterville	Administration	
Johnny Wong	Engineer	Tulare County	Resource Management Agency	
Joseph Carlini	Public Works Director	City of Tulare	Public Works	
Karen Haught	Health Officer	Tulare County	Health and Human Services Agency	
Karl Kassner	Captain	City of Visalla	Fire Department	
Kevin Kemmerling	Sergeant	Tulare County	Sheriff's Office	

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## Sample 10



## Sample 11

January 18, 2017

**To: Andrew Lockman**

**From: Lee Rosenberg**

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On January 17, the County of Tulare (County) hosted a meeting to continue the process of updating its multi-jurisdictional local hazard mitigation plan (MJLHMP) for the County. Attendees, which form the MJLHMP planning team, included representatives from County agencies, participating jurisdictions and special districts, and the Tule River Indian Tribe. **Table 1** provides a complete list.

**Table 1: Planning Team Meeting #3 Attendees**

Jurisdiction	Agency/Department	Name	Title
City of Dinuba	Fire Department	Sean Doyle	Battalion Chief
City of Tulare	Fire Department	Cameron Long	Chief
City of Visalia	Public Works	Adam Ennis	Director
City of Visalia	Fire Department	Danny Wristen	Chief
City of Visalia	Fire Department	Doug McBee	Chief
City of Visalia	Fire Department	Karl Kassner	Captain
City of Visalia	Public Works	Norm Goldstrom	Public Works Manager

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix D Planning Process Documentation

Jurisdiction	Agency/Department	Name	Title
Tulare County	Resource Management Agency	Dave Bryant	Chief Planner
Tulare County	Resource Management Agency	Jonny Wong	Engineer
Tulare County	County Counsel	Jennifer Takehana	Deputy County Counsel
Tulare County	Health and Human Services Agency	Dave Lee	OES Specialist
Tulare County	Health and Human Services Agency	Andrew Lockman	Staff Services Analyst
Tulare County	Health and Human Services Agency	Kelly Erazo	Emergency Services Manager
Tulare County	Fire Department	Pete Marquez	Division Chief
Tulare County	Information and Communications Tech	Bob Irvine	Division Manager
Tulare County			
Tulare County	Fire Department	Joanne Bear	Fire Chief
Tulare County	Sheriff's Office	Kevin Kemmerling	Sergeant
Tulare County	Agriculture	Marilyn Kinoshita	Ag-Commissioner/Sealer
Tulare County	Information & Communications Tech.	Mark Clark	GIS Coordinator
Tulare County	Sheriff's Office	Robert Schimpf	Lieutenant
Tule River Indian Tribe	Emergency Services	Joe Boy Perez	Director of Emergency Services
Tule River Indian Tribe	Tule River Fire Department	Richard Brown	Chief
Navigating Preparedness Assoc.		Lee Rosenberg	Managing Director

### Summary of Discussion

4. Navigating Preparedness Associates (NPA) reviewed progress in updating the MJLHMP and stressed the need to complete inputs on infrastructure, capabilities, completed and ongoing mitigation activities from the 2011 HMP, and information on recent hazard incidents. The remainder of the meeting involved reviewing draft mitigation goals and activities to include in the MHLHMP. The goals and mitigation activities selected are listed in **Tables 2 and 3**:

Additionally, the team reviewed the remaining work required to create a draft MJLHMP. Tasks include:

- Conduct public outreach and include documentation as an appendix
- Include documentation of the planning process as an appendix
- Compile hazard maps with infrastructure layers
- Based upon mitigation actions selected, prioritize, and assign timing and resources
- Develop jurisdiction annexes
- Complete the FEMA HMP Plan Review Crosswalk Tool
- Submit draft MJLHMP to Cal OES for review
- Adjudicate FEMA Region IX review comments
- Present draft MJLHMP to County Board for adoption

The team discussed additional items that need to be accomplished that were not previously addressed. They include:

- Climate Action Plan may not be sufficient for GC 6534 G4. Dave Bryant has language and will send to NPA
- January 31st deadline for providing mitigation actions that may have omitted

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix D Planning Process Documentation

- Additional drought mitigation activities such as recycled water and ground water restoration activities
- Mitigation activities for the Tule River Tribe such as retrofitting the 21-ton bridge and flood control efforts at Chimney Rock Rd.
- Conducting the next meeting on February 28, 2017 with a draft of the MJLHMP available by February 28, 2017.

### **Points of Contact**

For concerns or questions regarding these notes, please contact:

Lee Rosenberg, (925) 381-0583 or [lee.rosenberg@navigatingpreparedness.com](mailto:lee.rosenberg@navigatingpreparedness.com) or Dave Lee (559) 624-7496 or [DLEE@tularehhsa.org](mailto:DLEE@tularehhsa.org)

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix D Planning Process Documentation

On March 14, 2017, a fourth planning team meeting was conducted. The meeting invitation, presentation cover page and notes follow:

### Sample 12

On 3/9/2017 at 3:55 PM, Dave Lee wrote: Regard to All,

This is a friendly reminder that our MJLHMP Planning Meeting #4 is scheduled for next Tuesday, March 14, 2017 at 2:00, at the [County Resource Management Agency's Main Conference Room](#).

We also gently remind the planning team that our planning consultant will need your respective feedback after review of the Annexes, in advance of our meeting on Tuesday. Feedback can be provided via this form: <http://oes.tularecounty.ca.gov/oes/index.cfm/mitigation/draft-mjlhmp-feedback/>.

We also gently remind the planning team (those who have participated in the planning meetings) that OES needs your respective HMGP Timesheets (attached spreadsheet), in order to meet soft match requirements.

We have been tracking the sign in sheets, and will reach out on an individual basis to collect the timesheets after Tuesday's meeting.

Please contact us with any questions, and thank you all for your efforts.

Sincerely,  
Dave Lee OES  
Specialist

[Tulare County Office of Emergency Services \(OES\)](#)  
[5957 South Mooney Boulevard](#)

[Visalia, California 93277](#)

Hours: Monday-Thursday, 7:30 AM - 5:00 PM

(559) 624-7496 Office

(559) 553-1125 [Facsimile](#)

(559) 827-7600 Mobile

[Register for AlertTC!](#)

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Sample 13

**Tulare Multi-Jurisdictional Hazard Mitigation Plan Update Meeting #3**  
**January 17, 2017**  
**2:30 pm - 4:00 pm**

Name	Title	Jurisdiction	Agency/Department	Signature
Daymon Qualls	Public Works Director	City of Exeter	Public Works	
Dennis Lehman	Manager	Tulare County	Resource Management Agency	
Devon Popovich	Chief	City of Dinuba	Police Department	
Doug McBee	Fire Chief	City of Visalia	Fire Department	
Eric Coyne	Deputy CAO	Tulare County	County Administrative Office	
Glenn Hall	Battalion Chief	City of Porterville	Fire Department	
Glenn Irish	Fire Chief	City of Porterville	Fire Department	
Jacqui Balderas	Administrative Aide	Tulare County	Office of Emergency Services	
Jason Britt	Public Health Director	Tulare County	Health and Human Services Agency	
Jeff Ramsay	Director	Tulare County Office of Ed	General Services	
Jeffery McLaughlin	Chief	Tulare County	Fire Department	
Jennifer Takehana	Deputy County Counsel	Tulare County	County Counsel	

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**Tulare Multi-Jurisdictional Hazard Mitigation Plan Update Meeting #3**  
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Name	Title	Jurisdiction	Agency/Department	Signature
Carrie Amador	Staff Services Analyst	Tulare County	Health and Human Services Agency	
Chad Thompson	Fire Chief	City of Dinuba	Fire Department	
Charles Norman	Fire Chief	Tulare County	Fire Department	
Chris Hughes	Chief	City of Lindsay	Department of Public Safety	
Cliff Bush	Police Chief	City of Exeter	Police Department	
Dake Wyckoff	Public Works Director	City of Farmersville	Public Works	
Danny Wristen	Chief	City of Visalia	Fire Department	
Darrin Hughes	Battalion Chief	City of Visalia	Fire Department	
Dave Bryant	Chief Planner	Tulare County	Resource Management Agency	
Dave Lee	OES Specialist	Tulare County	Health and Human Services Agency	
David Cornett	Captain	Tulare County	Fire Department	
David Rozell	Manager	Tulare County	Health and Human Services Agency	
DOUG McBEE	Fire Chief	VISALIA city	FIRE DEPT	

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Tulare Multi-Jurisdictional Hazard Mitigation Plan Update Meeting #3  
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Name	Title	Jurisdiction	Agency/Department	Signature
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Adam Valencia		Tulare County Office of Ed	TCOE	
Adrian Ornelas	Public Works Supervisor	City of Woodlake	Public Works	
Andrew Lockman	Manager	Tulare County	Health and Human Services Agency	
Anthony Perez	Fire Chief	City of Woodlake	Fire Protection District	
Ben Ruiz	RMA Director	Tulare County	Resource Management Agency	
Bill Zigler	City Manager	City of Lindsay	Administration	
Blanca Beltran	Public Works Director	City of Dinuba	Public Works	
Bob Irvine	Division Manager	Tulare County	Information & Communications Tech.	
Brett Inglehart	Sergeant	City of Exeter	Police Department	
Bryce Howard	Director	Tulare County	Resource Management Agency	
Cameron Long	Chief	City of Tulare	Fire Department	

*Richard Brown Tulare Fire Dept.*



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**Tulare Multi-Jurisdictional Hazard Mitigation Plan Update Meeting #3**  
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Name	Title	Jurisdiction	Agency/Department	Signature
Mike Marquez	Police Chief	City of Woodlake	Police Department	
Mike Olmos	City Manager	City of Visalia	Administration	
Mike Reed	Public Works Director	City of Porterville	Public Works	
Mike Spata	County Administrative Officer	Tulare County	County Administrative Office	
Mike Washam	Director	Tulare County	Resource Management Agency	
Neil Pilegard	Parks Manager	Tulare County	General Services	
Nisa Gonzalez	Env. Health Director	Tulare County	Health and Human Services Agency	
Norm Goldstrom	Public Works Manager	City of Visalia	Public Works	
Paul Melikian	Interim City Manager	City of Tulare	Administration	
Pete Marquez	Division Chief	Tulare County	Fire Department	
Ramon Lara	City Manager	City of Woodlake	Administration	
Randy Groom	City Manager	City of Exeter	Administration	

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Kevin Mizner	Police Chief	College of the Sequoias	Police Department	
Kyria Martinez	Analyst, Economic Development	Tulare County	Resource Management Agency	
Larry Micari	Captain	Tulare County	Sheriff's Office	
Luis Nevarez	Chief	City of Tulare	Fire Department	
Luis Patlan	City Manager	City of Dinuba	Administration	
Lupe Garcia	Associate Engineer	City of Visalia	Community Development	
Mari Carillo		City of Lindsay	Department of Public Safety	
Marilyn Kinoshita	Ag-Commissioner/ Sealer	Tulare County	Agriculture	
Mark Clark		Tulare County	Information & Communications Tech.	
Mike Boudreaux	Sheriff	Tulare County	Sheriff's Office	
Mike Camarena	City Services Director	City of Lindsay	Public Works	
Mike Dickerson		Tulare County	General Services	

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Joanne Bear	Captain	Tulare County	Fire Department	
Joe Boy Perez	Director of Emergency Services	Tule River Indian Tribe	Emergency Services	
John Caudle	Assistant Superintendent	Tulare County Office of Ed	TCOE	
John Crivello	Fire Chief	City of Farmersville	Fire Department	
John Hess		Tulare County	General Services	
John Jansons	City Manager	City of Farmersville	Administration	
John Lolis	City Manager	City of Porterville	Administration	
Johnny Wong	Engineer	Tulare County	Resource Management Agency	
Joseph Carlini	Public Works Director	City of Tulare	Public Works	
Karen Haught	Health Officer	Tulare County	Health and Human Services Agency	
Karl Kassner	Captain	City of Visalia	Fire Department	
Kevin Kemmerling	Sergeant	Tulare County	Sheriff's Office	K2

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix D Planning Process Documentation

Sample 14



Sample 15

March 16, 2017

To: Andrew Lockman

From: Lee Rosenberg

On March 14, the County of Tulare (County) hosted a meeting to continue the process of updating its multi-jurisdictional local hazard mitigation plan (MJLHMP) for the County. Attendees, which form the MJLHMP planning team, included representatives from County agencies, participating jurisdictions and special districts, and the Tule River Tribe. **Table 1** provides a complete list.

**Table 1: Planning Team Meeting #4 Attendees**

Jurisdiction	Agency/Department	Name	Title
City of Dinuba	Fire Department	Sean Doyle	Battalion Chief
City of Exeter	Public Works	Daymon Qualls	Director
City of Farmerville	Fire Department	John Crivello	Chief
City of Lindsay	Public Works	Mike Camarena	City Services Director

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix D Planning Process Documentation

Jurisdiction	Agency/Department	Name	Title
City of Porterville	Fire Department	Glenn Hall	Battalion Chief
City of Porterville	Fire Department	Rick Land	Captain
City of Visalia	Fire Department	Danny Wristen	Chief
City of Visalia	Fire Department	Karl Kassner	Captain
Tulare County	Resource Management Agency	Dave Bryant	Chief Planner
Tulare County	Staff Services	Carrie Amador	Analyst
Tulare County	IT and Communications	Mark Clark	Director
Tulare County	Resource Management Agency	Jonny Wong	Engineer
Tulare County	County Counsel	Matt Wang	Deputy County Counsel
Tulare County	Health and Human Services Agency/OES	Dave Lee	OES Specialist
Tulare County	Health and Human Services Agency/OES	Andrew Lockman	Emergency Services Manager
Tulare County	Health and Human Services Agency/OES	Jacqui Balderas	Administrative Aid
Tulare County	Environmental Health	Nilsa Gonzalez	Director
Tulare County	Health and Human Services Agency	Kelly Erazo	Analyst
Tulare County	Sheriff's Office	Robert Schimpf	Lieutenant
Tule River Tribe	Tule River Fire Department	Richard Brown	Chief
Navigating Preparedness Assoc.		Lee Rosenberg	Managing Director

### Summary of Discussion

1. Navigating Preparedness Associates (NPA) reviewed progress in updating the MJLHMP and provided each of the participating local jurisdictions with copies of their own annex. The jurisdictions then broke into working groups to review the draft annexes. The goals of the working groups were to verify general information in the annexes, review and add to the proposed mitigation activities, and validate capabilities and infrastructure (applicable hazards, value, location).
2. County staff worked in a group to use the STAPLEE prioritization tools to evaluate potential mitigation activities, rank them in term of implementation, and attempt to identify potential funding sources and the responsible County Department.
3. Both the County and the local jurisdiction groups spent up to 1 ½ hours updating critical sections of the MJLHMP. As part of the explanatory material preceding the group breakouts, the participants were asked to provide final inputs by the end of March to allow developing an updated draft.
4. Additionally, the team reviewed the remaining work required to create a draft MJLHMP. Tasks include:
  - Conduct public outreach and include documentation as an appendix
  - Include documentation of the planning process as an appendix
  - Based upon mitigation actions selected, prioritize, and assign timing and resources
  - Complete the FEMA HMP Plan Review Crosswalk Tool
  - Submit draft MJLHMP to Cal OES for review

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix D Planning Process Documentation

- Adjudicate FEMA Region IX review comments
  - Present draft MJLHMP to County Board and local jurisdiction councils for adoption
5. The team discussed additional items that need to be accomplished that were not previously addressed. They include:
- The County's 2012 Climate Action Plan may not be sufficient for meeting the requirements of GC 6534-G4. Dave Bryant, Resource Management Agency, will conduct a crosswalk of the Climate Action Plan, General Plan Health and Safety Element and MJLHMP and will provide NPA with a list of potential gaps that may be addressed in the climate change hazard analysis section of the plan and lead to additional mitigation activities.
  - Mark Clark of IT and Communications Technology suggested adding cyberterrorism threats to the terrorism hazard analysis and considering mitigation activities to counter potential cyber threats to the County. NPA will review the hazard analysis for terrorism and add material on cyber risks.

### **Points of Contact**



For concerns or questions regarding these notes, please contact:

Lee Rosenberg, (925) 381-0583 or [lee.rosenberg@navigatingpreparedness.com](mailto:lee.rosenberg@navigatingpreparedness.com) or Dave Lee (559) 624-7496 or [DLEE@tularehhsa.org](mailto:DLEE@tularehhsa.org)

# 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix D Planning Process Documentation

## Sample 16

Jurisdiction overview data collection tool



Hazard Mitigation Checklist

Local Agency: **CITY OF LINDSAY**

POC: **PUBLIC SAFETY, CHIEF CHRIS HUGHES** **PUBLIC WORKS, MIKE CAMARENA**

POC phone: **CHIEF CHRIS HUGHES, 559.333.6136** **MIKE CAMARENA, 559.333.4107**

POC email: **CHIEF HUGHES, chughes@lindsay.ca.us** **MIKE CAMARENA, engineering@lindsay.ca.us**

Have there been any hazard occurrences since 2010? **YES**

If so provide the following for each (add other hazard occurrences on a second page):

Hazard: **FLOOD** Date: **DEC. 2010-FEB. 2011**

Description (include deaths and/or injuries, bldg. damage, infrastructure damage, police/fire/EM services to support such as overtime):

**MINOR FLOOD DAMAGE TO SCHOOL SITE UNDER CONSTRUCTION; MINOR FLOOD DAMAGE TO STORM DRAINS AND FEW CITY FACILITIES (LEAK DAMAGE).**

Estimate Cost of Damages: **\$50,000**

Any NFIP structures? If so, how many? **NO** Any repetitively flooded structures that flooded since 2010? If so, how many? **NO** Description and estimated costs of damages:

---

Review agency specific mitigation actions, critical infrastructure and capabilities outlined in the 2011 Plan (tables attached).

---

Identify any local-specific community organizations or groups that could be included in the planning process(name, POC, e-mail and/or phone number):

---

---

Identify local methods for public engagement (place on local website, put a copy in the library, conduct outreach surveys, include hazard mitigation in other meetings/events):

**FACEBOOK NOTIFICATION; CITY WEBSITE; LOCAL PUBLIC FACILITY POSTING**

# 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix D Planning Process Documentation

## Jurisdiction Mitigation Actions Update

**City of Lindsay Hazard Mitigation Actions 2016**

Mitigation Actions are specific actions, projects, activities or processes taken to reduce or eliminate long-term risk to people and property from hazards and their impacts. General types include plans and regulations, structure and infrastructure projects, natural systems protection and education and awareness programs. Examples include:

- Plans and regulations – building codes, land use ordinances, NFIP community rating system, capital improvement projects, stormwater management plans, subdivision regulations.
- Structure and infrastructure projects – acquisition and elevation of structures in flood prone areas, structural retrofit, utility underground, retaining walls, detention and retention structures, culverts, safe rooms
- Natural system protection – erosion control, stream restoration, forest management, conservation easement, wetland restoration
- Education and awareness – radio and television, websites, real estate disclosure, presentations to schools or neighborhood organizations, mailings to residents in hazard-prone areas, Firewise and Stormready communities

**2011 Mitigation Actions**

Status (New, Current, Ongoing, or Completed) If completed include date	Project Name	Description	Hazards Addressed	Costs of Construction (if known)	Prioritization (1=current, 2=begin within the next year, 3=begin within 1-5 year, 4= begin 5+ years)
Current	All City facilities	Bolt down the roofs of critical facilities in wind gust hazard areas in order to prevent wind damage.	Severe Winter Storm		3
Current		Implement a fuel reduction program, such as the collection and disposal of dead fuel, within open spaces and around critical facilities and residential structures located within a high and very high wildfire zones.	Wildfire		1
Current		Create a vegetation management program that provides vegetation management services to elderly, disabled, or low-income property owners who lack the resources to remove flammable vegetation from around their homes.	Wildfire		3
Current		Develop a community wildfire mitigation plan that identifies and prioritizes areas for hazard fuel reduction treatments, and recommend the types of methods of treatments.	Wildfires		4



# 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix D Planning Process Documentation

## Jurisdiction Capabilities Update

### City of Lindsay Capabilities

Capabilities are defined as follows:

**Planning and Regulatory** – local ordinances, policies and laws to manage growth and development. Examples include land use plans, capital improvement plans, transportation plans, emergency preparedness and response plans, building codes and zoning ordinances.

**Administrative and Technical** – community (including public and private) staff and their skills and tools used for mitigation planning and implementation. Include engineers, planners, emergency managers, GIS analysts, building inspectors, grant writers, and floodplain managers. Small communities may rely on other government entities such as counties or special districts for resources.

**Financial** – general funds, property sales, income taxes, development impact fees, or stormwater utility fees.

**Education and Outreach** – Programs in place such as fire safety programs, hazard awareness campaigns, public information or communications offices.

#### 2011 HMP Capabilities

Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (If yes, identify parts applicable to mitigation)	Capability Type (Planning, Regulatory, Administrative, Technical, or Financial) If known
Planners, engineers and technical staff within the Planning Division	Develops and maintains the General Plan, including the Safety Element. Develops area plans based on the General Plan, to provide more specific guidance for the development of more specific areas. Reviews private development projects and proposed capital improvements projects and other physical projects involving property for consistency and conformity with the General Plan. Anticipates and acts on the need for new plans, policies, and Code changes. Applies the approved plans, policies, code provisions, and other regulations to proposed land uses.	All		Planning
Engineers, Inspectors, Code enforcement officers, and other technical staff within the	Oversees the effective, efficient, fair, and safe enforcement of the California Building Code.	All		Planning, Technical, Regulatory

# 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix D Planning Process Documentation

## Jurisdiction Asset Inventory Update

### *City of Lindsay Community Asset Inventory*

An **asset inventory** is used to identify assets that may be more vulnerable due to physical characteristics or socioeconomic uses. Assets are categorized as people, economy, built environment and natural environment.

- **People** – include population estimates, visiting population estimates (migrants, national parks or special events) and access or functional needs population (non-English speakers, physically or mentally disabled, children, and hospital patients).
- **Economy** – Economic drivers include building assets but also include inventory within buildings, downtime and loss of wages. In addition, primary economic sectors (major employers) where their loss would have a significant impact to the community.
- **Built Environment** – Existing structures, infrastructure systems, critical facilities cultural resources, and future development.
- **Natural Resources** – Critical habitats and areas that provide protective functions.

**2011 Asset Inventory**

Name	Address	Value (2011 values are included where provided)	Asset Category	Hazard
CCPT Discharge Line-3 booster pumps	23620 Road 100	\$1,500,000		Earthquake, 500-Year Floodplain, Dam Flood, Fog
City Park	Parkside Avenue and E. Alameda Street	\$3,000,000		Earthquake, 500-Year Floodplain, Fog
City Services Department	150 N. Morgan Avenue	\$150,000		Earthquake, Fog
F.M. Moore Building	Honolulu Street	\$20,000		Earthquake, 500-Year Floodplain, Fog
Front Kern Canal	E. Honolulu Street	\$500,000		Earthquake, 500-Year Floodplain, Fog
Harvard Park	N. Harvard Avenue	\$500,000		Earthquake, 100-Year Floodplain, Fog
Harvard Ponding Basin	N. Harvard Avenue and E. Tulare Rd	\$500,000		Earthquake, 100-Year Floodplain, Fog
Hickory Lift Station	Hickory/Tulare Road	\$250,000		Earthquake, Fog
Kaka Park	N. Olive Avenue and W. Samsco Street	\$200,000		Earthquake, Fog
Lindsay Chamber of Commerce/Santa Vesta Plaza	133 W. Honolulu Street	\$150,000		Earthquake, Fog
Lindsay City Hall	251 E. Honolulu Street	\$1,000,000		Earthquake, Fog
Lindsay Corporation Yard	436 N. Mount Vernon Avenue	\$250,000		Earthquake, Fog
Lindsay Department of Public Safety	183 N. Gale Hill Avenue	\$250,000		Earthquake, Fog
Lindsay Historical Museum	Gale Hill Avenue	\$100,000		Earthquake, 500-Year Floodplain, Fog

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix D Planning Process Documentation

Sample 17

**From:** Dave Lee  
**To:** [jwaters@ci.woodlake.ca.us](mailto:jwaters@ci.woodlake.ca.us)  
**Cc:** [dave@ci.woodlake.ca.us](mailto:dave@ci.woodlake.ca.us); Andrew Lockman  
**Subject:** Fwd: Tulare County Hazard Mitigation Plan Revisions Notice  
**Date:** Tuesday, March 06, 2018 8:11:27 AM  
**Attachments:** [City of Woodlake Hazard Mitigation Actions.docx](#)

---

Dear Mr. Waters,

Thanks for your review of the 2011 MLHMP and quick turnaround with your inputs. The City's update to the status of the 2011 mitigation measures and inclusion of several specific new mitigation measures for the City will improve the Woodlake Annex to the Plan. I think using the FEMA Mitigation Ideas to develop new mitigation activities was particularly helpful.

I'll send a revised copy of the Woodlake Annex for your review once we complete updating it with your input.

Sincerely,  
Dave Lee | OES Specialist  
[Tulare County Office of Emergency Services \(OES\)](#)  
[1077 So. An Avenue, Woodlake](#)  
[Woodlake, California 93277](#)  
(559) 624-1400 Office | (559) 554-1125 [pagermail](#)  
(559) 827-7000 Mobile

[Register for Alert101](#)

---

On 3/5/2018 at 4:11 PM, Jason Waters <[jwaters@ci.woodlake.ca.us](mailto:jwaters@ci.woodlake.ca.us)> wrote:  
Hi Dave,

We made a few additions to the Hazard Mitigation Actions. Is this sufficient or is additional information needed? Thanks.

Jason Waters  
City of Woodlake  
559-564-8055

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix D Planning Process Documentation

Sample 18

**From:** Andrew Lockman  
**To:** [laurel@co.tulare.ca.us](mailto:laurel@co.tulare.ca.us); [gamem@co.kern.ca.us](mailto:gamem@co.kern.ca.us); [Arayada.Vicbanse@co.kings.ca.us](mailto:Arayada.Vicbanse@co.kings.ca.us)  
**Subject:** Tulare MJLHMP: Neighboring Jurisdiction Hazard Mitigation Plan Review  
**Date:** Monday, March 05, 2018 10:45:10 AM

---

Good morning Region V neighbors,

Please see below for a link to Tulare's nearly completed Multi-Jurisdictional LHMP. As part of the planning process, we are reaching out to our neighbors to invite you or other appropriate individual(s) within your organization to review and provide any comments in regards to our plan.

Thanks,  
Andrew

Begin forwarded message:

**From:** "Dave Lee" <[DLEE@tularchhsa.org](mailto:DLEE@tularchhsa.org)>  
**Date:** March 5, 2018 at 09:48:29 PST  
**To:** "Andrew Lockman" <[ALockman@tularchhsa.org](mailto:ALockman@tularchhsa.org)>  
**Subject:** MJLHMP: Neighboring Jurisdiction Hazard Mitigation Plan Review

<http://oes.tularecounty.ca.gov/oes/index.cfm/mitigation/>

# 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

## Appendix E Public Outreach Documentation

This appendix includes documentation of the 2017 MJLHMP public engagement process. Public outreach consisted of the following:


- Providing a continuing page on the County OES website providing announcements and updates on the planning process. A copy of the draft MJLHMP was also posted on the website for County residents to review. County Facebook and twitter accounts were used to advertise the webpage. See Sample 1
- A survey was developed and place on the County OES website soliciting feedback on hazards, potential mitigation measures and priorities, general community preparedness. Nine surveys were returned. The results of the survey were used to inform hazard CPRI and select and prioritize mitigation measures. See Samples 2 and 3
- All planning team participants were notified of the draft MJLHMP being place on the County OES website. Participating jurisdictions were provided a copy of the plan to place on their own media. Both the County Agricultural Commission and the City of Lindsay placed pages on their websites soliciting feedback. See Samples 4 through 6
- The draft MJLHMP was place on the County OES Website on June 16 through July 15 and a survey form provided for public comment. See Sample 7

The public survey input from the 12 responders was used to select hazards and rank their affects. Earthquake and energy emergency were ranked as the two top hazards. This input was also used to inform the Hazard Identification and Prioritization Summary contained in **Table 5-13**. Finally, survey input was used to select mitigation actions. Input from posting the draft MJLHMP was used to refine the Plan and prepared it for submission for review


# 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

## Sample 1

Mitigation Phase - Office of Emergency Services



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# Mitigation

Mitigation is a process by which hazards are identified, vulnerabilities to these hazards assessed, and actions taken to lessen the impact of the hazard on human life, property, and the community at large. Once mitigation strategies are identified, mitigation projects can be submitted to FEMA for possible grant funding.

Tulare County OES encourages the public to be aware of the hazards that may impact you. The California Governor's Office of Emergency Services (Cal OES) maintains the **MyHazards** website, which allows you to view Earthquake, Flood, and Fire hazard information, along with preparedness measures, for any address in the state. Click on the link above, or navigate to <http://myhazards.caloes.ca.gov/> to use the MyHazards website.



### Local Hazard Mitigation Plan (2008-2012)

Tulare County has received a federal Hazard Mitigation Grant Program (HMGP) grant to develop a Multi-Jurisdictional Local Hazard Mitigation Plan (LHMP) for the Tulare Operational Area (County and all cities and special districts).


As of August, 2011, the LHMP is in final draft form, and has been submitted to Cal OES for preliminary review. This plan was approved and adopted by Tulare County in January, 2012. The public may [view the plan here \(PDF, 318KB\)](#).

### Hazard Mitigation Plan Update (2016-2017)

Tulare County was awarded additional HMGP funds to develop an update to the Local Hazard Mitigation Plan. This update - built upon the foundations laid by the 2012 LHMP - will provide an enhanced Multi-Jurisdictional Local Hazard Mitigation Plan (MJLHMP), and will incorporate additional elements as required by California Government Code §86302 (d) (4) for climate adaptation and drought. This [draft MJLHMP is available for review here](#).



[Draft MJLHMP Update: Public Comments](#)

Powered by



See how easy it is to [create a survey](#).

<http://oes.tularecounty.ca.gov/oes/index.cfm/mitigation> [6/15/2017 1:51:49 PM]



Sample 2

## County of Tulare Hazard Mitigation Plan Survey

1. The residents and businesses in the County face a number of hazards that could potentially occur. How concerned are you about the following hazards? (Check one response for each hazard)

	Not Concerned	Somewhat Concerned	Concerned	Very Concerned	Extremely Concerned
Earthquake/Seismic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fire	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Levee Failure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Landslides/Mudslides/Debris Flow	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drought	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Energy Emergency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dam Failure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Epidemic/Pandemic/Vector Borne Disease	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hazardous Material and Oil Spills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Agricultural Hazard	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Terrorism/Cyber Terrorism	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Civil Disturbance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fog	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extreme Heat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Severe Winter Storms/High Winds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (Please specify)					

2. How prepared is your household to cope with a hazard event?

	Not Prepared at All	Somewhat Prepared	Adequately Prepared	Very Well Prepared	Not Sure
Check one	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

### 3. Which of the following activities has your household taken to prepare for a hazard event? (Check all that apply)

- Prepared a disaster kit (Tools, gloves, dust masks, flashlights, eye protection, etc.)
- Stored water (one gallon a day/person for 5 days)
- Stored non-perishable food for 5 days
- Received first aid/CPR training
- Joined a Community Emergency Response Team (CERT)/taken CERT classes
- Stored medical needs/supplies (first aid kit, prescription medicines, extra glasses) at home, work or auto)
- Created a family reunification communications plan
- Identified utility shutoffs
- Installed smoke and carbon monoxide detectors on each floor of the house
- Have working portable fire extinguishers in appropriate areas such as the kitchen
- Purchased flood insurance
- Purchased earthquake insurance
- None

### 4. Which of the following sources of information do you use to help prepare for a hazard event? (Check all that apply)

- Government source such as federal, state or local website or Facebook account
- Community meetings that address disaster preparedness information
- CERT training
- Exhibit at a local fair or community event
- Civic organization involved in disaster preparedness such as American Red Cross or your church
- Personal experience with previous hazard or disaster
- School or academic institution
- Local news or regional media source (Other than social media)
- Phone book or distribution of printed material
- Other (Please specify)



## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

**5. Which of the following source of methods for receiving hazard and disaster preparedness information do you think are most effective? (Check all that apply)**

- Social media
- Website other than social media such as Ready.gov
- Newspaper articles
- Telephone book
- Radio announcement
- Schools and academic institutions
- City newsletters
- Workshops
- Chamber of commerce or other civic group
- Fire department
- Law enforcement agency
- Church
- Public library
- Red Cross
- Public meetings
- Reverse 911
- Public awareness campaigns
- Other (Please specify)

**6. What types of projects should the County/your city be accomplishing in order to reduce the damage and disruption from hazards? Please rank each option as low, medium or high priority.**

	Low Priority	Medium Priority	High Priority
Strengthen codes and regulations to include higher regulatory standards in hazard areas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Retrofit critical infrastructure such as roads and bridges, flood control systems, water and wastewater treatment plants, and power distribution systems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquire vulnerable properties and maintain as open space.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide better public information about risk and the exposure to hazards with in the County.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

Implement projects that restore the capacity of the natural environment to absorb the impacts from hazards.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Implement projects that mitigate the potential impacts of climate change.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Educate vulnerable property owners about the programs that support mitigation funding.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (Please specify)			

**7. How important do you find the following County-wide actions or activities that may reduce the risks of hazards?**

	Not Important	Somewhat Important	Very Important	Extremely Important
Prevention activities such as administrative actions that influence the way that land is develop and buildings constructed, such as planning, zoning and building codes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Property protection actions that involve the modification of existing building to protect them from a hazard or removal from the hazard area such as acquisition, relocation, elevation and structural retrofits.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Structural projects intended to reduce the impact of a hazard by modifying the natural progression of the hazard such as detention/retention basins retaining walls and storm sewers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emergency services actions that protect people and property during an immediately after a hazard event, such as warning systems, evacuation planning emergency response training and protection of critical emergency facilities and systems.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

Public education and awareness activities designed to inform community member about hazards and the techniques the can use to protect themselves and their property such as outreach projects, CERT, school based programs, and public events or campaigns.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (Please specify)				

**8. Please indicate how your feel about the following statement: It is the responsibility of government (local, state and federal) to provide education and programs that promote citizen action that reduce exposure to the risks associated with hazards.**

	Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree
<b>Check one</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**9. Please indicate how your feel about the following statement: It is my personal responsibility to be educated and take action that reduce my exposure to the risks associated with hazards.**

	Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree
<b>Check one</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**10. Do you or anyone in your household have disabilities and / or access and functional needs that require early warning notification or specialized response to evacuate during disasters?**

Yes

No

Other (Please specify)

**11. If you answered yes to question 10, would you participate in a Disaster Assistance Registry for people with disabilities and / or access and functional needs?**

Yes

No

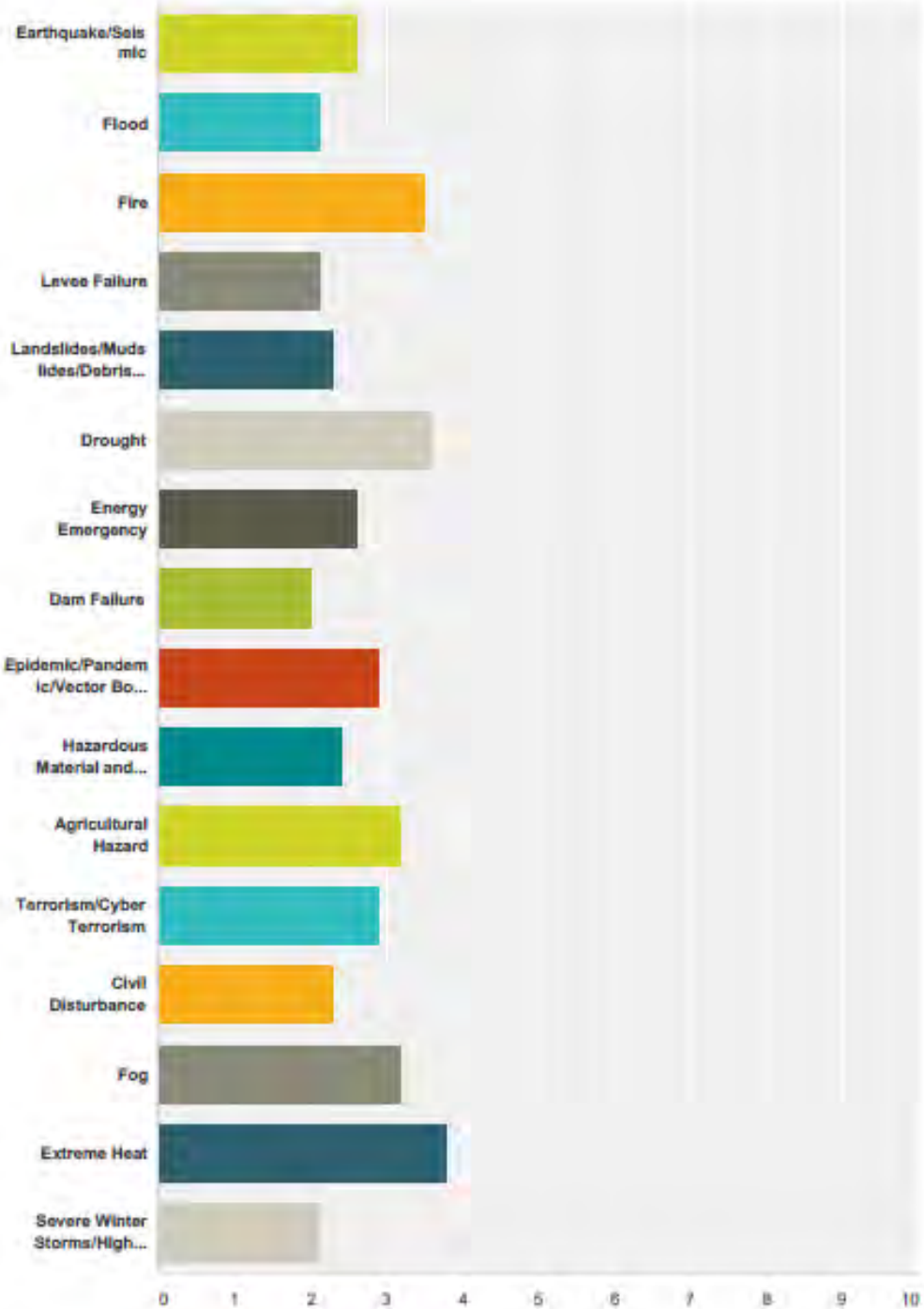
Other (Please specify)

Sample 3

County of Tulare Hazard Mitigation Plan Survey Responses

Q1 What types of hazards concern you the most? (rate each hazard)

Answered: 10 Skipped: 1



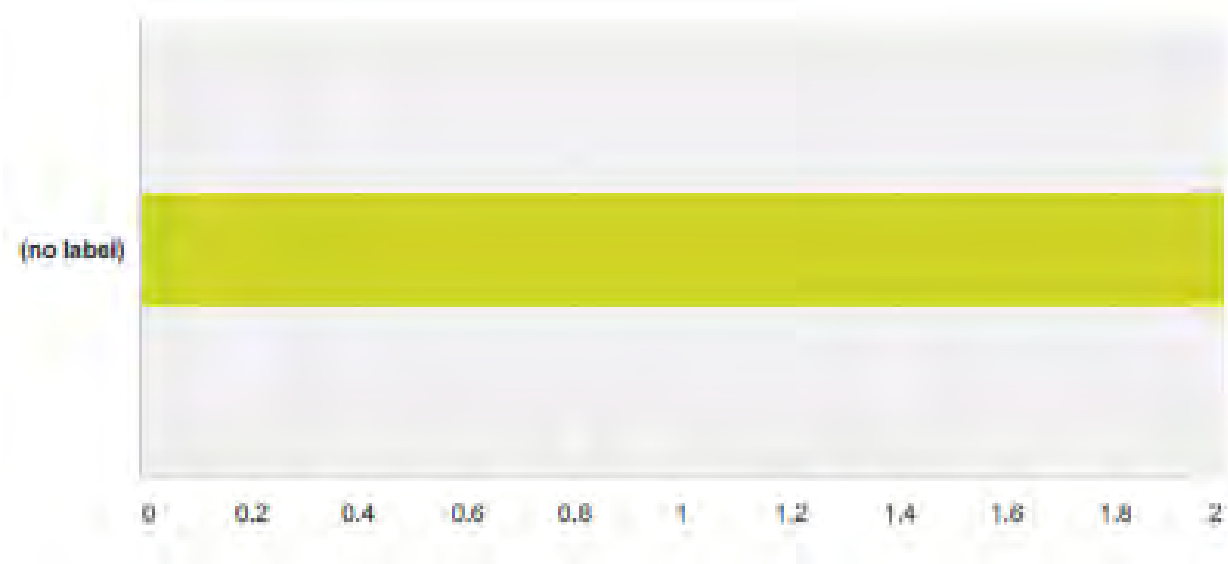
## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

	Not Concerned	Somewhat Concerned	Concerned	Very Concerned	Extremely Concerned	Total	Weighted Average
Earthquake/Seismic	20.00% 2	40.00% 4	10.00% 1	20.00% 2	10.00% 1	10	2.60
Flood	30.00% 3	40.00% 4	20.00% 2	10.00% 1	0.00% 0	10	2.10
Fire	10.00% 1	20.00% 2	20.00% 2	10.00% 1	40.00% 4	10	3.50
Levee Failure	20.00% 2	50.00% 5	30.00% 3	0.00% 0	0.00% 0	10	2.10
Landslides/Mudslides/Debris Flow	30.00% 3	30.00% 3	30.00% 3	0.00% 0	10.00% 1	10	2.30
Drought	10.00% 1	10.00% 1	30.00% 3	10.00% 1	40.00% 4	10	3.60
Energy Emergency	20.00% 2	20.00% 2	40.00% 4	20.00% 2	0.00% 0	10	2.60
Dam Failure	40.00% 4	30.00% 3	20.00% 2	10.00% 1	0.00% 0	10	2.00
Epidemic/Pandemic/Vector Borne Disease	20.00% 2	20.00% 2	30.00% 3	10.00% 1	20.00% 2	10	2.90
Hazardous Material and Oil Spills	30.00% 3	10.00% 1	50.00% 5	10.00% 1	0.00% 0	10	2.40
Agricultural Hazard	10.00% 1	10.00% 1	40.00% 4	30.00% 3	10.00% 1	10	3.20
Terrorism/Cyber Terrorism	20.00% 2	30.00% 3	10.00% 1	20.00% 2	20.00% 2	10	2.90
Civil Disturbance	30.00% 3	30.00% 3	20.00% 2	20.00% 2	0.00% 0	10	2.30
Fog	10.00% 1	20.00% 2	40.00% 4	0.00% 0	30.00% 3	10	3.20
Extreme Heat	0.00% 0	20.00% 2	30.00% 3	0.00% 0	50.00% 5	10	3.80
Severe Winter Storms/High Winds	40.00% 4	30.00% 3	20.00% 2	0.00% 0	10.00% 1	10	2.10

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**Q2 How prepared are you for disasters?**

Answered: 10 Skipped: 1

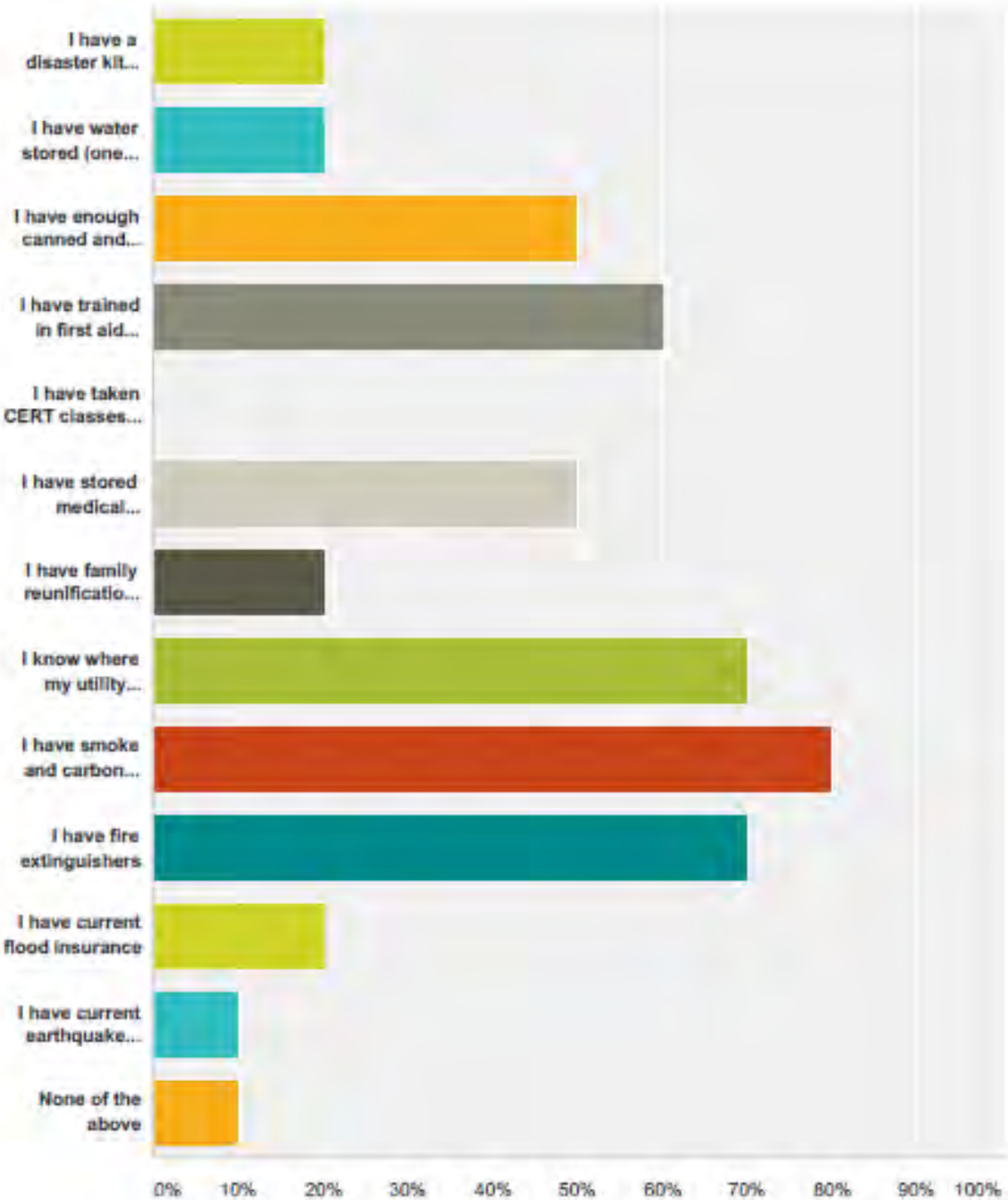


	Not Prepared at All	Somewhat Prepared	Adequately Prepared	Very Well Prepared	Not Sure	Total	Weighted Average
(no label)	20.00% 2	70.00% 7	0.00% 0	10.00% 1	0.00% 0	10	2.00

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**Q3 What have you done to prepare for an emergency? (Check all that apply)**

Answered: 10 Skipped: 1



## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

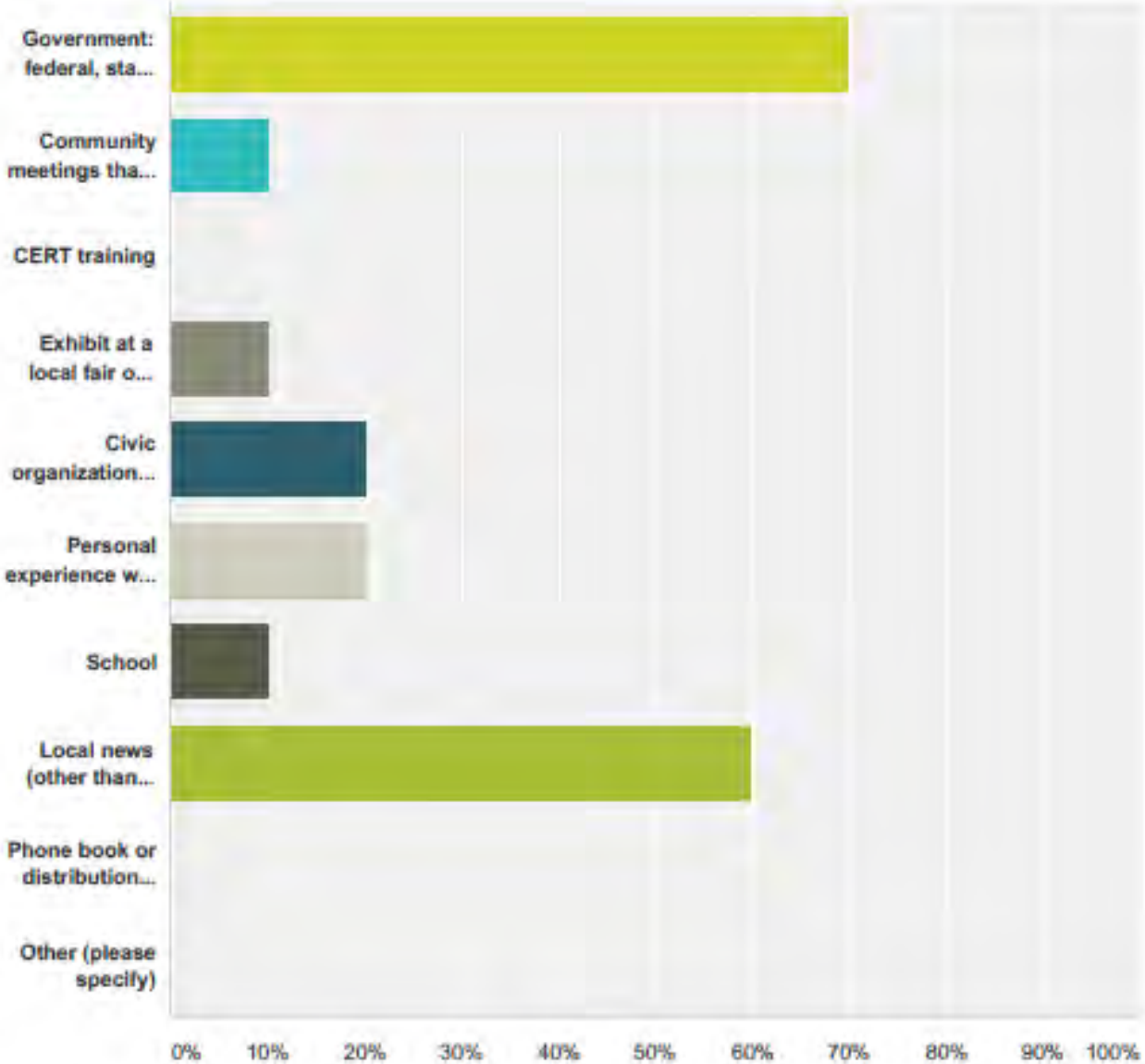
Answer Choices	Responses	
I have a disaster kit (tools, gloves, dust masks, flashlights, eye protection, etc.)	20.00%	2
I have water stored (one gallon a day/person for 5 days)	20.00%	2
I have enough canned and preserved food for 5 days	50.00%	5
I have trained in first aid and CPR	60.00%	6
I have taken CERT classes, or I am part of a CERT team	0.00%	0
I have stored medical supplies (first aid kit, prescription medicines, extra glasses, etc.)	50.00%	5
I have family reunification and/or family communications plans	20.00%	2
I know where my utility shutoffs are	70.00%	7
I have smoke and carbon monoxide detectors installed on each floor of my home	80.00%	8
I have fire extinguishers	70.00%	7
I have current flood insurance	20.00%	2
I have current earthquake insurance	10.00%	1
None of the above	10.00%	1
<b>Total Respondents: 10</b>		



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**Q4 Who provides you information for emergency preparedness? (Check all that apply)**

Answered: 10 Skipped: 1



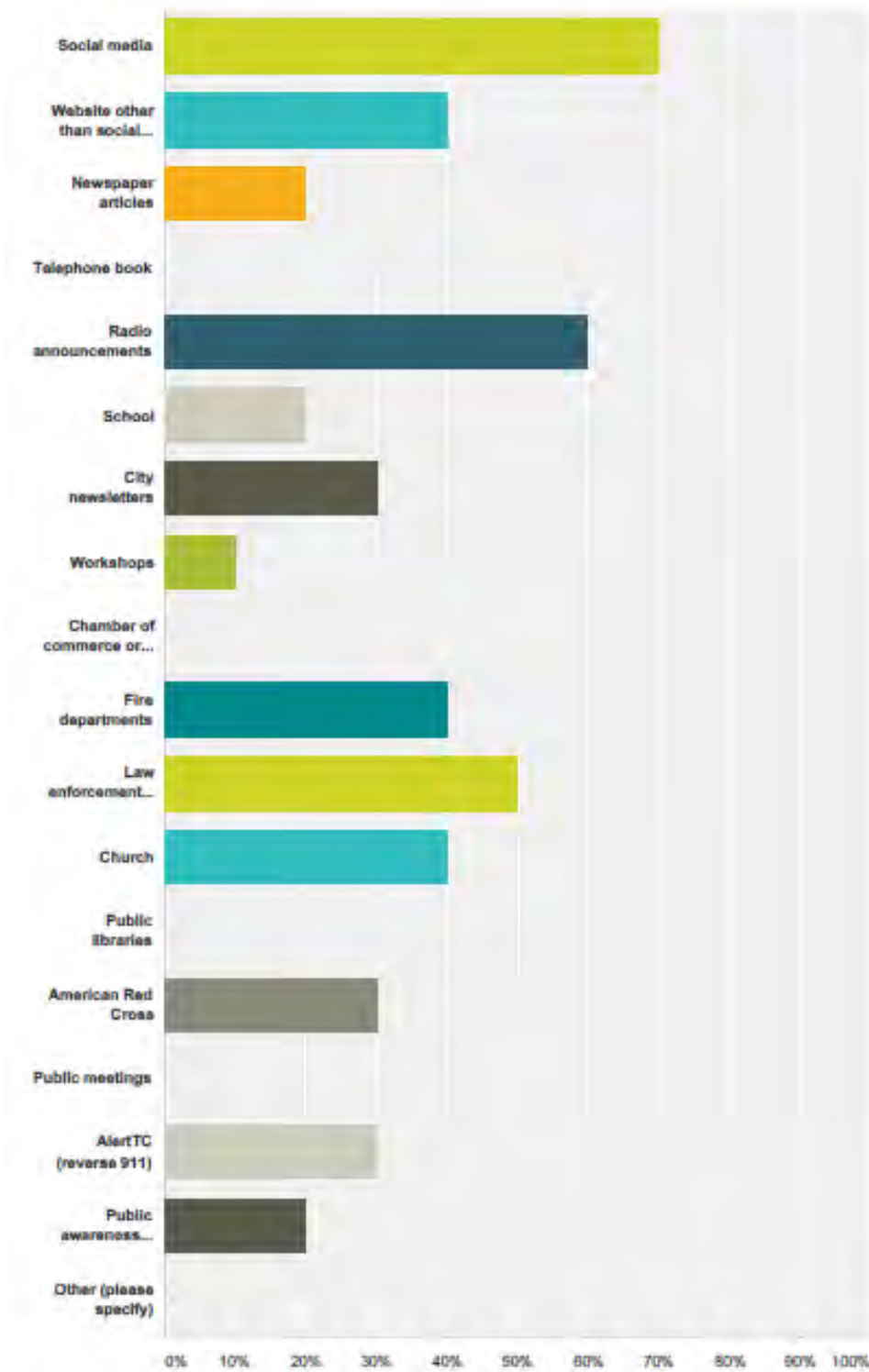
## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

Answer Choices	Responses	
Government: federal, state, or local website or Facebook account	70.00%	7
Community meetings that address emergency preparedness information	10.00%	1
CERT training	0.00%	0
Exhibit at a local fair or community event	10.00%	1
Civic organization involved in emergency preparedness such as American Red Cross or a church	20.00%	2
Personal experience with previous disaster or emergency	20.00%	2
School	10.00%	1
Local news (other than social media)	60.00%	6
Phone book or distribution of printed material	0.00%	0
Other (please specify)	0.00%	0
<b>Total Respondents: 10</b>		

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

**Q5 Which of these emergency preparedness information sources are useful to you?  
(Check all that apply)**

Answered: 10 Skipped: 1



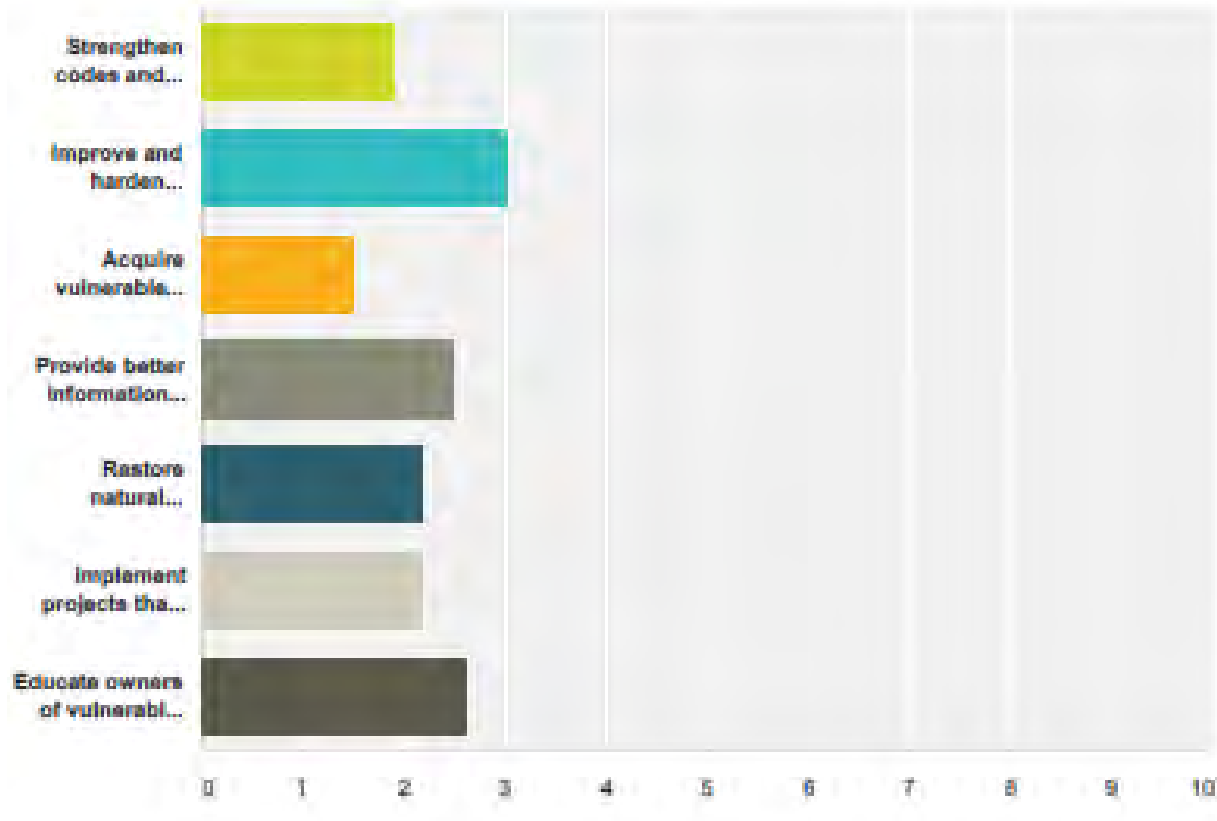
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Answer Choices	Responses	
Social media	70.00%	7
Website other than social media, such as Ready.gov	40.00%	4
Newspaper articles	20.00%	2
Telephone book	0.00%	0
Radio announcements	60.00%	6
School	20.00%	2
City newsletters	30.00%	3
Workshops	10.00%	1
Chamber of commerce or other civic groups	0.00%	0
Fire departments	40.00%	4
Law enforcement agencies	50.00%	5
Church	40.00%	4
Public libraries	0.00%	0
American Red Cross	30.00%	3
Public meetings	0.00%	0
AlertTC (reverse 911)	30.00%	3
Public awareness campaigns	20.00%	2
Other (please specify)	0.00%	0
<b>Total Respondents: 10</b>		

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

**Q6 What should local governments do in order to reduce damages and disruptions from hazards?  
Please rank each option as low, medium or high priority.**

Answered: 10 Skipped: 1



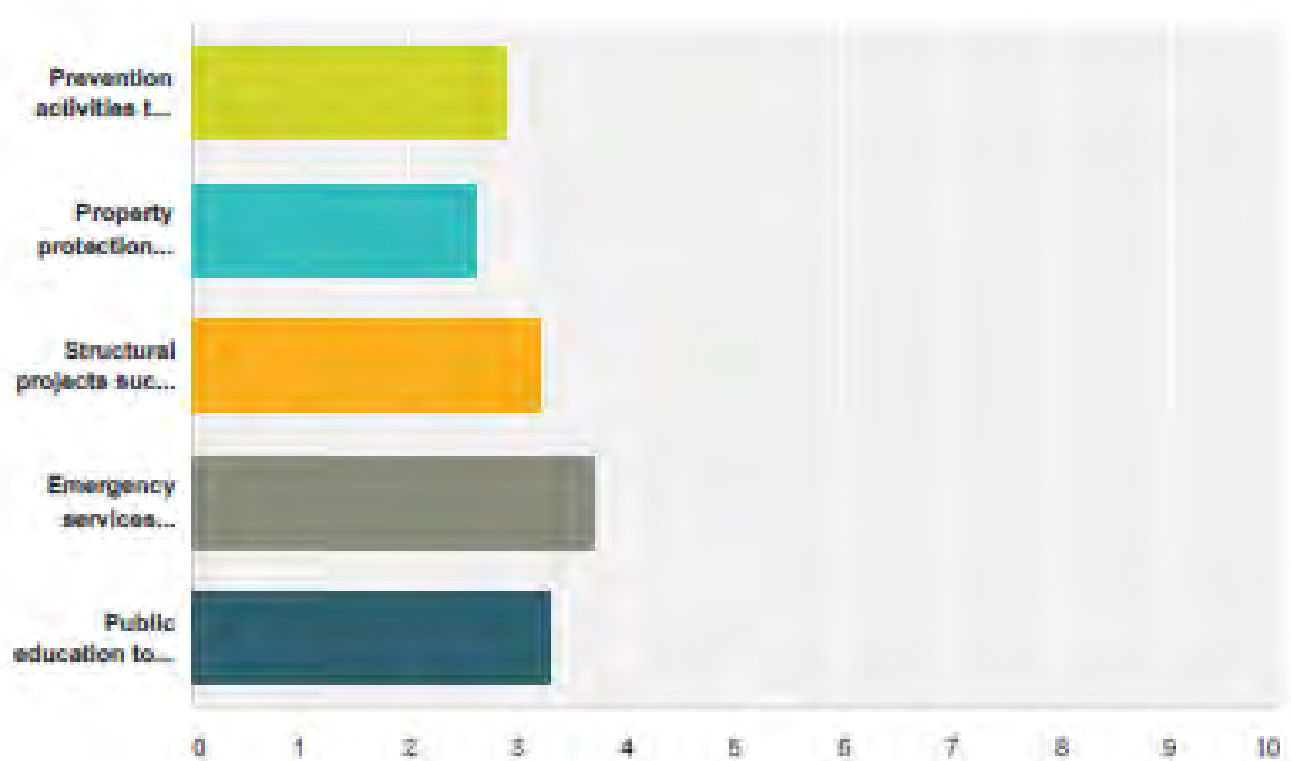
# 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

	Low Priority	Medium Priority	High Priority	Total	Weighted Average
Strengthen codes and regulations to include higher regulatory standards in hazard areas.	22.22% 2	66.67% 6	11.11% 1	9	1.89
Improve and harden infrastructure (e.g. roads and bridges, flood control systems, water and wastewater treatment plants, and power distribution systems).	0.00% 0	0.00% 0	100.00% 10	10	3.00
Acquire vulnerable properties and maintain as open spaces.	50.00% 5	50.00% 5	0.00% 0	10	1.50
Provide better information about hazards within the County, and their risks.	0.00% 0	50.00% 5	50.00% 5	10	2.50
Restore natural environments to lessen the impacts of hazardous events.	20.00% 2	40.00% 4	40.00% 4	10	2.20
Implement projects that lessen the potential impacts of climate change.	10.00% 1	60.00% 6	30.00% 3	10	2.20
Educate owners of vulnerable properties about programs that provide money for reducing hazards.	10.00% 1	20.00% 2	70.00% 7	10	2.60

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

### Q7 Please rate the importance of hazard- reducing actions or activities:

Answered: 10 Skipped: 1



	Not Important	Somewhat Important	Very Important	Extremely Important	Total	Weighted Average
Prevention activities that determines how land is developed and how buildings are constructed (e.g. planning, zoning and building codes).	0.00% 0	20.00% 2	70.00% 7	10.00% 1	10	2.90
Property protection actions such as acquisition, relocation, elevation and retrofitting.	0.00% 0	40.00% 4	60.00% 6	0.00% 0	10	2.60
Structural projects such as detention/retention basins retaining walls and storm sewers, that will reduce the impacts of hazards.	0.00% 0	10.00% 1	60.00% 6	30.00% 3	10	3.20
Emergency services actions that protect people and property during an emergency (e.g. warning systems, evacuation planning emergency response training and protection of critical emergency facilities and systems).	0.00% 0	0.00% 0	30.00% 3	70.00% 7	10	3.70
Public education to inform citizens about hazards, and what they can do to protect themselves and their property (e.g. outreach projects, CERT, school based programs, and public events or campaigns).	0.00% 0	20.00% 2	30.00% 3	50.00% 5	10	3.30

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

**Q8 Do you agree or disagree that it is the responsibility of government (local, state and federal) to provide education and design programs for citizens in order to reduce the risks from hazards?**

Answered: 11 Skipped: 0



	Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree	Total	Weighted Average
Check one	0.00% 0	0.00% 0	18.18% 2	45.45% 5	36.36% 4	11	4.18



2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

**Q9 Do you agree or disagree that it is your personal responsibility to be educated about risks from hazards, and to take personal action in order to reduce your risk?**

Answered: 11 Skipped: 0

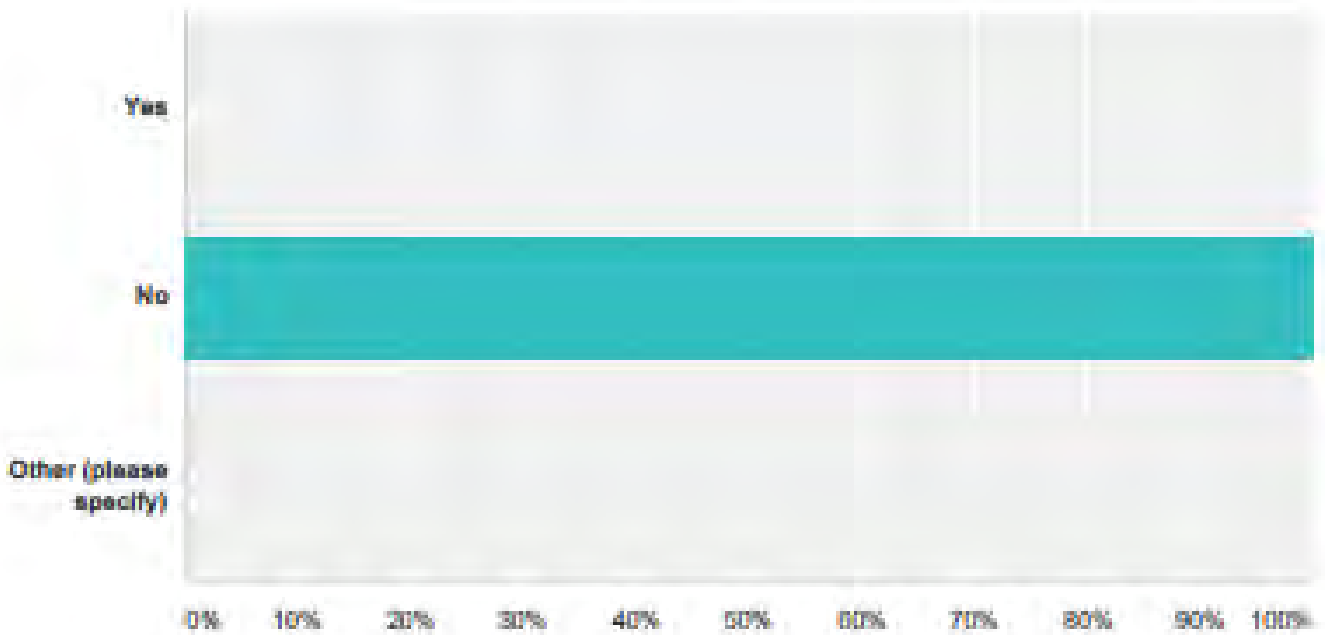


	Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree	Total	Weighted Average
Check one	9.09% 1	0.00% 0	9.09% 1	27.27% 3	54.55% 6	11	4.18

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

**Q10 Do you or anyone in your household have disabilities and / or access and functional needs that require early warning notification or specialized response to evacuate during disasters?**

Answered: 11 Skipped: 0

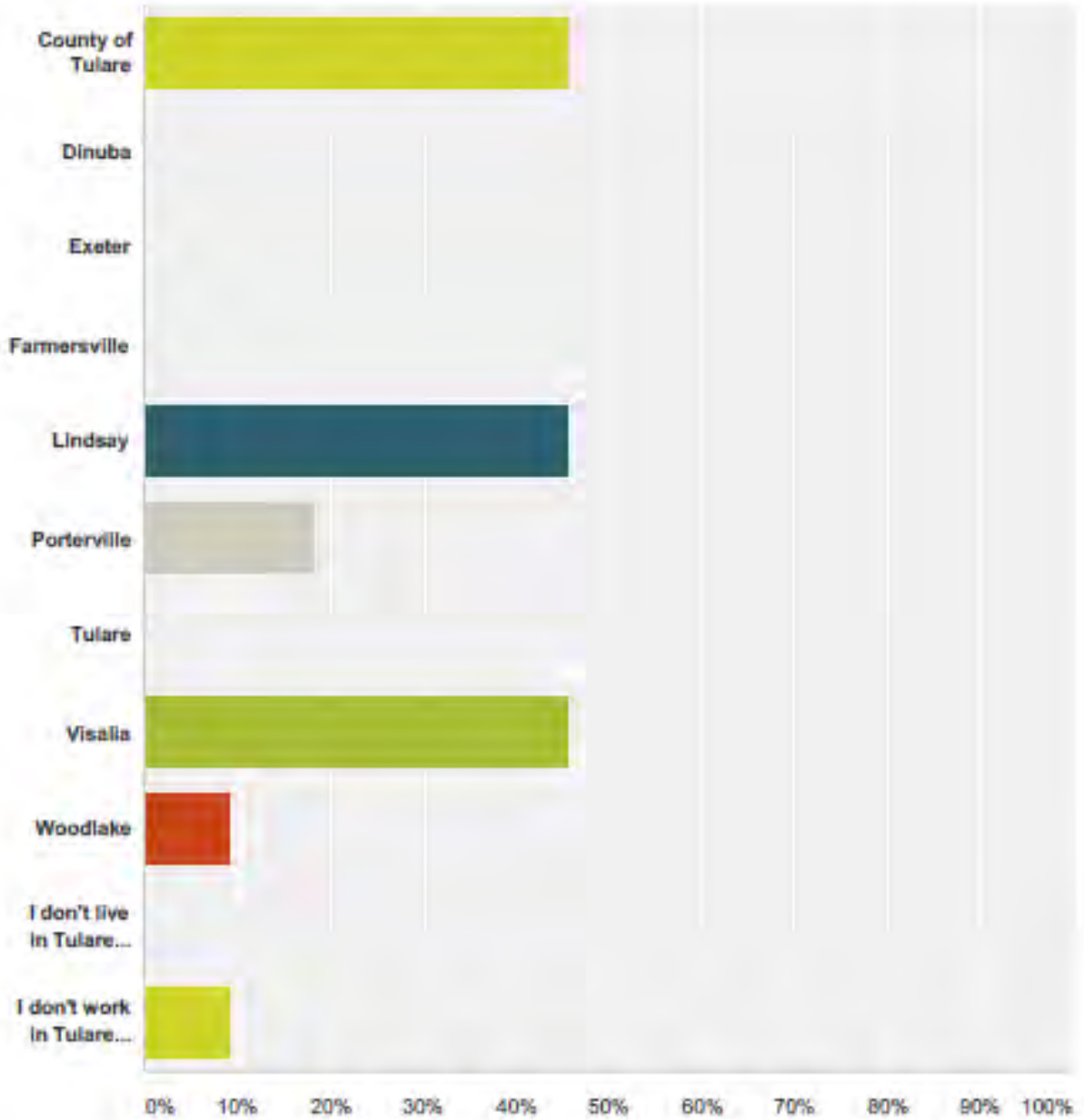


Answer Choices	Responses
Yes	0.00% 0
No	100.00% 11
Other (please specify)	0.00% 0
<b>Total</b>	<b>11</b>

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

**Q11 Where do you live and/or work? Please check all that apply.**

Answered: 11 Skipped: 0



## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

Answer Choices	Responses	
County of Tulare	45.45%	5
Dinuba	0.00%	0
Exeter	0.00%	0
Farmersville	0.00%	0
Lindsay	45.45%	5
Porterville	18.18%	2
Tulare	0.00%	0
Visalia	45.45%	5
Woodlake	9.09%	1
I don't live in Tulare County.	0.00%	0
I don't work in Tulare County.	9.09%	1
<b>Total Respondents: 11</b>		

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

### Sample 4

County OES posted a publicly available MJLHMP survey on its website on March 15, 2017. Documentation is provided below. Results of the survey which are included in sample 3 of this Appendix were used to refine the CPRI and to select and prioritize mitigation measures.

From: Dave Lee  
Subject: Follow Up: MJLHMP Planning Meeting #4: Public Outreach  
Date: Wednesday, March 15, 2017 1:43:10 PM

---

Regards to All,

Thank you very much for participating in our fourth planning meeting for updating our County's Hazard Mitigation Plan.

As resolved, County OES is providing links to our public outreach survey: [Public Survey on County OES' page](#). Should you wish to embed this survey, please use this link: <https://www.surveymonkey.com/r/tularemjlhmp>.

Please provide these links to your Public Information Officers for their use, since it is critical that we engage the public in this planning process.

We will be judged on how we engage the public (e.g. Twitter, Facebook, web-presences, etc.), and how many public responses are returned, and how we utilize the feedback from the public (vis-à-vis our local priorities for hazard mitigation activities through STAPLEE analyses).

Please contact us with any questions. Thank you.

Sincerely,  
Dave Lee

OES Specialist  
Tulare County Office of Emergency Services (OES) 5957 South Mooney Boulevard  
Visalia, California 93277  
Hours: Monday-Thursday, 7:30 AM - 5:00 PM  
(559) 624-7496 Office  
(559) 553-1125 Facsimile  
(559) 827-7600 Mobile  
**Register for AlertTC!**

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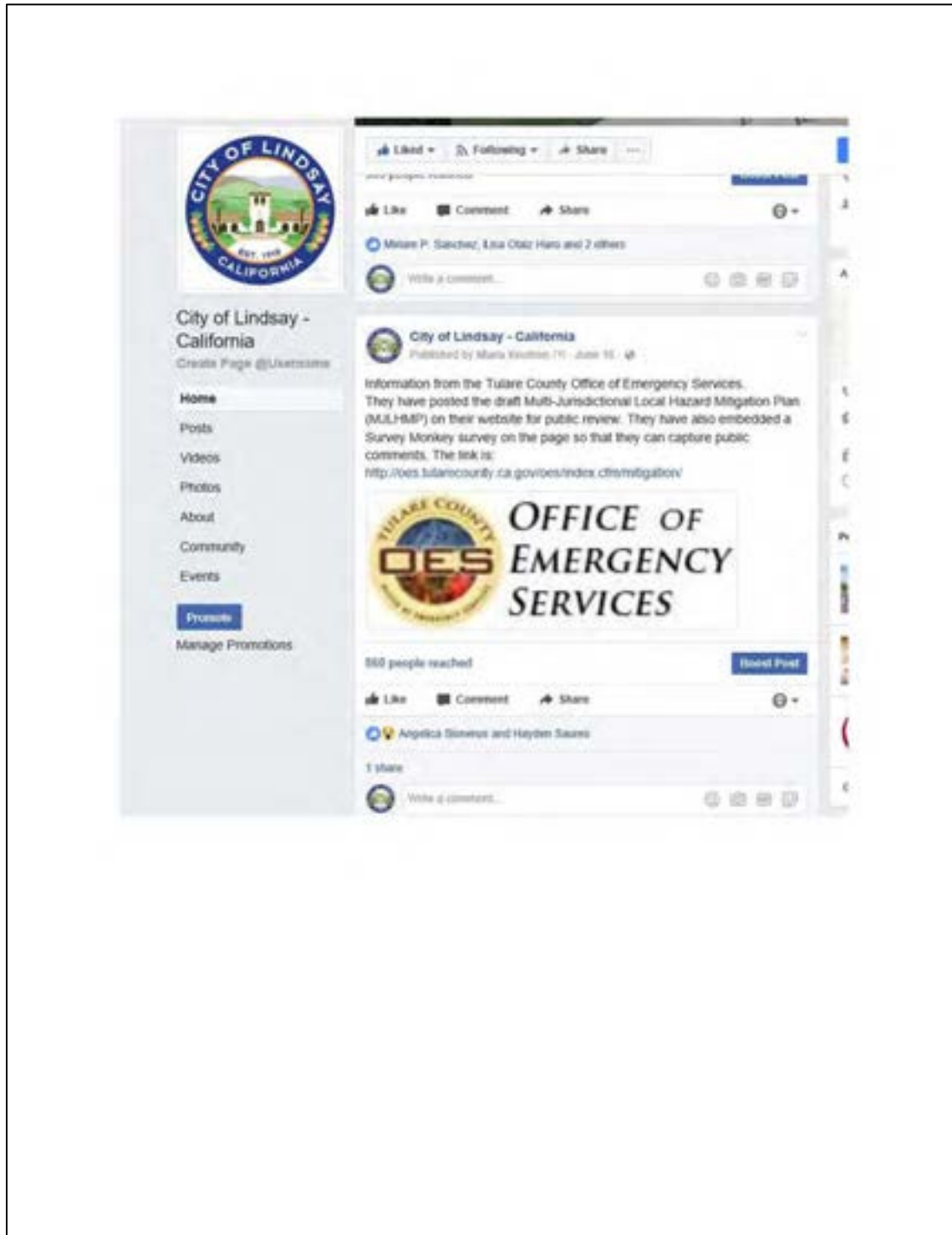
# 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

## Sample 5



2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

Sample 6



2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

Sample 7

Draft MJLHMP Feedback - Office of Emergency Services

County of Tulare

About Us Contact

OFFICE OF EMERGENCY SERVICES



Home » Mitigation » Draft MJLHMP Feedback

## Draft MJLHMP Feedback

### Feedback Form

\* Required

Reviewer name \*

Reviewing agency/department \*

Continue >

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[http://www.tularecounty.ca.gov/eos/eos\\_cfb/investigation/draft-mjlahmp-feedback/\[1/1/2017 2:10:41 PM\]](http://www.tularecounty.ca.gov/eos/eos_cfb/investigation/draft-mjlahmp-feedback/[1/1/2017 2:10:41 PM])



2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix E Public Outreach Documentation

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix F Mitigation Activity Prioritization

**Appendix F Mitigation Activity Prioritization**

The following worksheets on **Table F-1** were developed to support the planning team evaluate hazard mitigation options using the STAPLEE method. These worksheets follow the FEMA State and Local Mitigation Planning How-To Guide: Developing the Mitigation Plan – Identifying Mitigation Actions and Implementation Strategies published by FEMA in 2003.

Table F - 1 Mitigation Activity Prioritization																								
Mitigation Action	S Social		T Technical			A Administrative			P Political			L Legal			E Economic			E Environmental			Priority Total			
	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species		Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent with Federal Environmental Laws
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	1	1	1	-1	-1	0	1	0	1	1	1	1	1	-1	1	0	0	0	0	1	1	12
1-2 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	1	1	1	1	-1	0	1	1	1	1	0	1	1	1	1	1	NA	NA	NA	1	NA	15

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix F Mitigation Activity Prioritization

Mitigation Action	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent with Federal Environmental Laws	Priority Total
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	1	1	1	1	0	0	1	1	1	1	1	1	1	0	1	0	0	0	0	1	1	16
1-4 Designate areas with a potential for significant hazardous conditions for open space, agriculture, and other appropriate low intensity uses.	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	0	1	0	1	1	0	1	1	17
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	1	1	0	1	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0	1	1	15
1-6 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.	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	0	1	-1	0	0	0	1	1	15

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix F Mitigation Activity Prioritization

Mitigation Action	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent with Federal Environmental Laws	Priority Total
1-7 Continue to evaluate areas to determine levels of earthquake risk.	1	1	1	1	1	0	0	0	1	0	1	1	1	0	1	0	1	-1	0	0	0	1	1	12
1-8 Discourage construction and grading on slopes in excess of 30%	1	1	1	1	1	1	0	0	1	1	1	1	0	0	1	1	0	0	1	0	0	1	1	15
1-9 Request Federal and State financial assistance to implement corrective seismic safety measures required for existing County buildings and structures.	1	0	1	1	0	0	0	1	1	0	1	1	1	0	0	0	1	-1	0	0	0	1	1	10
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	1	1	0	0	0	0	1	0	1	1	1	0	0	0	1	0	0	0	0	1	1	11
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	1	1	1	0	-1	0	1	0	0	1	1	0	1	0	0	1	1	0	0	1	1	11

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix F Mitigation Activity Prioritization

Mitigation Action	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent with Federal Environmental Laws	Priority Total
1-12 Encourage and support the development of new agricultural related industries featuring alternative energy, utilization of agricultural waste, and solar or wind farms.	1	1	1	1	1	0	1	0	1	0	1	1	1	1	1	0	1	-1	1	0	0	1	1	15
1-13 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.	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	0	0	0	1	1	0	1	1	16
1-14 Ensure that development in high or very 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.	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	1	14
1-15 Identify and map existing housing structures that do not conform to contemporary fire standards. in Identify plans and actions to improve substandard housing structures and neighborhoods.	1	1	1	1	1	-1	0	0	1	1	0	1	1	0	1	0	0	0	0	0	0	1	1	11

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix F Mitigation Activity Prioritization

Mitigation Action	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent with Federal Environmental Laws	Priority Total
1-16 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.	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	-1	0	0	0	0	0	1	1	13
1-17 Develop plans and action items for vegetation management that provides fire damage mitigation and protection of open space values.	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	-1	0	0	0	0	0	1	1	13
1-18 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.	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	-1	0	0	0	0	0	1	1	14
1-19 Incorporate native species habitat needs as part of long term fire protection and fire restoration plans.	1	1	1	1	1	0	0	0	1	0	1	1	1	1	1	0	0	0	1	1	0	1	1	15

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix F Mitigation Activity Prioritization

Mitigation Action	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent with Federal Environmental Laws	Priority Total
1-20 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.	1	1	1	0	1	0	0	0	1	1	1	1	1	1	1	-1	0	0	0	0	0	1	1	12
1-21 Develop dead tree removal projects that are actionable based on available resources, rules, regulatory approvals and available funding.	1	1	1	0	1	0	1	0	1	1	1	1	1	NK	1	0	1	0	1	0	0	0	1	14
1-22 Create a database that accounts for all levees in Tulare County and their condition.	1	1	1	1	0	-1	-1	0	1	1	1	1	1	1	1	1	0	NK	0	0	0	1	1	12
1-23 Acquire, relocate, or elevate residential structures, in particular those that have been identified as Repetitive Loss (RL) properties that are located within the 100-year floodplain.	-1	1	1	1	-1	-1	-1	0	-1	-1	-1	1	1	-1	1	-1	1	NK	1	1	0	1	1	3
1-24 Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	1	1	1	1	1	-1	-1	0	1	1	1	1	1	-1	1	-1	1	-1	1	1	1	1	1	12

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix F Mitigation Activity Prioritization

Mitigation Action	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent with Federal Environmental Laws	Priority Total
1-25 Reinforce County and local ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	0	0	1	1	1	16
1-26 Work with FEMA Region IX to address any floodplain management issues that may have arisen/arise from the countywide DFIRM, Community Assessment Visits, and/or the DWR.	1	1	1	0	0	1	1	1	1	0	1	1	1	0	1	1	1	0	1	0	0	1	1	16
1-27 Increase participation in the NFIP by entering the Community Rating System program which through enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	1	1	1	1	1	-1	-1	-1	1	0	1	1	1	0	1	-1	1	0	0	0	0	1	1	9
1-28 Provide flood protection for the County's Juvenile Detention Facility and Records Storage Facility located north of Avenue 368.	1	1	1	1	1	0	-1	1	1	1	UK	1	1	1	1	UK	0	0	0	0	0	1	1	13



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1- 29 Construct 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.	1	1	1	1	1	0	-1	1	1	1	UK	1	1	1	1	UK	0	0	0	0	0	0	1	1	13
1-30 Complete the Yettem Button ditch project by 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.	1	1	1	1	1	1	1	-1	1	-1	1	1	1	1	1	-1	1	0	1	0	0	0	1	1	14
1-31 Contract and proceed with preparation of the Flood Control Master Plan Update for the Fresno-Tulare Unit.	1	1	1	1	1	-1	-1	0	1	0	1	1	1	0	1	-1	1	0	0	0	0	0	1	1	10
1-32 Conduct annual retention basin maintenance that includes weed abatement, fence repair, and drainage inlet flushing.	1	1	1	1	1	1	1	-1	1	-1	1	1	1	1	1	-1	1	0	1	0	0	0	1	1	14

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<p>1-33 Inspect and cycle County flood control pumps annually to ensure functionality. Clear shrubs and debris in proximity to the basins and channels of the pumps to minimize potential blockage during operation. If required, contract with local pump repair contractors to service the equipment.</p>	1	1	1	0	0	0	1	1	1	0	1	1	1	0	1	1	1	0	0	0	1	1	15	
<p>1-34 Regulate development in the 100-year floodplain zones as designated on maps prepared by FEMA in accordance with the following:</p> <ol style="list-style-type: none"> <li>1. Critical facilities (those facilities which should be open and accessible during emergencies) shall not be permitted.</li> <li>2. Passive recreational activities (those requiring non-intensive development, such as hiking, horseback riding, picnicking) are permissible.</li> <li>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.</li> </ol>	1	1	1	1	1	0	0	0	1	1	UK	1	1	UK	1	0	0	0	1	0	0	1	1	13

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1-35 Continue to participate in the NFIP.	1	1	1	1	1	0	1	0	1	1	1	1	1	UK	1	-1	1	0	0	0	0	1	1	14
1-36 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.	1	1	1	1	0	1	0	0	UK	1	UK	1	1	UK	1	0	0	0	0	0	0	1	1	11
1-37 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.	1	1	1	1	1	0	0	0	1	1	1	1	1	UK	1	-1	0	0	1	0	1	1	1	14
1-38 Continue to cooperate with the California Highway Patrol to establish procedures for the movement of hazardous wastes and explosives within the County.	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	0	1	0	1	1	1	19

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1-39 Implement post-fire debris flow hill-slope and channel treatments, such as seeding, mulching, check dams, and debris racks, as needed.	1	1	1	0	1	0	0	1	1	1	1	1	1	1	1	0	0	0	1	0	0	1	1	15
1-40 Manage vegetation in areas within and adjacent to rights of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid creation of wind acceleration corridors within vegetated areas.	1	1	1	1	1	0	0	1	1	1	UK	1	1	0	1	-1	1	0	0	0	0	1	1	12
1-41 Develop a free annual tree chipping and tree pick-up day that encourages residents living in wind hazard areas to manage trees and shrubs at risk of falling on nearby structures.	1	1	1	0	0	0	0	0	1	1	1	1	1	0	1	-1	1	0	0	0	0	1	1	11
1-42 Bolt down the roofs of critical facilities in wind gust hazard areas in order to prevent wind damage.	1	1	1	1	1	0	0	1	1	1	UK	1	1	0	1	-1	1	0	0	0	0	1	1	12

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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	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	0	0	1	1	1	19
1-44 Reinforce County and local ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	0	0	0	1	1	15
1-45 Design and construct a permanent solution to flooding east of Friant Kern Canal in Strathmore	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	0	0	0	1	1	15
1-46 Design and construct a permanent solution to protect M137(Reservation Road) from flooding	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	0	0	0	1	1	15

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1-47 Restore Cottonwood creek back to natural flow path, protect Road 108 and provide additional impoundment.	1	1	1	1	1	0	-1	1	1	1	1	1	1	-1	1	0	1	1	1	0	0	1	1	15
1-48 Conduct a hydrological survey/study to investigate potential flooding issues due to ground subsidence caused by use of groundwater without replenishment. Create a data base for future land planning use.	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	1	0	0	1	1	16
1-49 Identify and implement strategies that result in promoting stormwater management through groundwater recharge projects.	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	1	0	0	1	1	16
1-50 Develop a program to identify, prioritize, fund and develop designs to replace functionally obsolete bridges.	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	0	0	0	1	1	15
1-51 Develop a program to identify, prioritize, fund and develop designs to replace structurally obsolete bridges.	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	0	0	0	1	1	15
1-52 Design and construct a bridge structure on Road 184 (btw A24-A32) on the White River.	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	0	0	0	1	1	15

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1-53 Design and construct a bridge structure on R156 (btw A32-A40) on White River.	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	0	0	0	1	1	15
1-54 Design and construct a bridge structure on R88 (btw A56-A84) on Deer Creek.	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	0	0	0	1	1	15
1-55 Identify, prioritize, fund and develop permanent solutions for low water crossings throughout the County.	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	0	0	0	1	1	15
1-56 Engage the entire community and develop a County-wide drought response plan to respond to period of prolonged dry weather.	1	1	1	1	1	0	-1	0	1	1	1	1	1	0	1	0	1	1	1	1	0	1	1	16
1-57 Identify potential problem areas, and develop and implement a plan to address potential groundwater contamination issues in small water systems.	1	1	1	1	1	0	-1	0	1	1	1	1	1	0	1	0	1	1	1	1	0	1	1	16
1-58 Develop transportation plans and projects that support providing adequate vehicular access to the southwest corner of the County after High Speed Rail is constructed.	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	0	0	0	1	1	15

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1-59 Develop and implement a program to address potential channel capacity loss, potential flooding issues, and bridge clearance issues resulting from subsidence on the Friant Kern Canal	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	1	0	0	1	1	16
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.	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	0	0	0	1	1	15
1-61 Identify at risk structures and reinforce County and local ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	0	0	0	1	1	15



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1- 62 Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid creation of wind acceleration corridors within vegetated areas.	1	1	1	1	1	0	-1	1	0	1	1	1	1	-1	1	0	1	1	0	0	0	1	1	13
1-63 Implement a fuel reduction program, such as the collection and disposal of dead fuel, within open spaces and around critical facilities and residential structures located within a high and very high wildfire zones.	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	0	0	0	1	1	15
1- 64 Develop a Debris Management Plan.	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	0	0	0	1	1	15
1-65 Develop a County-wide Storm Water Resources Plan.	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	0	0	0	1	1	15
1-66 Develop and implement programs and policies to protect and enhance surface water and groundwater resources critical to human consumption.	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	0	0	0	1	1	15

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1-67 Develop groundwater recharge projects to promote groundwater sustainability, and mitigate and recover from the effects of prolonged drought.	1	1	1	1	1	0	-1	1	1	1	1	1	1	0	1	0	1	1	0	0	0	1	1	15
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Mitigation Action	S Social		T Technical			A Administrative			P Political			L Legal			E Economic			E Environmental			Priority Total			
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2-1 Continue to promote awareness and education among residents regarding possible natural hazards, including soil conditions, earthquakes, flooding, fire hazards, and emergency procedures.	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	0	0	1	1	1	<b>19</b>
2-2 Develop a public outreach program that informs property owners located in the dam or levee inundation areas about voluntary flood insurance.	1	1	1	1	1	0	0	0	1	1	1	1	1	1	-1	1	0	0	0	0	0	1	1	<b>14</b>
2-3 Promote public safety programs, including neighborhood watch programs, child identification and fingerprinting, public awareness and prevention of fire hazards, and other public education efforts.	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	0	0	0	1	1	1	<b>18</b>
2-4 Develop and implement a County-wide program to promote water use understanding and water conservation.	1	1	1	1	1	1	0	1	1	1	1	1	0	1	0	1	1	1	0	0	1	1	1	<b>19</b>

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3-1 Conduct site investigations in areas planned for new development to determine susceptibility to landslides, subsidence/settlement, contamination, and/or flooding.	1	1	1	1	1	1	1	0	1	1	1	1	1	-1	1	0	0	0	0	0	0	1	1	1	16
3-2 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.	1	1	1	1	1	1	1	0	1	1	1	1	1	UK	1	0	0	0	1	0	0	1	1	1	16

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3-3 Consider developing an Agricultural Conservation Easement Program to help protect and preserve agricultural lands (including Important Farmlands), as defined in the General Plan Safety 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.	1	1	1	1	1	1	1	0	1	1	1	1	1	UK	1	-1	0	0	1	0	0	1	1	15
3-4 Seek to protect and enhance surface water and groundwater resources critical to agriculture.	1	1	1	1	1	1	1	0	1	1	1	1	1	UK	1	0	0	0	1	0	0	1	1	16
3-5 Identify opportunities for infill development projects near employment areas within all unincorporated communities to reduce vehicle trips.	1	1	1	1	1	1	0	0	1	0	1	1	1	UK	1	0	0	0	1	0	0	1	1	14
3-6 Encourage high-density residential development (greater than 16.1 dwelling units per gross acre) to locate along collector roadways and transit routes,	1	1	1	1	1	1	0	0	1	0	1	1	1	UK	1	0	0	0	1	0	0	1	1	14



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3.11 Work to comprehensively study methods of transportation, which may contribute to a reduction in air pollution in Tulare County.	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	0	1	0	1	0	0	1	1	17
<b>Mitigation Action</b>	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species	Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent with Federal Environmental Laws	
3-12 Encourage all new development, including rehabilitation, renovation, and redevelopment, to incorporate energy conservation and green building practices to maximum extent feasible. Such practices include building orientation and shading, landscaping, and the use of active and passive solar heating and water systems.	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	0	1	0	1	0	0	1	1	17

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4.1 Coordinate with cities to develop cohesive fire safety plans with overlapping coverage.	1	1	1	1	1	1	0	1	1	1	1	0	1	0	1	0	0	0	0	0	0	1	1	14
4.2 Work with local and Federal agencies to support efforts to reduce fuel related hazards on public lands.	1	1	1	1	1	1	1	0	1	1	1	1	1	-1	1	0	0	0	0	0	0	1	1	14
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.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	1	17



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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.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	1	17
4.5 Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about severe valley fog and extreme heat conditions.	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	1	16
4-6 Increase participation in the National Flood Insurance Program (NFIP) by entering the Community Rating System program which through enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	1	16

2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix F Mitigation Activity Prioritization

Mitigation Action	S Social		T Technical			A Administrative			P Political			L Legal			E Economic			E Environmental			Priority Total			
	Community Acceptance	Effect on Segment of Population	Technical Feasibility	Long-Term Solution	Secondary Impacts	Staffing	Funding Allocated	Maintenance/Operations	Political Support	Local Champion	Public Support	State Authority	Existing Local Authority	Potential Legal Challenges	Benefit of Action	Cost of Action	Contributes to Economic Goals	Outside Funding Required	Effect on Land / Water	Effect on Endangered Species		Effect on HAZMAT / Waste Sites	Consistent with Community Environmental Goals	Consistent with Federal Environmental Laws
5.1 Use Geographic Information Systems (GIS) technology to track fire and law enforcement response times and provide technical assistance to fire and law enforcement agencies.	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	-1	0	0	0	0	0	1	1	14
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.	1	1	1	1	1	0	-1	1	0	0	1	1	1	NK	1	-1	0	0	0	0	0	1	1	11
5.3 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, ensure that such facilities are located within reasonable distance of fire and law enforcement stations	1	1	1	1	1	0	0	0	1	0	1	0	1	NK	1	0	0	0	0	0	0	1	1	11
5.4 Expand the Street Names and House Numbering Ordinance to all areas of the County, including private roads, for emergency 911 purposes.	1	1	1	1	1	0	0	1	1	1	0	1	0	NK	1	0	0	0	0	0	0	1	1	12



**Appendix G County Department of Transportation Bridges and Culverts**

See map under separate cover



## **Appendix H: Safety Element, Climate Action Plan and MJLHMP Integration**

This appendix provides a summary of the relationship between the Public Safety Element of the General Plan and the LHMP. It also summarizes the relevant Federal and State legislation governing the adoption, update, and integration of the LHMP and Public Safety Element. Finally, the appendix demonstrates the components of each plan that have been included to comply with the relevant legislation.

### **Background**

#### *Tulare County General Plan Health and Safety Element*

California Planning and Zoning Law requires that a city or county general plan contain specified elements, including a safety element for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides, subsidence, liquefaction, and other seismic, geologic, and fire hazards.

In the County, the requirements of the safety element are contained within the Safety Element of the General Plan – the County’s integrated General Plan and Land Use Plan. The Safety Element establishes goals, policies, and actions that protect communities from risk associated with natural hazards. The element places specific focus on hazards that could be made more severe with anticipated impacts of climate change.

#### *Local Hazard Mitigation Plan*

The MJLHMP is a five-year strategic plan that also seeks to identify and mitigate natural hazards. The MJLHMP is related but distinct from the Safety Element, directly responding to the requirements of the Federal Disaster Mitigation Act (DMA) of 2000. The DMA establishes requirements to identify hazards, evaluate mitigations, and prioritize strategies to mitigate hazard risks. To maintain eligibility for FEMA funding, the County must update the MJLHMP every five years at a minimum.

In Tulare County, the MJLHMP was first developed in 2005, with an update occurring in 2011. Another update to the MHLHMP is also underway, with adoption anticipated in 2017. Consistent with FEMA’s Local Mitigation Planning Guidance, the MJLHMP under development includes evaluations of risk, vulnerability, capability, and mitigation strategies as well as a summary of the planning process and plan maintenance procedures.

### **Relevant Legislation**

#### *The Disaster Mitigation Act of 2000 (DMA 2000)*

The Disaster Mitigation Act of 2000, also commonly known as “The 2000 Stafford Act Amendments”, constitutes an effort by the Federal government to reduce the rising cost of disasters by stressing the importance of mitigation planning and disaster preparedness prior to an event.

Mitigation Planning Section 322 of the Act requires local governments to develop, submit, and update hazard mitigation plans every five years in order to qualify for Hazard Mitigation Assistance (HMA) grant program funds. The County and associated jurisdictions including the Tule River Tribe must have an approved hazard mitigation plan pursuant to §201.6 in order to receive FEMA Pre-Disaster Mitigation (PDM) project grants or to receive HMA funding.

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix H

### *The California Disaster Assistance Act of 2006 (AB 2140)*

In October 2006, the California State Legislature passed AB 2140 – the California Disaster Assistance Act - which went into effect January 1, 2007. AB 2140 limits the state’s share of funding for disaster recovery projects to 75% of the recovery costs unless a local jurisdiction has complied with the legislation by incorporating a local hazard mitigation plan as part of the safety element of the general plan, at which point up to 100% of the recovery costs may be covered by the State.

By incorporating the MJLHMP by reference into the Safety Element of the General Plan, the County will be considered eligible for the increased State share of public assistance reimbursement for disaster recovery projects.

### *Climate Adaptation and Resiliency Strategies (SB 379)*

Senate Bill 379, signed into law in October 2015, requires all California cities and counties to include climate adaptation and resiliency strategies in the safety elements of the general plan, upon the next revision on or after January 1, 2017. Specifically, the bill requires that upon the next revision of a general plan or local hazard mitigation plan, the safety element be updated to address climate adaptation and resiliency strategies applicable to the city or county. This review and update is to include all of the following:

- A. A vulnerability assessment that identifies the risks that climate change poses to the local jurisdiction and the geographic areas at risk from climate change impacts.
- B. A set of adaptation and resilience goals, policies, and objectives based on the information specified in the climate vulnerability assessment for the protection of the community.
- C. A set of feasible implementation measures designed to carry out the goals, policies, and objectives identified pursuant to the adaptation objectives, including but not limited to the following:
  - i. Feasible methods to avoid or minimize climate change impacts associated with new uses of land.
  - ii. The location, when feasible, of new essential public facilities outside of at-risk areas, including, but not limited to, hospitals and health care facilities, emergency shelters, emergency command centers, and emergency communications facilities, or identifying construction methods or other methods to minimize damage if these facilities are located in at-risk areas.
  - iii. The designation of adequate and feasible infrastructure located in an at-risk area.
  - iv. Guidelines for working cooperatively with relevant local, regional, state, and federal agencies.
  - v. The identification of natural infrastructure that may be used in adaptation projects, where feasible. This may include, but is not limited to, floodplain and wetlands restoration or preservation, combining levees with restored natural systems to reduce flood risk, and urban tree planting to mitigate high heat days.

### **Compliance + Coordination**

#### *Incorporation of LHMP into Public Safety Element (AB 2140 compliance)*

The adoption of the MJLHMP by reference into the Safety Element of the General Plan, allows the County to be eligible for additional disaster recovery funding from the State of California. The MJLHMP has been incorporated into the General Plan document, implementation plans, background studies, and is referenced in the Planning Commission Resolution as follows:

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix H

The County adopts the 2017 County of Tulare Multi-Jurisdictional Hazard Mitigation Plan as the Health and Safety Element of the general plan in accordance with the County Board of Supervisors resolution 2016-0896 on November 15, 2016. Specific sections of the MJLHMP that meet the general plan safety element are contained in **Table H-1**.

<b>Table H-1: General Plan Safety Element Crosswalk</b>		
<b>General Plan Safety Element</b>	<b>MJLHMP Section</b>	<b>Pages</b>
General 10.1	Throughout	
Specific Hazards 10.2-10.6	5.3	17-46
Emergency Response 10.7		
Noise 10.8		
Healthy Communities 10.9	Throughout	
Work Plan/ Implementation Measures	6.3-6.4	57

Additionally, the Safety Element includes the following language:

### **Section 10.7 Emergency Response**

#### 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.

Within the Safety Element, there are additional item that may be taken as mitigation measures. They include:

- **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.



## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix H

- **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.

The full contents of the General Plan Health and Safety Element are found at: <http://generalplan.co.tulare.ca.us/documents/GP/001Adopted%20Tulare%20County%20General%20Plan%20Materials/000General%20Plan%202030%20Part%20I%20and%20Part%20II/General%20Plan%202012.pdf>

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix H

### *Climate Change Vulnerability Assessment (SB 379 compliance)*

Pursuant to Senate Bill 379 and California Government Code Section 65302(g)(4), the Safety Element has been developed to address climate adaptation and resiliency strategies applicable to the County and is consistent with the Governor's Office of Planning and Research advice to:

- Conduct a vulnerability assessment identifying climate change risks
- Include a set of adaptation and resilience goals, policies, and objectives based on the identified climate change vulnerabilities
- Identify a set of feasible implementation measures designed to carry out the goals, policies, and objectives
- Incorporate a reference to the MJLHMP that fulfills goals and objectives, and contains information related to climate change vulnerability and adaptation policies

In the preparation of the MJLHMP, the County utilized the Cal Adapt Tool and California Adaptation Planning Guide to identify climate change risks and determined that fire and extreme heat are among the primary risks to the County that will increase in severity due to climate change. The findings in these studies were summarized in the Climate Action Plan, and a set of goals, policies, and implementation actions to address climate change have been identified. The full contents of the Climate Action Plan are available at:

<http://generalplan.co.tulare.ca.us/documents/GP/002Board%20of%20Supervisors%20Materials/001BOS%20Agenda%20Items%20-%20Public%20Hearing%20August,%2028%202012/004Attachment%20C.%20CAP/001Exhibit%201.%20Climate%20Action%20Plan/23190016%20Tulare%20CAP%2008-13-2012.pdf>

Many of the implementation actions have been included in the MJLHMP as mitigation measures:

#### **Water Supply (CAP Pg. 31)**

- WR-1.5 Expand Use of Reclaimed Wastewater
- WR-1.6 Expand Use of Reclaimed Water
- WR-3.5 Use of Native and Drought Tolerant Landscaping
- ERM-1.7 Planting of Native Vegetation

#### **Flooding (CAP Pg. 31)**

FGMP-8.3 Development in the Floodplain

- HS-1.4 Building and Codes
- HS-1.5 Hazard Awareness and Public Education
- HS-1.11 Site Investigations
- 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

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- HS-5.10 Flood Control Design
- HS-5.11 Natural Design
- PFS-4.1 Stormwater Management Plans
- PFS-4.3 Development Requirements
- PFS-4.6 Agency Coordination

### **Agriculture and Forest (CAP Pg. 32)**

- AQ-3.2 Infill near Employment
- LU-1.4 Compact Development
- LU-1.8 Encourage Infill Development
- LU-3.3 High Density Residential Locations
- LU-2.1 Agricultural Lands
- AG-1.8 Agriculture within Urban Boundaries
- ERM-5.15 Open Space Preservation
- LU IM 3 Encourage Smart Growth Incentives

# 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix I Acronyms and Glossary

## Appendix I: Acronyms and Glossary

AB 2140	Assembly Bill 2140 The California Disaster Assistance Act
AFG	Assistance to fire fighters grant
APG	California Adaptation Planning Guide
ARB	Air Resources Board
BNICE	Biological, nuclear, incendiary, chemical and explosive
CAL FIRE	California Department of Forestry and Fire Protection
Cal OES	California Governor's Office of Emergency Services
CARE	Community action for a renewed environment
CBRNE	Chemical, biological, radiological, nuclear and explosive
CBSC	California Building Standards Code
CDAA	California Disaster Assistance Act
CDC	Center for Disease Control
CFR	Code of Federal Regulations
CO2	Carbon dioxide
CPRI	Calculated Priority Risk Index
CUPA	California Unified Program Agency
CWPP	Community wildfire protection plan
CWSRF	Clean water state revolving fund
DFIRM	Digital Flood Insurance Rate Map
Dinuba	City of Dinuba
DMA 2000	The Federal Disaster Mitigation Act
DOC	Department operations center
DSOD	California Division of Safety of Dams
DUA	Disaster Unemployment Assistance
DWR	California Department of Water Resources
EMO	Emergency management organization
EOC	Emergency operations center
EOP	Emergency operations plan
EPA	U.S. Environmental Protection Agency
Exeter	City of Exeter
Farmersville	City of Farmersville
FBI	Federal Bureau of Investigation
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps
FMA	Flood Mitigation Assistance
FMAGP	Fire Management Assistance Grant Program
General Plan	Tulare County General Plan 2030 Update
GIS	Geographic information system
GO	General obligation

## 2017 Tulare Multi-Jurisdictional Local Hazard Mitigation Plan; Appendix I Acronyms and Glossary

HMGP	Hazard Mitigation Grant Program
ITCZ	Intertropical convergence zone
LEED	Leadership in Energy and Environmental Design
Lindsay	City of Lindsay
Los Tules	The tules (a type of bush native to California)
M	Magnitude
MJLHMP	2017 Multi-Jurisdictional Local Hazard Mitigation Plan
MMI	Modified Mercalli Intensity
Mph	Miles per hour
NFIP	National Flood Insurance Program
NFIRA	National Flood Insurance Reform Act
NOAA	National Oceanic Atmospheric Administration
NWS	National Weather Service
OA	Operational area
PA	Public assistance
PDM	Pre-Disaster Mitigation
PGA	Peak ground acceleration
Porterville	City of Porterville
RFC	Repetitive flood claims
RMA	Resource management agency
RL	Repetitive loss
SRL	Severe repetitive loss
Stafford Act	The Robert T. Stafford Disaster Relief and Emergency Assistance Act
STAPLEE	Social, technical, administrative, political, legal, economic and environmental
SR	State route
SWQMP	Stormwater Quality Management Program
TCOE	Tulare County Office of Education
The County	Tulare County
Tulare	City of Tulare
USACE	U.S. Army Corps of Engineers
USFA	U.S. Fire Administration
USGS	U.S. Geological Survey
VBD	Vector-borne diseases
Visalia	City of Visalia
WMD	Weapons of mass destruction
Woodlake	City of Woodlake

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Annex A City of Dinuba

**Appendix J: City, Tule River Indian Tribe and Tulare County Office of  
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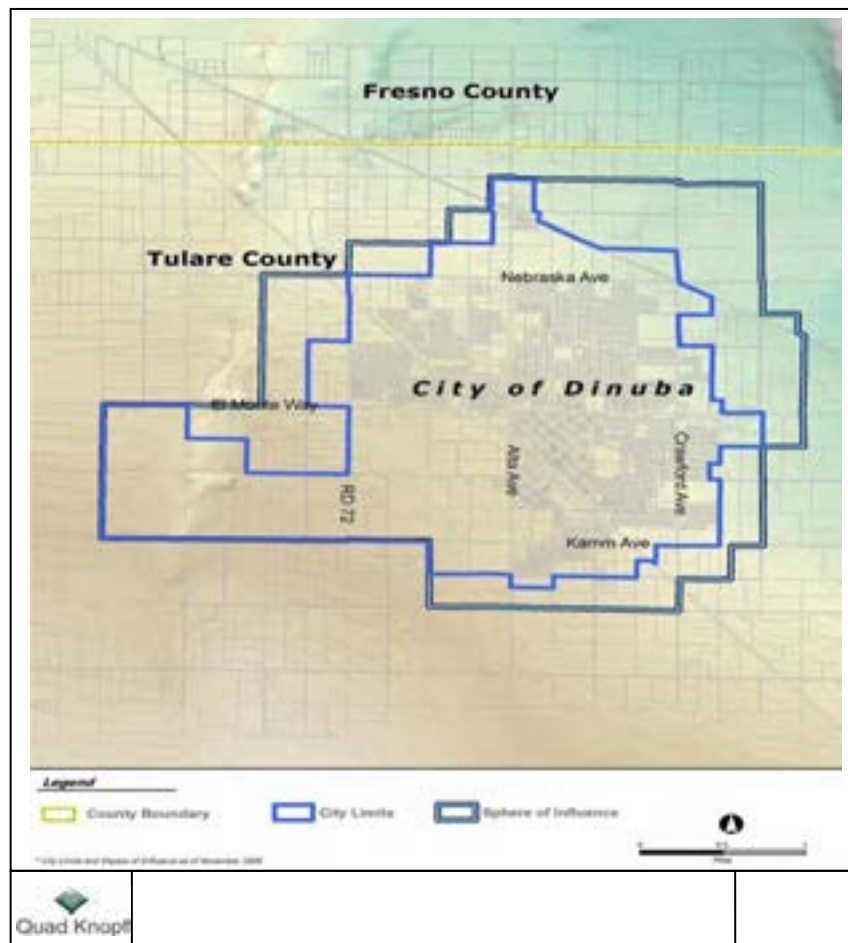
### Annex A City of Dinuba

The City of Dinuba is in the northwestern corner of the County, approximately 20 miles north of Visalia. The City provides the following services:

- Public safety (police, fire protection, and ambulance service)
- Domestic water
- Sanitary sewer treatment and disposal
- Transportation
- Parks and recreation
- Vocational training

The City contracts with a private carrier to provide pickup of solid waste within the City limits. **Figure A-1** provides a map of Dinuba and its associated sphere of influence.

**Figure A-1: Dinuba Map**





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Annex A City of Dinuba

**A.1 COMMUNITY PROFILE**

**Geography and Climate:** The City has an area of 6.47 square miles. The City is relatively flat with an elevation of approximately 330 feet above sea level. Dinuba’s climate can be described as dry Mediterranean. The summers are hot and dry, and winters are characterized by moderate temperatures and light precipitation. Temperatures and rainfall for Dinuba are typical of that of the rest of the valley floor portion of the County.

**Government:** The City was founded in 1888, incorporated in 1906, and became a charter city on July 7, 1994. Dinuba operates as a council-manager form of municipal government which is comprised of five members serving four-year overlapping terms.

**Population and demographics:** The City had an estimated 2016 population of 24,657, representing 26% growth since 2007. The 2010 U.S. Census reported that Dinuba had a population of 21,453. The population density was 3,315.7 people per square mile (1,280.2/km<sup>2</sup>). The racial makeup of Dinuba was 11,166 (52.0%) White; 141 (0.7%) African American; 193 (0.9%) Native American; 454 (2.1%) Asian; 17 (0.1%) Pacific Islander; 8,630 (40.2%) from other races; and 852 (4.0%) from two or more races. Hispanic or Latino of any race were 18,114 persons (84.4%). The Census reported that 21,291 people (99.2% of the population) lived in households, 77 people (0.4%) lived in non-institutionalized group quarters, and 85 people (0.4%) were institutionalized.

There were 5,593 households, out of which 3,275 (58.6%) had children under the age of 18 living in them; 3,162 (56.5%) were opposite-sex married couples living together; 1,077 (19.3%) had a female householder with no husband present; and 481 (8.6%) had a male householder with no wife present. There were 544 (9.7%) unmarried opposite-sex partnerships, and 37 (0.7%) same-sex married couples or partnerships. 672 households (12.0%) were made up of individuals and 324 (5.8%) had someone living alone who was 65 years of age or older. The average household size was 3.81. There were 4,720 families (84.4% of all households); the average family size was 4.04.

**Housing:** There were 5,868 housing units at an average density of 906.9 per square mile (350.2/km<sup>2</sup>), of which 3,176 (56.8%) were owner-occupied and 2,417 (43.2%) were occupied by renters. The homeowner vacancy rate was 2.3%; the rental vacancy rate was 4.2%. 11,975 people (55.8% of the population) lived in owner-occupied housing units and 9,316 people (43.4%) lived in rental housing units.

**Economy:** The economy of Dinuba is largely based on agriculture and food production. A variety of crops are cultivated including cotton, nuts, vegetables and fruits, including grapes (table grapes and wine), raisins, plums, peaches and citrus. Raisins are a major product in the Dinuba area, where 40 percent of the world’s raisins are grown and dried, totaling approximately 300,000 tons annually. The largest employer is Ruiz Foods which is America's leading frozen Mexican food manufacturer. The City is also home to Best Buy Distribution, Patterson Logistics, Wal-Mart and Ed Dena’s GM Auto Center. The Best Buy Regional Distribution Center consists of 1,024,000 square feet and services retail stores in California, Nevada and Arizona.

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Annex A City of Dinuba

Major employers in the City (2012 data) are:

1. Ruiz Foods Products, Inc. Frozen Food	1,540 (employees)
2. Dinuba Public Schools Education	639
3. Family Tree Farms Produce Packing	500
4. Walmart Retail	400
5. Best Buy Stores, Inc. Distribution Center	330
6. Odwalla, Inc. Fruit Juices	210
7. City of Dinuba Local Government	151
8. Surabian and Sons Produce/Packing	125
9. Kmart Retail	98

**Land use:** Major industries in Dinuba are concentrated in warehousing and distribution, food processing and agriculture production. Key economic growth opportunities identified in the General Plan include a combination of large scale and small scale industrial developments. Large scale, heavy industry development could occur in agricultural chemicals and fertilizers, and in some of the food processing and packaging material production industries, subject to industrial pretreatment. Wholesale and distribution centers may also be a large-scale development opportunity. Other growing business sectors represent smaller scale light industrial opportunities. **Figure A-2** provides detail on zoning and land use for Dinuba.

**Development trends:** Historical population data and future projections have been obtained from the U.S. Census Bureau, and the California Department of Finance. For analysis purposes, this data is compared to other source data relating to growth and population including the City’s General Plan population projections. Historical census data indicates that the City of Dinuba had a population of 12,743 in 1990, 16,844 in 2000, and 21,453 in 2010. This equates to an average annual growth rate of approximately 2.64% between 1990 and 2010. **Table A-1** provides historic and projected population growth.

<b>Table A-1: Dinuba Historic and Projected Population Growth</b>			
<b>Year</b>	<b>Tulare County</b>	<b>Dinuba</b>	<b>% of Total County Population</b>
1990	311,921	12,743	4.1%
2000	368,021	16,844	4.6%
2010	442,179	21,453	4.9%
2020	526,471	27,893	5.3%
2030	626,833	36,266	5.8%
2040	746,326	47,153	6.3%

Notes: 1) 1990 to 2010 population data based on U.S. Census Data  
2) 2020 to 2040 population projection based in 1990 to 2010 average annual growth rates

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Annex A City of Dinuba

The City plans for future growth through the implementation of policies and standards set forth in its General Plan. The General Plan is a long-term, comprehensive framework to guide physical, social and economic development within the community’s planning area. Dinuba’s General Plan is a long-range guide for attaining the City’s goals within its ultimate service area and accommodating its population growth to the year 2026. The City adopted a 10-year urban development boundary (UDB) as part of its General Plan Update, based upon the capabilities of the City to accommodate new growth. The adoption of tiered UDB’s also promotes orderly development by discouraging “leap frog” development.

**Development in hazard prone areas:**

Because population growth was less than one percent per year since approval of the 2011 MJLHMP, there has been no development in hazard prone areas that has affected overall vulnerability of the City. Development that did occur, was primarily infill in urban areas where vulnerabilities are well understood and described.

The new MJLHMP addresses the new hazard of climate change. This hazard impacts the entire County. Development in the City and globally with increased carbon emissions will result in increasing overall vulnerabilities to its impacts.

**A.2 HAZARDS IDENTIFICATION AND ANALYSIS**

**Hazards:** Dinuba faces many of the hazards that are present in the County. **Table A-2** below provides a summary of hazards. There are no hazards that are unique to Dinuba. Hazards in the City with unlikely frequency, limited extent, limited magnitude and low significance were not included. These include wildfire, earthquake liquefaction - subsidence, civil unrest and terrorism/cyber terrorism.

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<b>Table A-2: Dinuba Summary of Hazards</b>					
<b>Hazard</b>	<b>Frequency</b>	<b>Extent</b>	<b>Magnitude</b>	<b>Significance</b>	<b>Potential Locations</b>
Climate Change	Highly likely	Extensive	Catastrophic	High	Entire City
Dam Failure	Unlikely	Limited	Limited	Low	Map B-8 depicts
Drought	Likely	Extensive	Catastrophic	High	Entire City
Earthquake: Shaking	Occasional	Extensive	Limited	Low	Entire City
Flood	Occasional	Limited	Limited	Medium	Map B-7 depicts
Energy Emergency	Occasional	Extensive	Critical	Medium	Entire City
Extreme Heat	Highly Likely	Extensive	Critical	High	Entire City
Hazardous Materials	Likely	Limited	Limited	Low	Entire City
Fog	Likely	Extensive	Limited	Low	Entire City
Levee Failure	Occasional	Limited	Limited	Medium	Unknown
Pandemic and Vector Borne Disease	Likely	Extensive	Critical	Medium	Entire City
Severe Storms and High Winds	Highly Likely	Significant	Limited	Medium	Entire City

**Guidelines for Hazard Rankings**

**Frequency of Occurrence:**

- Highly Likely      Near 100% probability in next year
- Likely              Between 10 and 100% probability in next year or at least one chance in ten years
- Occasional        Between 1 and 10% probability in next year or at least one chance in next 100 years
- Unlikely            Less than 1% probability in next 100 years

**Spatial Extent:**

- Limited             Less than 10% of planning area
- Significant        10-50% of planning area
- Extensive          50-100% of planning area

**Potential Magnitude:**

- Catastrophic      More than 50% of area affected
- Critical             25 to 50% of area affected
- Limited             10 to 25% of area affected
- Negligible         Less than 10%

**Significance (subjective):**

- low, medium, high

**A.3 RISK ASSESSMENT**

The intent of this section is to assess Dinuba’s vulnerability separate from that of the Operational Area as a whole which has already been assessed in **Section 5.3 Risk Assessment** in the base plan. This risk assessment analyzes the population, property, and other assets vulnerable to the hazards ranked of medium or high significance that may vary from other parts of the planning area. For more information about how hazards affect the County as a whole, see **Section 5** of the base plan.

**Infrastructure and Values at Risk:**

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Annex A City of Dinuba**

The following data was provided by the City’s Fire Chief. This data should only be used as a guideline to estimate facility values in the City as the information has some limitations. Generally, the land itself is not a loss. **Table A-3** shows the 2016 inventory broken down by property type for the City.

<b>Table A-3: Dinuba 2016 Asset Inventory</b>			
<b>Name</b>	<b>Address</b>	<b>Value</b>	<b>Hazard Vulnerability</b>
Alice Park	Alice Avenue and W North Way	\$22,155.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Centennial Water Tower	N/E corner Rd 72/Sierra	\$2,564,541.00	Earthquake, Fog, Severe Winter Storm
CNG Fueling Station	1088 Kamm Avenue	\$903,175.00	Earthquake, Fog, Severe Winter Storm
Dinuba City Hall	405 E. El Monte Way	\$1,704,020.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Fire Administrative Office and Fire Department Water Tower	496 E. Tulare Street	\$1,234,848.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Library	150 S. I Street		Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Old Public Works Yd.	110 College Avenue	\$1,114,721.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Parks and Recreation Center	1390 E. Elizabeth Way	\$1,146,013.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Police Department	680 S. Alta Avenue	\$5,149,236.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Public Works	1088 E. Kamm Avenue	\$1,731,793.00	Earthquake, Fog, Severe Winter Storm
Dinuba Senior Citizen's Center	437 Eaton Avenue	1,863,199.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Veteran's Mem. Bldg.	249 S. Alta Avenue		Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Vocational Center	199 N. L Street	\$6,601,580.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Waste Water Treatment Facility	6675 Avenue 408	\$6,637,338.00	Earthquake, Fog
Felix Delgado Park	Vassar Avenue and S Green Avenue	\$154,132.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Gregory Park	S. College Avenue and E Academy Way		Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
K/C Park	W Kern Street and S Q Street	\$684,266.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Nebraska Park	E Nebraska Avenue and Marks Drive	\$57,324.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Nebraska Water Tower	Nebraska / Crawford	\$2,611,605.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station 1218 Golden	1218 Golden Way	\$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm

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<b>Table A-3: Dinuba 2016 Asset Inventory</b>			
Name	Address	Value	Hazard Vulnerability
Pump Station 245 W Northway	245 W Northway	\$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station 680 S. Alta	S Alta / 680 S Alta Avenue	\$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station 889 N Alta	889 N Alta Avenue	\$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station Alta Avenue	S Alta / W Kern Street	\$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station Alta/Davis Drive	N Alta / E Davis Drive	\$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station Arno Street	Arno Street Lindara Tract	\$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station Crawford/Davis	N Crawford/Davis Drive	\$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station E Crawford	E Crawford/S Mt. View	\$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station Kamm Avenue	N Kamm / S Alta	\$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station Kamm/Alta	E Kamm / S Alta Avenue	\$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station Lillie/North Way	Lillie/North Way/Peach	\$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station Marshall/Wright	Marshall / Wright Avenue	\$43,217.00	Earthquake, Fog
Pump Station Merced/N M St	Merced / N M Streets	\$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station N Ridge/Newton	Northridge/Newton Drive	\$43,217.00	Earthquake, 100-Year Floodplain
Pump Station Olive/Randle	E Olive / Randle Avenue	\$43,217.00	Earthquake, Fog, Severe Winter Storm
Pump Station Roberts Place	Roberts Place	\$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station S Alta Avenue	S Alta / N M Street	\$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station S Alta Avenue	S Alta / E Kern Street	\$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station W El Monte	W El Monte / Rd 72	\$43,217.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Pump Station/Newton	Northridge/Newton Drive	\$43,217.00	Fog, Severe Winter Storm
Pump Station/Water Well Sierra/Rd 72	W Sierra Way/Rd 72	\$848,941.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Ridge Creek Golf Course	3018 W. El Monte Way	\$7,395,585.00	Earthquake, Fog, Severe Winter Storm
Roosevelt Park	S. California Street between E. Elizabeth Way and E. Park Way	\$324,458.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm

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<b>Table A-3: Dinuba 2016 Asset Inventory</b>			
<b>Name</b>	<b>Address</b>	<b>Value</b>	<b>Hazard Vulnerability</b>
Rose Ann Vuich Park	E. El Monte Way and El Monte Park Streets	\$903,077.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Sewer Lift Station 651 Saginaw	651 Saginaw Avenue	\$168,020.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Sewer Lift Station Crawford	N Crawford/Gerald Avenue	\$168,020.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Sewer Lift Station Davis Drive	Davis Drive E of Newton	\$168,020.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Sewer Lift Station E El Monte	1725 E. El Monte Way	\$168,020.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Sewer Lift Station Edwards Pl	Edwards Pl / N Millard	\$168,020.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Sewer Lift Station Kamm Avenue	Kamm / Alta Avenue	\$168,020.00	Earthquake, Fog
Sewer Lift Station Laurel Avenue	Laurel / Crawford Avenue	\$168,020.00	Earthquake, Fog
Sewer Lift Station Randle Avenue	Randle Avenue / E El Monte	\$168,020.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Sewer Lift Station S O Street	Kamm / S O Street	\$168,020.00	Earthquake, Fog
Sewer Lift Station Sequoia/Alt	Sequoia Drive N Alta	\$168,020.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Water Well 500 W Sierra Way	500 W Sierra Way	\$805,724.00	Earthquake, Fog, Severe Winter Storm
Water Well 820 Euclid Avenue	820 Euclid Avenue	\$805,724.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Water Well College/S L Street	College / S. L Street	\$805,724.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Water Well Kamm/Greene St	Kamm Avenue/Greene St	\$805,724.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Water Well Milsap/Magnolia	Milsap N of Magnolia	\$805,724.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Water Well Pamela/Lillie	Pamela W Lillie Avenue	\$805,724.00	Earthquake, Fog, Severe Winter Storm
Water Well W El Monte/Rd 72	W El Monte /N Road 72	\$805,724.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
Dinuba Transit Center	180 Merced Street	\$926,160.00	Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm
College Park Recreation Center	920 S College Avenue		Earthquake, 100-Year Floodplain, Fog, Severe Winter Storm

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**Critical Facilities:** The City has identified the following infrastructure in **Table A-4** as critical facilities:

<b>Table A-4: Dinuba Critical Facilities</b>		
<b>Facility</b>	<b>Address</b>	<b>Value</b>
Centennial Water Tower	N/E corner Rd 72/Sierra	\$2,564,541.00
Dinuba Police Department	680 S. Alta Avenue	\$5,149,236.00
Dinuba Public Works	1088 E. Kamm Avenue	\$1,731,793.00
Dinuba Waste Water Treatment Facility	6675 Avenue 408	\$6,637,338.00
Lift Stations	Various	\$168,020.00 each
Nebraska Water Tower	Nebraska / Crawford	\$2,611,605.00
22 Pump Stations	Various	\$43,217.00 each
Pump Station/Water Well Sierra/Rd 72	W Sierra Way/Rd 72	\$848,941.00
Water Well 500 W Sierra Way	500 W Sierra Way	\$805,724.00
Water Well 820 Euclid Avenue	820 Euclid Avenue	\$805,724.00
Water Well College/S L Street	College / S. L Street	\$805,724.00
Water Well Kamm/Greene St	Kamm Avenue/Greene St	\$805,724.00
Water Well Milsap/Magnolia	Milsap N of Magnolia	\$805,724.00
Water Well Pamela/Lillie	Pamela W Lillie Avenue	\$805,724.00
Water Well W El Monte/Rd 72	W El Monte /N Road 72	\$805,724.00

**Vulnerabilities and Potential Losses:**

A risk assessment determines the vulnerability of assets within the City by evaluating the inventory of City owned existing property and the population exposed to a hazard. A quantitative vulnerability assessment is limited to the exposure buildings, and infrastructures to the identified hazards. This risk assessment includes only those hazards that are natural.

**Populations and Businesses at Risk**

Residential population data for the City was obtained from the State of California Department of Finance E-1 Population Estimates for Cities, Counties, and the State—January 1, 2016/2017. The population is estimated to be 24,657 in an area of 6.47 square miles. The 2010 Census Data lists 5,964 residential units valued at \$465,266,000.

The largest employer is Ruiz Foods which is America's leading frozen Mexican food manufacturer. The City is also home to Best Buy Distribution, Patterson Logistics, Wal-Mart and Ed Dena's GM Auto Center. The Best Buy Regional Distribution Center consists of 1,024,000 square feet and services retail stores in California, Nevada and Arizona.

**Economic Risks**

The economy of Dinuba is largely based on agriculture and food production. A variety of crops are cultivated including cotton, nuts, vegetables and fruits, including grapes (table grapes and wine), raisins,



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plums, peaches and citrus. Raisins are a major product in the Dinuba area, where 40 percent of the world's raisins are grown and dried, totaling approximately 300,000 tons annually.

**Vulnerability and Potential Losses**

FEMA requires that an estimation of loss be conducted for the identified hazards to include the number of potential structures impacted by the hazards and the total potential costs. The analysis of potential losses calculated in **Table A-5** used the best data currently available to produce an understanding of potential loss. These estimates may be used to understand relative risk from hazards and potential losses. There are uncertainties in any loss estimation method, resulting from lack of scientific study and the exact result of hazard effects on the built environment, and from the use of approximations that are necessary for a comprehensive analysis.

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<b>Table A-5: Summary of Vulnerabilities and Potential Loss</b>	
<b>Hazard Type</b>	<b>Impacts/Costs</b>
Climate Change	<p><u>Impacts:</u> Climate change will cause multiple effects to infrastructure and community public health. Warmer weather associated with climate change will result in more heat related illness. Drier weather will place increasing demands on imported and well water, and may lead to long lasting draughts that result in water rationing.</p> <p><u>Costs:</u> Climate change costs are difficult to specify. They will occur and accrue over centuries. As temperatures rise, additional costs for climate control such as air conditioning will occur. Less precipitation may result in depletion of stored and ground water reserves with potential for increased water costs and rationing. Much of these costs will be borne by individuals and families. Increased costs will also affect businesses and government owned facilities. Researchers at UC Berkeley (Science, May 2017) concluded that for every 1-degree Fahrenheit increase in global temperatures, the U.S. economy stands to lose about 0.7 percent of its Gross Domestic Product, with each degree of warming costing more than the last.</p>
Drought	<p><u>Impacts:</u> Drought produces a variety of impacts that span many sectors of the economy. Reduced crops productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality; and rationing are a few examples of direct impacts. These problems can result in increased prices for food and lumber, unemployment, reduced tax revenues, increased crime, and foreclosures on bank loans to farmers and businesses, and migration. Populations that rely on or are affected by a lack of water or annual rainfall are most directly affected by droughts. The City is dependent on imported water for most of its needs. During prolonged draughts, water rationing is possible resulting in potentially higher water costs and loss of private and public landscaping.</p> <p><u>Costs:</u> Potential costs from draught to the City and its communities are difficult to quantify and are dependent upon draught duration and severity. In addition to increased costs for water, prolonged draught may result in reduced property values, loss of tax revenues and migration, all of which will cause economic losses.</p>
Extreme Heat	<p><u>Impacts:</u> Extreme heat events, present serious health risks to the City’s most vulnerable populations. The effects of extreme heat (over 84°F) on human health are well documented. Increased temperature or extended periods of elevated temperatures can increase heat-related mortality, cardiovascular-related mortality, respiratory mortality, and heart attacks, while increasing hospital admissions and emergency room visits. Extreme heat can also affect a person’s ability to thermo-regulate, causing heat stress and sometimes leading to death.</p> <p><u>Costs:</u> Extreme heat results in increased electricity usage and additional health care costs. While additional power costs affect both commercial and residential properties, added health care costs impact individuals and families. Extreme heat may reduce economic activity if prolonged.</p>
Flood	<p><u>Impacts:</u> Flooding occurs in the City during periods of heavy rain due to inadequate drainage. The flat geography also contributes to ponding. The Dinuba Town Ditch has flooded the downtown area of the City in the past.</p> <p><u>Costs:</u> There are no accurate costs values associated with past flood events. Future flood incidents will likely result in structural damage and lost economic activity. Flood cost could be in excess of \$100,000,000.</p>

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Based upon previously occurring incidents and the risk assessment, the following hazards are most likely to affect Dinuba:

- Climate Change
- Drought
- Extreme heat
- Flood

These hazards which may impact agriculture, the economic driver of the city, represent critical vulnerabilities. In addition, these are hazards that represent vulnerabilities to infrastructure. Specifically, flooding from the Dinuba Town Ditch represents a hazard to downtown Dinuba. Mitigation strategy #1, Construction of 60" storm drain line to address flooding issues in the downtown area, was developed to mitigate this vulnerability. Other hazards present vulnerabilities but to a lesser extent.

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A.4 CAPABILITIES ASSESSMENT

**FEMA REGULATION CHECKLIST: CAPABILITY ASSESSMENT**

**Capability Assessment**

**44 CFR § 201.6(c)(3):** – The plan must include mitigation strategies based on the jurisdiction's “existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.”

**Elements**

**C1.** Does the plan document the jurisdiction’s existing authorities, policies, programs and resources, and its ability to expand on and improve these existing policies and programs? 44 CFR § 201.6(c)(3)

**C2.** Does the Plan address the jurisdiction’s participation in the NFIP and continued compliance with NFIP requirements, as appropriate? 44 CFR § 201.6(c)(3)(ii)

Source: FEMA, *Local Mitigation Plan Review Tool*, March 2013.

**Note:** For coverage of Elements C3 – C5, see Section 8, *Mitigation Strategies*. For coverage of Element C6, see Section 9,

The reason for conducting a capability assessment is to identify Dinuba’s capacity to successfully implement mitigation activities. Understanding internal and external processes, resources and skills forms the basis of implementing a successful HMP. Understanding strengths and weaknesses also helps ensure that goals and objectives are realistic and attainable.

The planning team conducted an assessment of the City’s capabilities that contribute to the reduction of long-term vulnerabilities to hazards. The capabilities include authorities and policies, such as legal and regulatory resources, staff, and fiscal resources. Staff resources include technical personnel such as planners/engineers with knowledge of development and land management practice and an understanding of natural or human-caused hazards. The planning team also considered ways to expand on and improve existing policies and programs with the goal of integrating hazard mitigation into the day-to-day activities and programs of the City. In carrying out the capability assessment, several areas were examined:

- Planning and regulatory capabilities
- Administrative and technical resources
- Fiscal resources including grants, mutual aid agreements, operating funds and access to funds
- Technical and staff resources to assist in implementing/overseeing mitigation activities
- Previous and Ongoing Mitigation Activities

**Tables A-6 through A-9** provide a list of the City’s capabilities.

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**Planning and Regulatory Capabilities:** These include local ordinances, policies and laws to manage growth and development. Examples include land use plans, capital improvement plans, transportation plans, emergency preparedness and response plans, building codes and zoning ordinances.

<b>Table A-6: Dinuba Planning and Regulatory Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
2008 General Plan	<p>The City’s General Plan provides a policy base to guide future growth within the City. It was created by planners, engineers and technical staff with knowledge of land development, land management practices, as well as human-caused and natural hazards. The General Plan:</p> <ul style="list-style-type: none"> <li>• Develops and maintains the General Plan, including the Safety Element.</li> <li>• Develops area plans based on the General Plan to provide more specific guidance for the development of more specific areas.</li> <li>• Reviews private development projects and proposed capital improvements projects and other physical projects involving property for consistency and conformity with the General Plan.</li> <li>• Anticipates and acts on the need for new plans, policies, and Code changes.</li> <li>• Applies the approved plans, policies, code provisions, and other regulations to proposed land uses.</li> </ul> <p>The MJLHMP may be adopted as part of the Safety Element by the City Counsel. As the Safety Element is updated, revised hazard analysis from the MHLHMP will be incorporated. Safety Element actions will be aligned with MJLHMP mitigation measures.</p>	All	No requires updating.	Planning

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**Table A-6: Dinuba Planning and Regulatory Capabilities**

Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
California Building Code Enforcement	<p>The California Building Standards Code, Title 24 serves as the basis for the design and construction of buildings in California including housing, public buildings and maintenance facilities. Improved safety, sustainability, maintaining consistency, new technology and construction methods, and reliability are paramount to the development of building codes during each Triennial and Intervening Code Adoption Cycle.</p> <p>California’s building codes are published in their entirety every three (3) years. Amendments to California’s building standards are subject to a lengthy and transparent public participation process throughout each code adoption cycle. The California Seismic Safety Commission provides access to an array of regulatory and advisory information at: <a href="http://www.seismic.ca.gov/cog.html">http://www.seismic.ca.gov/cog.html</a></p>	Earthquake, Fire, Floods, Severe winter storm/high winds		Regulatory
Capital Improvement Program (CIP)	<p>The City’s CIP provides a foundation and planning tool to assist in the orderly acquisition of municipal facilities and to assure that service needs for the future are met. The CIP provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.</p> <p>The MJLHMP will be used to select potential projects for the CIP. As the CIP is updated, additional mitigation measures will be analyzed and included in the Dinuba section of the MJLHMP. Funding for CIP projects identified in the MJLHMP will be reviewed for mitigation grant program eligibility.</p>	Dam Failure, Earthquake, Fire, Floods, Landslides, Levee failure, Severe winter storm/high winds		Planning

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<b>Table A-6: Dinuba Planning and Regulatory Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
Municipal Service Review (MSR)	<p>MSRs are intended to provide a comprehensive analysis of service provision by each of the special districts and other service providers within the legislative authority of the (LAFCo) of a city. This analysis focuses on service providers within the City of Dinuba and makes determinations in each area of evaluation. The MSR considers and makes recommendations based on the following information:</p> <ul style="list-style-type: none"> <li>• Present and planned land uses in the area.</li> <li>• Present and probable need for services in the area.</li> <li>• Present ability of each service provider to provide necessary services.</li> <li>• The fiscal, management, and structural health of each service provider.</li> <li>• The existence of any social or economic communities of interest in the area.</li> </ul>	All	Yes 2012 Chapter Three: Present and Planned Capacity of Public Facilities and Adequacy of Public Services, Including Infrastructure Needs or Deficiencies	Planning

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<b>Table A-6: Dinuba Planning and Regulatory Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
Dinuba Urban Water Management Plan	<p>The Urban Water Management Plan is required by California Water Code §10644(a) and requires urban water suppliers to file with the Department of Water Resources (DWR), the California State Library, and any City or County within which the supplier provides water supplies, a copy of its Urban Water Management Plan. UWMP's are to be prepared every five years by urban water suppliers with 3,000 or more service connections or supplying 3,000 or more acre-feet of water per year.</p> <p>The purpose of this UWMP is to be a baseline document and source of information for DWR and to serve as:</p> <ul style="list-style-type: none"> <li>• A short and long range planning document for water supply,</li> <li>• Data source for the development of a regional water supply plan,</li> <li>• A source document for the City of Dinuba in preparing updated General Plans, and</li> <li>• A key component of an Integrated Regional Water Management Plan</li> </ul>	Climate change, Drought	2012	Planning
Transit Development Plan (TDP)	<p>A TDP is a blueprint for the delivery of transportation services provided to the general public. The TDP will serve as a guide for improving public transit services within the Dinuba area over a five-year planning horizon. The TDP will provide the community, policy makers, and city staff an opportunity to understand current transit conditions, define the future demand for service within the area, and establish an operational and capital plan to meet those demands.</p>	Dam inundation, Fire, Floods, Terrorism,	2014	Planning



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**Table A-6: Dinuba Planning and Regulatory Capabilities**

Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
City Code Chapter 13.76 Flood Damage Prevention	<p>This purpose is to promote the public health, safety and general welfare, and to minimize public and private losses due to flood conditions in specific areas by designated provisions:</p> <p>The MJLHMP contains several specific mitigation measures in support flood control. The City Flood Damage Prevention Code will be reviewed based on MJLHMP hazard description updates and mitigation actions.</p>	Flood	2016	Regulatory
Emergency Operations Plan (revised 2003)	<p>Describes what the local jurisdiction’s actions will be during a response to an emergency. Includes annexes that describe in more detail the actions required of the local jurisdiction’s departments/agencies. Further, this plan describes the role of the Emergency Operation Center (EOC) and the coordination that occurs between the EOC and the local jurisdiction’s departments and other response agencies. Finally, this plan describes how the EOC serves as the focal point among local, State, and Federal governments in times of disaster.</p> <p>Describes what the local jurisdiction’s actions will be during a response to an emergency. Includes annexes that describe in more detail the actions required of the local jurisdiction’s departments/agencies. Further, this plan describes the role of the Emergency Operation Center (EOC) and the coordination between the EOC and the local/tribal jurisdictions. Lastly, the EOP describes how the EOC serves as the point of coordination between local, tribal, State, and Federal agencies during a disaster. The MJLHMP provides the basis for the hazards included and described in the EOP.</p>	All	No	Regulatory

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<b>Table A-6: Dinuba Planning and Regulatory Capabilities</b>				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
	The MJLHMP will be used as an essential tool to update the City EOP. Cal OES requires that EOPs describe applicable hazards as part of the Plan. The latest MJLHMP hazards descriptions will be included. Mitigation actions that are preparedness and response in nature will be analyzed for applicability to include in the description of EOP processes and procedures.			
Other City Code of Ordinances	<p>The purpose of this code is to establish the minimum requirements to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation and energy conservation, and safety to life and property from fire and other hazards attributed to the built environment; to regulate and control the demolition of all buildings and structures and for related purposes.</p> <p>The MJLHMP will provide both hazard descriptions and mitigation actions that may address energy conservation, fire protection and development in hazard prone areas. The maps of Dinuba related hazards will be used to augment other mapping products to protect public health and safety when updating City Code.</p>	Earthquake, Fire, Flooding,		Regulatory
Fire Department Master Plan	The purpose of this plan is to guide the City in regards to maintaining levels of service and account for the impact of future growth.	All		Planning

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**Administrative and Technical:** These capabilities include community (including public and private) staff and their skills and tools used for mitigation planning and implementation. They include engineers, planners, emergency managers, GIS analysts, building inspectors, grant writers, and floodplain managers.

<b>Table A-7: Dinuba Administrative and Technical Capabilities</b>				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
City Public Works Department	Maintains and operates a wide range of local equipment and facilities as well as provides assistance to members of the public. Services include providing sufficient potable water, reliable waste water services, street maintenance, storm drainage systems, street cleaning, street lights and traffic signals.	All		Technical
Procurement Department	Provides a full range of municipal financial services, administers several licensing measures, and functions as the plan participant’s Procurement Services Manager.	All		Technical
City Engineering Services Department	<ul style="list-style-type: none"> <li>• Develops and maintains the General Plan including the Safety Element.</li> <li>• Develops area plans based on the General Plan, to provide more specific guidance for the development of more specific areas.</li> <li>• Reviews private development projects and proposed capital improvements projects and other physical projects involving property for consistency and conformity with the General Plan.</li> <li>• Anticipates and acts on the need for new plans, policies, and Code changes.</li> <li>• Applies the approved plans, policies, code provisions, and other regulations to proposed land uses.</li> </ul>	All		Technical
City Development	Provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.	All		Technical

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<b>Table A-7: Dinuba Administrative and Technical Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
Services Department				
City Fire Department	Maintains and updates the Emergency Operations Plan and coordinates local response and relief activities within the Emergency Operation Center. Works closely with County, State, and Federal partners to support planning and training and to provide information and coordinate assistance.	All		Technical

**Fiscal:** These capabilities include general funds, property sales, bonds, development impact fees, or other fees.

<b>Table A-8: Dinuba Fiscal Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
Dinuba General Fund	Program operations and specific projects.	All		Financial, Financial Services Department
Dinuba General Obligation (GO) Bonds	GO Bonds are appropriately used for the construction and/or acquisition of improvements to real property broadly available to residents and visitors. Such facilities include, but are not limited to, libraries, hospitals, parks, public safety facilities, and cultural and educational facilities.	All		Financial, Financial Services Department
Lease Revenue Bonds	Lease revenue bonds are used to finance capital projects that (1) have an identified budgetary stream for repayment (e.g., specified fees, tax receipts, etc.); (2) generate project revenue but rely on a broader pledge of general fund revenues to reduce borrowing costs; or (3) finance the acquisition and installation of	All		Financial, Financial Services Department

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	equipment for the local jurisdiction’s general governmental purposes.			
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**Education and Outreach:** These capabilities include programs in place such as fire safety programs, hazard awareness campaigns, public information or communications offices.

<b>Table A-9: Dinuba Education and Outreach Capabilities</b>				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
Tulare County Association of Governments (TCAG)	TCAG is committed to improving the quality of life for residents and visitors throughout the County. They address traffic congestion, coordinate regional transit programs to make getting around easy and convenient, work to improve air quality and strive to continue to meet national standards. TCAG addresses current and future rail needs and possibilities and gathers data which is used by the census and the public to properly forecast housing and transit needs.	All		Education and Outreach
Dinuba Website <a href="http://www.dinuba.org/">http://www.dinuba.org/</a> and other social media	Provides easily accessible conduit to information about planning and zoning, permits and applications and programs that address hazard mitigation such as clean energy efforts.  The updated MJLHMP will be posted to City media sites. As the planned is reviewed annually and new updates made, information on the planning process will be included on web sites and announced on social media.	All		Education and Outreach

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**A.5 MITIGATION STRATEGY**

**Table A-10** lists the City specific mitigation actions from the 2011 Plan and provides their status.

<b>Table A-10: Dinuba-Specific Mitigation Actions</b>						
No.	Selected (Y/N)	Description	Prioritization Criteria	Facility to be Mitigated (if known)	Department or Agency	Status
2	Y	Integrate the Tulare County HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	A, B, C, D, E	Not Applicable	City of Dinuba Development Services Dept.	Ongoing – Mitigation Action 5 in 2017 MJLHMP
3	Y	Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency.	A, B, C	Unknown	City of Dinuba Development Services Dept.	Ongoing – Mitigation Action 6 in 2017 MJLHMP
8	Y	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	A, B, C, D	Unknown	City of Dinuba Development Services Dept.	Ongoing – Mitigation Action 7 in 2017 MJLHMP

**Prioritization Criteria**

- A local jurisdiction department or agency champion currently exists or can be identified
- The action can be implemented during the 5-year lifespan of the HMP
- The action may reduce expected future damages and losses (cost-benefit)
- The action mitigates a high-risk hazard
- The action mitigates multiple hazards

All of the City’s mitigation strategies from the 2011 HMP are still relevant to this update. **Table A-11** contains an updated set of potential mitigation strategies. Theses mitigation strategies were derived from numerous sources including the General Plan, City Code, Capital Improvement Plan and input from the public and stakeholders.

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<b>Table A-11: Dinuba-Potential Mitigation Strategies</b>			
<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
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.	All	Mit.
2	Integrate the City LHMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	All	Mit.
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.	All	Mit.
4	Designate areas with a potential for significant hazardous conditions for open space, agriculture, and other appropriate low intensity uses.	All	Mit.
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).	All	Mit.
6	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, County and City fire standards.	FR	Mit.
7	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 very high fire hazard severity zones or State responsibility area by fire hazard zone designation. Identify plans and actions to improve substandard housing structures and neighborhoods.	FR	Mit.
8	Acquire, relocate, or elevate residential structures, in particular those that have been identified as Repetitive Loss (RL) properties that are located within the 100-year floodplain.	FL	Mit.
9	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	FL	Mit.

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10	Reinforce ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	FL	Mit.
11	Work with FEMA Region IX to address any floodplain management issues that may have arisen/arise from the countywide DFIRM, Community Assessment Visits, and/or the DWR.	FL	Mit.
12	Increase participation in the NFIP by entering the Community Rating System program through which enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	FL	Mit.
13	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 City. This shall include, but not be limited to, flooding, dam failure, extreme weather, evacuation/transportation, mass care and shelter, and animal evacuation and sheltering.	All	Prep.
14	Continue to promote awareness and education among residents regarding possible natural hazards, including soil conditions, earthquakes, flooding, fire hazards, and emergency procedures.	EQ, FL, FR	Mit.
15	Develop a public outreach program that informs property owners located in the dam or levee inundation areas about voluntary flood insurance.	FL, DF, LF	Mit.
16	Promote public safety programs, including neighborhood watch programs, child identification and fingerprinting, public awareness and prevention of fire hazards, and other public education efforts.	CT	Mit.
17	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.	All	Resp.
18	Participate in established local, State, and Federal mutual aid systems. Where necessary and appropriate, the City shall enter into agreements to ensure the effective provision of emergency services, such as mass care, heavy rescue, hazardous materials, or other specialized function.	All	Resp.
19	Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about severe valley fog and extreme heat conditions.	FG, EH	Resp.



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20	Use Geographic Information Systems (GIS) technology to track fire and law enforcement response times and provide technical assistance to fire and law enforcement agencies.	FR, TR	Mit.
21	Require, where feasible, road networks (public and private) to provide for safe and ready access for emergency equipment and provide alternate routes for evacuation	All	Mit.
22	Fire Station # 2: Construct a second fire station on the west side of Dinuba to account for increased population. Estimated cost is \$4M.	FR, HZ	Resp.
23	Kern Street Storm Drain: Construction of 60” storm drain line to address flooding issues in the downtown area. Estimated cost is \$3.3M.	FL	Mit

A list of mitigation actions was selected from the mitigation strategies. **Table A-12** provides the mitigation 2017 MJLHMP actions for the City. New priorities for mitigation actions are listed in the table.

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<b>Table A-12: Dinuba - Mitigation Actions</b>					
<b>Action Number</b>	<b>Mitigation Strategy</b>	<b>Department</b>	<b>Cost</b>	<b>Priority</b>	<b>Timeframe</b>
1	Kern Street Storm Drain: Construct a 60" storm drain line to address flooding issues in the downtown area.	Public Works	Estimated cost is \$3.3 M	High	2-5 years
2	Fire Station # 2: Construct a second fire station on the west side of Dinuba to account for increased population. Estimated cost is \$4M.	Fire	Estimated cost is \$4M	High	2-5 years
3	Reinforce bridges and roads from flooding through protection activities, including installing /increasing the size of culverts beneath roads in areas that experience regular flooding.	Public Works	Unknown	High	5 or more years
4	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.	Planning	Unknown	High	5 or more years
5	Integrate the Tulare County HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	All	Unknown	Medium	One year
6	Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency.	Public Works	Unknown	Low	5 or more years
7	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	Development	Unknown	High	5 or more years

Incorporation into other plans: FEMA requires the HMP be consistent with and incorporated into other planning documents and processes. In Dinuba, these other planning documents include the General Plan Update, Capital Improvement Program, Dinuba Urban Water Management Plan, Transit Development Plan and Fire Department Master Plan. The term “consistency” in planning terms means that the general plan

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and the other plans have similar community goals and policies, that they advocate similar land use patterns, and they are consistent in their guidance of direction and rate of growth.

Many of the plans listed in the Capabilities Assessment mentioned in Section A.4 have not been updated since the 2011 MJLHMP was adopted. Recommended ways to use and incorporate the new Plan over the next five-year planning cycle, discussed by the Planning Team, included:

- Incorporation of the Dinuba Annex into the Health and Safety Element of the City’s General Plan.
- Use of, or reference to, Plan elements in updates to general and comprehensive planning documents, codes, and ordinances
- Addition of defined mitigation actions to capital improvement programming
- Inclusion of Plan elements into development planning and practices
- Resource for developing and/or updating emergency operations plans, emergency response plans, etc.

The Plan will continue to function as a standalone document subject to its own review and revision schedule presented in Sections 7.1 and 7.2. The Plan will also serve as a reference for other mitigation and land planning needs of the participating jurisdictions. Whenever possible, each jurisdiction will endeavor to incorporate the risk assessment results and mitigation actions and projects identified in the Plan, into existing and future planning mechanisms.

At a minimum, each of the responsible agencies/departments noted in **Table 6.3 and the Annexes of Appendix J** will review and reference the Plan and revise and/or update the legal and regulatory planning documents, manuals, codes, and ordinances as appropriate. Specific incorporation of the Plan risk assessment elements into the natural resources and safety elements of each jurisdictions’ General Plans (County comprehensive plan) and development review processes, adding or revising building codes, adding or changing zoning and subdivision ordinances, and incorporating mitigation goals and strategies into general and/or comprehensive plans, will help to ensure hazard mitigated future development.

# 2017 Tulare County MJLHMP - Annex B City of Exeter

## Annex B City of Exeter

Exeter was founded in 1888. The City was incorporated in 1911 and became a Charter City in June of 1998. The City provides the following services:

- Public safety (police), (fire and ambulance provided by the County)
- Domestic water
- Sanitary sewer treatment and disposal
- Transportation
- Parks and recreation

The City contracts with a private carrier to provide pickup of solid waste within the City limits.

### B.1 Community Profile

**Geography and Climate:** The City has a total area of 2.46 square miles. The City is relatively flat with an elevation of approximately 390 feet above sea level. Exeter's climate can be described as dry Mediterranean. The summers are hot and dry, and winters are characterized by moderate temperatures and light precipitation. Temperatures and rainfall for Exeter are typical of that of the rest of the valley floor portion of the County.

**Government:** Exeter operates as a council-manager form of municipal government which is comprised of five council members serving four-year overlapping terms.

**Population and Demographics:** California Department of Finance (DOF) data indicates that as of January 1, 2015, Exeter had a population of 10,572, corresponding to an annual average growth rate of approximately 0.95% between 2000 and 2015. 2015 DOF data also indicates that the average dwelling unit occupancy rate for the City is 3.07 persons per household, which is significantly lower than the County average of 3.4 persons per household. The population density was 4,287.8 people per square mile. The racial makeup of Exeter was 7,150 (69.2%) White; 67 (0.6%) African American; 171 (1.7%) Native American; 138 (1.3%) Asian; 8 (0.1%) Pacific Islander; 2,416 (23.4%) from other races; and 384 (3.7%) from two or more races. Hispanic or Latino of any race were 4,703 persons (45.5%). The Census reported that 10,261 people (99.3% of the population) lived in households, 57 people (0.6%) lived in non-institutionalized group quarters, and 16 people (0.2%) were institutionalized.

There were 3,378 households, out of which 1,552 (45.9%) had children under the age of 18 living in them, 1,801 (53.3%) were opposite-sex married couples living together, 575 (17.0%) had a female householder with no husband present, 227 (6.7%) had a male householder with no wife present. There were 233 (6.9%) unmarried opposite-sex partnerships, and 12 (0.4%) same-sex married couples or partnerships. 652 households (19.3%) were made up of individuals and 313 (9.3%) had someone living alone who was 65 years of age or older. The average household size was 3.04. There were 2,603 families (77.1% of all households); the average family size was 3.45.

## 2017 Tulare County MJLHMP - Annex B City of Exeter

**Housing:** There were 3,737 housing units at an average density of 1,459.8 per square mile of which 2,056 (55.0%) were owner-occupied, and 1,438 (38.5%) were occupied by renters. The housing vacancy rate was 6.5%.

**Economy:** The economy of Exeter is largely based on agriculture and food production. The 2015 unemployment rate in Exeter was 10.80% with job growth of 3.75%. Future job growth over the next ten years is predicted to be 36.70%. Major employers in Exeter include Waterman Industries, Svenhard's Swedish Bakery and Peninsula Packaging.

**Land use:** Exeter is a compact community occupying an area where urban growth has extended in all directions from the original 1888 town site. Exeter's downtown and its older residential neighborhoods are contained within a triangular area that is formed by the Southern Pacific Railroad on the west, the Visalia Electric Railroad on the north and State Route 65 (Kaweah Avenue) on the east. The City's industrial districts, which are dominated by agriculturally-related uses such as packing houses and cold-storage facilities, are located along the Southern Pacific Railroad, the Atchison Tehachapi and Santa Fe Railroad, and Industrial Drive, located immediately south of the original town site. Single-family residential development has occurred in all quadrants of the City with most of this type of development occurring on the west side of town since 1990. Development of multiple family residential dwellings has been limited. These units provide housing opportunities for low- to moderate-income families in the community. Commercial development is centered in downtown and to a lesser extent, along Visalia Road and Kaweah Avenue (State Route 65). Recent developments include fast-food franchises on Visalia Road, an office complex on north Kaweah Avenue, a Best Western Hotel on south Kaweah Avenue, and numerous remodels of retail space in the downtown.

Schools and parks are scattered throughout the community, located in neighborhoods that are experiencing a demand for these types of public facilities. An elementary school was constructed on Sequoia Drive in the northeast quadrant of the City, and the school district recently purchased a future elementary school site in the southwest quadrant. **Figure B-1** provides a detailed land use and zoning map of Exeter.



## 2017 Tulare County MJLHMP - Annex B City of Exeter

Development that did occur, was primarily infill in urban areas where vulnerabilities are well understood and described.

Updated dam inundation maps include a much larger area of the County. While little new development occurred in the expanded inundation zones, vulnerability to dam inundation increased substantially and now includes most of the most populace areas of the County. Updated dam inundation maps for the County and affected cities are included in **Appendix B**.

The new MJLHMP addresses the new hazard of climate change. This hazard impacts the entire City. Development in the City, the State and globally with increased carbon emissions will result in increasing overall vulnerabilities to its impacts.

### B.2 HAZARDS IDENTIFICATION AND ANALYSIS

**Hazards:** Exeter faces many of the hazards that are present in the County. **Table B-1** below provides a summary of hazards. There are no hazards that are unique to Exeter. Hazards in the City with unlikely frequency, limited extent, limited magnitude and low significance were not included. These include wildfire, earthquake liquefaction - subsidence, civil unrest and terrorism/cyber terrorism.

Table B-2: Exeter Summary of Hazards					
Hazard	Frequency	Extent	Magnitude	Significance	Potential Locations
Climate Change	Highly likely	Extensive	Catastrophic	High	Entire City
Dam Failure	Unlikely	Extensive	Catastrophic	Low	Map B-9 depicts
Drought	Likely	Extensive	Catastrophic	High	Entire City
Earthquake: Shaking	Occasional	Extensive	Limited	Low	Entire City
Flood	Occasional	Limited	Limited	Medium	Unknown
Energy Emergency	Occasional	Extensive	Critical	Medium	Entire City
Extreme Heat	Highly Likely	Extensive	Critical	High	Entire City
Fog	Likely	Extensive	Limited	Low	Entire City
Hazardous Materials	Likely	Limited	Limited	Low	Entire City
Levee Failure	Occasional	Limited	Limited	Medium	Unknown
Pandemic and Vector Borne Disease	Likely	Extensive	Critical	Medium	Entire City
Severe Storms and High Winds	Highly Likely	Significant	Limited	Medium	Entire City

**Guidelines for Hazard Rankings**

**Frequency of Occurrence:**

- Highly Likely      Near 100% probability in next year
- Likely              Between 10 and 100% probability in next year or at least one chance in ten years
- Occasional        Between 1 and 10% probability in next year or at least one chance in next 100 years
- Unlikely            Less than 1% probability in next 100 years

**Spatial Extent:**

- Limited             Less than 10% of planning area
- Significant        10-50% of planning area
- Extensive          50-100% of planning area

## 2017 Tulare County MJLHMP - Annex B City of Exeter

### **Potential Magnitude:**

Catastrophic	More than 50% of area affected
Critical	25 to 50% of area affected
Limited	10 to 25% of area affected
Negligible	Less than 10%

### **Significance (subjective):**

Low, medium, high



## 2017 Tulare County MJLHMP - Annex B City of Exeter

### B.3 RISK ASSESSMENT

The intent of this section is to assess Exeter’s vulnerability separate from that of the Operational Area as a whole, which has already been assessed in **Section 5.3 Risk Assessment** in the base plan. This risk assessment analyzes the population, property, and other assets vulnerable to the hazards ranked of medium or high significance that may vary from other parts of the planning area. For more information about how hazards affect the County as a whole, see **Section 5** of the base plan.

#### **Infrastructure and Values at Risk:**

The following data was provided by the City’s Administrator. This data should only be used as a guideline to estimate facility values in the City as the information has some limitations. Generally, the land itself is not a loss. **Table B-3** shows the 2016 inventory for the City.

<b>Table B-3: Exeter 2016 Asset Inventory</b>			
<b>Name</b>	<b>Address</b>	<b>Value</b>	<b>Hazard Vulnerability</b>
Exeter City Hall	137 North F Street		Earthquake, 500-Year Floodplain, Fog
Exeter Administration & Police Department	100 N. C Street		Earthquake, 500-Year Floodplain, Fog
Corporation Yard Public Works Offices	350 W. Firebaugh		Earthquake, 500-Year Floodplain, Fog
Utility Building	314 W. Firebaugh		Earthquake, 500-Year Floodplain, Fog
Residential Rental Property	310 W. Firebaugh		Earthquake, 500-Year Floodplain, Fog
Wastewater Treatment Plant	1906 W. Myer		Earthquake, 500-Year Floodplain, Fog
Senior Center/Carnegie Building	E Street/Chestnut		Earthquake, 500-Year Floodplain, Fog
Courthouse Gallery	125 S. B Street		Earthquake, 500-Year Floodplain, Fog
Mural Gallery	119 S. E Street		Earthquake, 500-Year Floodplain, Fog
City Park	Chestnut & E Street		Earthquake, 500-Year Floodplain, Fog
Dobson Field	Rocky Hill Drive and 2nd Street		Earthquake, 500-Year Floodplain, Fog
Joyner Park	Pine & C Street		Earthquake, 500-Year Floodplain, Fog
Rose Garden Park	Palm & A Street		Earthquake, 500-Year Floodplain, Fog
Planter Park	Maple & B Street		Earthquake, 500-Year Floodplain, Fog
Schelling Park	Pine & Filbert		Earthquake, 500-Year Floodplain, Fog
Mixture Park	Pine & E Street		Earthquake, 500-Year Floodplain, Fog
Schroth Park	Vine & Belmont Road		Earthquake, 500-Year Floodplain, Fog
Unger Park	Belmont Road & Glaze Avenue		Earthquake, 500-Year Floodplain, Fog
Brickhouse Park	Palm & Filbert		Earthquake, 500-Year Floodplain, Fog
Water Tower Park	Pine Street and B Street		Earthquake, 500-Year Floodplain, Fog
Exeter Bark Park	F Street / Palm		Earthquake, 500-Year Floodplain, Fog
Public Golf Course (Privately owned)	510 W. Visalia Road		Earthquake, 500-Year Floodplain, Fog

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Exeter Airport (Not a municipal facility)	Belmont Road, south of Avenue 256		Earthquake, 500-Year Floodplain, Fog
Pump Station	350 W. Firebaugh		Earthquake, 500-Year Floodplain, Fog
Pump Station	Belmont Road and Glaze Avenue		Earthquake, 500-Year Floodplain, Fog
Pump Station	Vine Street and Belmont Road		Earthquake, 500-Year Floodplain, Fog
Pump Station	Orange Avenue and Firebaugh		Earthquake, 500-Year Floodplain, Fog
Filbert Lift Station	Filbert Road and King Street		Earthquake, 500-Year Floodplain, Fog
Industrial Lift Station	Firebaugh and Industrial Drive		Earthquake, 500-Year Floodplain, Fog
Lenox Lift Station	Lenox Avenue and Bryant Court		Earthquake, 500-Year Floodplain, Fog
A & W Lift Station	Kaweah Avenue and Sequoia Drive		Earthquake, 500-Year Floodplain, Fog
Rocky Hill Lift Station	Sequoia Drive between D Street and B Street		Earthquake, 500-Year Floodplain, Fog
Visalia Road Lift Station	Visalia Road and Belmont Road		Earthquake, 500-Year Floodplain, Fog
Quince Lift Station	Alley between Willow Street, Vine Street, Orange Avenue and Quince Avenue		Earthquake, 500-Year Floodplain, Fog
Kaweah Trailer Park Lift Station (Privately maintained)	Kaweah Avenue south of Firebaugh		Earthquake, 500-Year Floodplain, Fog
Rancho Lift Station (Privately maintained)	On Albert Avenue, north of Visalia Road		Earthquake, 500-Year Floodplain, Fog
Self Help Lift Station (Privately maintained)	Belmont Road, south of Visalia Road		
Water Retention Pond – “Brickyard”	Belmont Road north of SJVRR tracks		Earthquake, 500-Year Floodplain, Fog
Exeter Water Tower	Pine Street and B Street		Earthquake, 500-Year Floodplain, Fog
Water Retention Pond – “Park Place”	Belmont Road, North of SJVRR tracks		Earthquake, 500-Year Floodplain, Fog
Water Retention Pond – “City Yard”	Rear of Corporation Yard – 350 West Firebaugh		Earthquake, 500-Year Floodplain, Fog
Well E-5W (not in service)	East Willow Street, east of South D Street		Earthquake, 500-Year Floodplain, Fog
Well E6-W	Palm Avenue and G Street		Earthquake, 500-Year Floodplain, Fog
Well E9-W	Behind 655 W. Visalia Road		Earthquake, 500-Year Floodplain, Fog
Well E-10W (not in service)	Industrial Drive, south of Firebaugh		Earthquake, 500-Year Floodplain, Fog
Well E-11W	Belmont Road, south of Visalia Road		Earthquake, 500-Year Floodplain, Fog

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Well E-12W	Kaweah Avenue, south of Atkinson Way		Earthquake, 500-Year Floodplain, Fog
Well E-13W	Belmont Road and Glaze Avenue		Earthquake, 500-Year Floodplain, Fog
Well E-14W	South Filbert Road, north of Atwood Avenue		Earthquake, 500-Year Floodplain, Fog

**Critical Facilities:** The City has identified the following infrastructure in **Table B-4** as critical facilities:

<b>Table B-4: Exeter Critical Facilities</b>		
<b>Facility</b>	<b>Address</b>	<b>Value</b>
A & W Lift Station	Kaweah Avenue and Sequoia Drive	
Exeter City Hall	Exeter City Hall	
137 North F Street	137 North F Street	
Exeter Administration & Police Department	Exeter Administration & Police Department	
100 N. C Street	100 N. C Street	
Filbert Lift Station	Filbert Lift Station	
Filbert Road and King Street	Filbert Road and King Street	
Industrial Lift Station	Industrial Lift Station	
Waste Water Treatment Facility	1906 W. Myer	

### **Vulnerabilities and Potential Losses:**

A risk assessment determines the vulnerability of assets within the City by evaluating the inventory of City owned existing property and the population exposed to a hazard. A quantitative vulnerability assessment is limited to the exposure buildings, and infrastructures to the identified hazards. This risk assessment includes only those hazards that are natural.

### **Populations and Businesses at Risk**

Residential population data for the City was obtained from the State of California Department of Finance E-1 Population Estimates for Cities, Counties, and the State—January 1, 2016/2017. The population is estimated to be 10,774 in an area of 2.26 square miles. There are 3,600 residential units with a median value of \$165,300.

The largest industries are food and agriculture, retail sales and health care. Major employers in Exeter include Waterman Industries, Svenhard’s Swedish Bakery and Peninsula Packaging.

### **Economic Risks**

The economy of Exeter is largely based on agriculture and food production. A variety of crops are cultivated with a large concentration in citrus.

### **Vulnerability and Potential Losses**

FEMA requires that an estimation of loss be conducted for the identified hazards to include the number of potential structures impacted by the hazards and the total potential costs. The analysis of potential losses

## 2017 Tulare County MJLHMP - Annex B City of Exeter

calculated in **Table B-5** used the best data currently available to produce an understanding of potential loss. These estimates may be used to understand relative risk from hazards and potential losses. There are uncertainties in any loss estimation method, resulting from lack of scientific study and the exact result of hazard effects on the built environment, and from the use of approximations that are necessary for a comprehensive analysis.

<b>Table B-5: Summary of Vulnerabilities and Potential Loss</b>	
<b>Hazard Type</b>	<b>Impacts/Costs</b>
Climate Change	<p><u>Impacts:</u> Climate change will cause multiple effects to infrastructure and community public health. Warmer weather associated with climate change will result in more heat related illness. Drier weather will place increasing demands on imported and well water, and may lead to long lasting draughts that result in water rationing.</p> <p><u>Costs:</u> Climate change costs are difficult to specify. They will occur and accrue over centuries. As temperatures rise, additional costs for climate control such as air conditioning will occur. Less precipitation may result in depletion of stored and ground water reserves with potential for increased water costs and rationing. Much of these costs will be borne by individuals and families. Increased costs will also affect businesses and government owned facilities. Researchers at UC Berkeley (Science, May 2017) concluded that for every 1-degree Fahrenheit increase in global temperatures, the U.S. economy stands to lose about 0.7 percent of its Gross Domestic Product, with each degree of warming costing more than the last.</p>
Drought	<p><u>Impacts:</u> Drought produces a variety of impacts that span many sectors of the economy. Reduced crops productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality; and rationing are a few examples of direct impacts. These problems can result in increased prices for food and lumber, unemployment, reduced tax revenues, increased crime, and foreclosures on bank loans to farmers and businesses, and migration. Populations that rely on or are affected by a lack of water or annual rainfall are most directly affected by droughts. The City is dependent on imported water for most of its needs. During prolonged draughts, water rationing is possible resulting in potentially higher water costs and loss of private and public landscaping.</p> <p><u>Costs:</u> Potential costs from draught to the City and its communities are difficult to quantify and are dependent upon draught duration and severity. In addition to increased costs for water, prolonged draught may result in reduced property values, loss of tax revenues and migration, all of which will cause economic losses.</p>
Extreme Heat	<p><u>Impacts:</u> Extreme heat events, present serious health risks to the City’s most vulnerable populations. The effects of extreme heat (over 84°F) on human health are well documented. Increased temperature or extended periods of elevated temperatures can increase heat-related mortality, cardiovascular-related mortality, respiratory mortality, and heart attacks, while increasing hospital admissions and emergency room visits. Extreme heat can also affect a person’s ability to thermo-regulate, causing heat stress and sometimes leading to death.</p> <p><u>Costs:</u> Extreme heat results in increased electricity usage and additional health care costs. While additional power costs affect both commercial and residential properties, added health care costs impact individuals and families. Extreme heat may reduce economic activity if prolonged.</p>
Flood	<p><u>Impacts:</u> Flooding occurs in the City during periods of heavy rain due to inadequate drainage. The flat geography also contributes to ponding.</p>

## 2017 Tulare County MJLHMP - Annex B City of Exeter

	<p><u>Costs:</u> There are no accurate costs values associated with past flood events. Future flood incidents will likely result in structural damage and lost economic activity. Flood cost could be in excess of \$100,000,000. Flooding from the Penny Baker Ditch or other unnamed canals pose a potential flood vulnerability.</p>
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Based upon previously occurring incidents and the risk assessment, the following hazards are most likely to affect Exeter:

- Climate Change
- Drought
- Extreme heat
- Flood

These hazards which impact agriculture, the economic driver of the city, represent critical vulnerabilities. In addition, there are hazards that represent vulnerabilities to infrastructure. Specifically, flooding from the

B.4 CAPABILITIES ASSESSMENT

**FEMA REGULATION CHECKLIST: CAPABILITY ASSESSMENT**

**Capability Assessment**

**44 CFR § 201.6(c)(3):** – The plan must include mitigation strategies based on the jurisdiction's "existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools."

**Elements**

**C1.** Does the plan document the jurisdiction's existing authorities, policies, programs and resources, and its ability to expand on and improve these existing policies and programs? 44 CFR § 201.6(c)(3)

**C2.** Does the Plan address the jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? 44 CFR § 201.6(c)(3)(ii)

Source: FEMA, *Local Mitigation Plan Review Tool*, March 2013.

**Note:** For coverage of Elements C3 – C5, see Section 8, Mitigation Strategies. For coverage of Element C6, see Section 9, Plan Maintenance.

The reason for conducting a capability assessment is to identify Exeter's capacity to successfully implement mitigation activities. Understanding internal and external processes, resources and skills forms the basis of implementing a successful HMP. Understanding strengths and weaknesses also helps ensure that goals and objectives are realistic and attainable.

The planning team conducted an assessment of the City's capabilities that contribute to the reduction of long-term vulnerabilities to hazards. The capabilities include authorities and policies, such as legal and regulatory resources, staff, and fiscal resources. Staff resources include technical personnel such as planners/engineers with knowledge of development and land management practices, and an understanding of natural or human-caused hazards. The planning team also considered ways to expand on and improve existing policies and programs with the goal of integrating hazard mitigation into the day-to-day activities and programs of the City. In carrying out the capability assessment, several areas were examined:

- Planning and regulatory capabilities
- Administrative and technical resources
- Fiscal resources including grants, mutual aid agreements, operating funds and access to funds
- Technical and staff resources to assist in implementing/overseeing mitigation activities
- Previous and Ongoing Mitigation Activities

Tables B-6 through B-9 provide a list of the City's capabilities.

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**Planning and Regulatory Capabilities:** These include local ordinances, policies and laws to manage growth and development. Examples include land use plans, capital improvement plans, transportation plans, emergency preparedness and response plans, building codes and zoning ordinances.

<b>Table B-6 Exeter Planning and Regulatory Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
General Plan <b>2003</b>	<p>The City’s General Plan provides a policy base to guide future growth within the City. It was created by planners, engineers and technical staff with knowledge of land development, land management practices, as well as human-caused and natural hazards. The General Plan:</p> <ul style="list-style-type: none"> <li>• Develops and maintains the General Plan, including the Safety Element.</li> <li>• Develops area plans based on the General Plan, to provide more specific guidance for the development of more specific areas.</li> <li>• Reviews private development projects and proposed capital improvements projects and other physical projects involving property for consistency and conformity with the General Plan.</li> <li>• Anticipates and acts on the need for new plans, policies, and Code changes.</li> </ul> <p>Applies the approved plans, policies, code provisions, and other regulations to proposed land uses.</p> <p>The MJLHMP may be adopted as part of the Safety Element by the City Counsel. As the Safety Element is updated, revised hazard analysis from the MHLHMP will be incorporated. Safety Element actions will be aligned with MJLHMP mitigation measures.</p>	All	No requires update	Planning
California Building Code Enforcement	<p>The California Building Standards Code, Title 24 serves as the basis for the design and construction of buildings in California including housing, public buildings and maintenance facilities. Improved safety, sustainability, maintaining consistency, new technology and construction methods, and reliability are paramount to the development of building codes during each Triennial and Intervening Code Adoption Cycle.</p>	Earthquake, Fire, Floods, Severe winter storm/high winds		Regulatory

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Table B-6 Exeter Planning and Regulatory Capabilities				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
	<p>California’s building codes are published in their entirety every three (3) years. Amendments to California’s building standards are subject to a lengthy and transparent public participation process throughout each code adoption cycle. The California Seismic Safety Commission provides access to an array of regulatory and advisory information at:</p> <p><a href="http://www.seismic.ca.gov/cog.html">http://www.seismic.ca.gov/cog.html</a></p>			
Capital Improvement Program (CIP)	<p>The City’s CIP provides a foundation and planning tool to assist in the orderly acquisition of municipal facilities and to assure that service needs for the future are met. The CIP provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.</p> <p>The MJLHMP will be used to select potential projects for the CIP. As the CIP is updated, additional mitigation measures will be analyzed and included in the Exeter section of the MJLHMP. Funding for CIP projects identified in the MJLHMP will be reviewed for mitigation grant program eligibility.</p>	<p>Dam Failure, Earthquake, Fire, Floods, Landslides, Levee failure, Severe winter storm/high winds</p>		Planning
Municipal Service Review (MSR)	<p>MSRs are intended to provide a comprehensive analysis of service provision by each of the special districts and other service providers within the legislative authority of the (LAFCo) of a city. This analysis focuses on service providers within the City of Exeter and makes determinations in each area of evaluation. The MSR considers and makes recommendations based on the following information:</p> <ul style="list-style-type: none"> <li>• Present and planned land uses in the area.</li> <li>• Present and probable need for services in the area.</li> <li>• Present ability of each service provider to provide necessary services.</li> </ul>	All		Planning



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Table B-6 Exeter Planning and Regulatory Capabilities				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
	<ul style="list-style-type: none"> <li>The fiscal, management, and structural health of each service provider.</li> <li>The existence of any social or economic communities of interest in the area.</li> </ul>			
City Code of Ordinances	<p>The purpose of this code is to establish the minimum requirements to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation and energy conservation, and safety to life and property from fire and other hazards attributed to the built environment; to regulate and control the demolition of all buildings and structures, and for related purposes.</p> <p>The MJLHMP will provide both hazard descriptions and mitigation actions that may address energy conservation, fire protection and development in hazard prone areas. The maps of Dinuba related hazards will be used to augment other mapping products to protect public health and safety when updating City Code.</p>	Earthquake, Fire, Flooding,		Regulatory

## 2017 Tulare County MJLHMP - Annex B City of Exeter

**Administrative and Technical:** These capabilities include community (including public and private) staff and their skills and tools used for mitigation planning and implementation. They include engineers, planners, emergency managers, GIS analysts, building inspectors, grant writers, and floodplain managers.

<b>Table B-7: Exeter Administrative and Technical Capabilities</b>				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
City Public Works Department	Maintains and operates a wide range of local equipment and facilities as well as provides assistance to members of the public. Services include providing sufficient potable water, reliable waste water services, street maintenance, storm drainage systems, street cleaning, street lights and traffic signals.	All		Technical
Procurement Department	Provides a full range of municipal financial services, administers several licensing measures, and functions as the plan participant's Procurement Services Manager.	All		Technical

**Fiscal:** These capabilities include general funds, property sales, bonds, development impact fees, or other fees.

<b>Table B-8: Exeter Fiscal Capabilities</b>				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
General Fund	Program operations and specific projects.	All		Financial, Financial Services Department

**Education and Outreach:** These capabilities include programs in place such as fire safety programs, hazard awareness campaigns, public information or communications offices.

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Table B-9: Exeter Education and Outreach Capabilities				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
Tulare County Association of Governments (TCAG)	TCAG is committed to improving the quality of life for residents and visitors throughout the County. They address traffic congestion, coordinate regional transit programs to make getting around easy and convenient, work to improve air quality and strive to continue to meet national standards. TCAG addresses current and future rail needs and possibilities and gathers data which is used by the census and the public to properly forecast housing and transit needs.	All		Education and Outreach
Exeter Website <a href="https://cityofexeter.com/">https://cityofexeter.com/</a> and other social media	Provides easily accessible conduit to information about planning and zoning, permits and applications and programs that address hazard mitigation such as clean energy efforts.  The updated MJLHMP will be posted to City media sites. As the planned is reviewed annually and new updates made, information on the planning process will be included on web sites and announced on social media.	All		Education and Outreach

## 2017 Tulare County MJLHMP - Annex B City of Exeter

### B.5 MITIGATION STRATEGY

**Table B-10** lists the City specific mitigation actions from the 2011 Plan and provides their status.

Table B-10: Exeter-Specific Mitigation Actions						
No.	Selected (Y/N)	Description	Prioritization Criteria	Facility to be Mitigated (if known)	Department or Agency	Status
2	Y	Integrate the Tulare County HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	A, B, C, D, E	Not Applicable	City Planning Dept.	Ongoing – Mitigation Action 5 in 2017 MJLHMP
3	Y	Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency.	A, B, C	Unknown	City Public Works Dept.	Ongoing – Mitigation Action 6 in 2017 MJLHMP
7	Y	Acquire, relocate, or elevate residential structures, in particular those that have been identified as RL properties that are located within the 500-year floodplain.	A, B, C, D	2 RL properties are located in the City of Exeter	City Public Works Department	Not completed - Mitigation Action 8 in 2017 MJLHMP
8	Y	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	A, B, C, D	Unknown	City of Planning Dept.	Ongoing – Mitigations Action 7 in 2017 MJLHMP

**Prioritization Criteria**

- A local jurisdiction department or agency champion currently exists or can be identified
- The action can be implemented during the 5-year lifespan of the HMP
- The action may reduce expected future damages and losses (cost-benefit)
- The action mitigates a high-risk hazard
- The action mitigates multiple hazards

## 2017 Tulare County MJLHMP - Annex B City of Exeter

All of the City's mitigation strategies from the 2011 HMP are still relevant to this update. **Table B-11** contains an updated set of potential mitigation strategies for new Plan. These mitigation strategies were derived from numerous sources including the General Plan, City Code, Capital Improvement Plan and input from the public and stakeholders.

2017 Tulare County MJLHMP - Annex B City of Exeter

<b>Table B-11: Exeter- Potential Mitigation Strategies</b>			
<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
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.	All	Mit.
2	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.	All	Mit.
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.	All	Mit.
4	Designate areas with a potential for significant hazardous conditions for open space, agriculture, and other appropriate low intensity uses.	All	Mit.
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).	All	Mit.
6	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.	FR	Mit.
7	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 very high fire hazard severity zones or State responsibility area by fire hazard zone designation. Identify plans and actions to improve substandard housing structures and neighborhoods.	FR	Mit.
8	Acquire, relocate, or elevate residential structures, in particular those that have been identified as Repetitive Loss (RL) properties that are located within the 100-year floodplain.	FL	Mit.
9	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	FL	Mit.

## 2017 Tulare County MJLHMP - Annex B City of Exeter

10	Reinforce County and local ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	FL	Mit.
11	Work with FEMA Region IX to address any floodplain management issues that may have arisen/arise from the countywide DFIRM, Community Assessment Visits, and/or the DWR.	FL	Mit.
12	Increase participation in the NFIP by entering the Community Rating System program through which enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	FL	Mit.
13	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.	All	Prep.
14	Continue to promote awareness and education among residents regarding possible natural hazards, including soil conditions, earthquakes, flooding, fire hazards, and emergency procedures.	EQ, FL, FR	Mit.
15	Develop a public outreach program that informs property owners located in the dam or levee inundation areas about voluntary flood insurance.	FL, DF, LF	Mit.
16	Promote public safety programs, including neighborhood watch programs, child identification and fingerprinting, public awareness and prevention of fire hazards, and other public education efforts.	CT	Mit.
17	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.	All	Resp.
18	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.	All	Resp.
19	Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about severe valley fog and extreme heat conditions.	FG, EH	Resp.
20	Use Geographic Information Systems (GIS) technology to track fire and law enforcement response times and provide technical assistance to fire and law enforcement agencies.	FR, TR	Mit.

## 2017 Tulare County MJLHMP - Annex B City of Exeter

21	Require, where feasible, road networks (public and private) to provide for safe and ready access for emergency equipment and provide alternate routes for evacuation	All	Mit.
22	Develop a five-acre detention basin to catch all storm water running from south of town. Once storm water is collected, it is pumped into an irrigation ditch owned by Consolidated Peoples Ditch	FL	Mit.
23	Develop alternative resources for acquisition of fuel during prolonged power outages	EN	Prep.
24	Continue aggressive clearing of storm drain problem areas for mitigation/prevention of localized flooding.	FL	Mit.



## 2017 Tulare County MJLHMP - Annex B City of Exeter

A list of mitigation actions was selected from the mitigation strategies. **Table B-12** provides the mitigation 2017 MJLHMP actions for the City. New priorities for mitigation actions are listed in the table.

<b>Table B-12: Exeter - Mitigation Actions</b>					
<b>Action Number</b>	<b>Mitigation Strategy</b>	<b>Department</b>	<b>Cost</b>	<b>Priority</b>	<b>Timeframe</b>
1	Develop a five-acre detention basin to catch all storm water running from south of town. Once storm water is collected, it is pumped into an irrigation ditch owned by Consolidated Peoples Ditch	Public Works	Unknown	High	5 or more years
2	Develop alternative resources for acquisition of fuel during prolonged power outages	Public Works	Unknown	High	2-5 years
3	Continue aggressive clearing of storm drain problem areas for mitigation/prevention of localized flooding.	Public Works	Unknown	High	5 or more years
4	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.	Planning	Unknown	High	5 or more years
5	Integrate the Tulare County HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	All	Unknown	Medium	5 or more years
6	Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency.	Public Works	Unknown	Low	5 or more years
7	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	Develop ment	Unknown	High	5 or more years
8	Acquire, relocate, or elevate residential structures, in particular those that have been identified as RL properties that are located within the 500-year	Develop ment	Unknown	High	2-5 years

## 2017 Tulare County MJLHMP - Annex B City of Exeter

	floodplain. 2 RL properties are located in the City of Exeter			
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Incorporation into other plans: FEMA requires the HMP be consistent with and incorporated into other planning documents and processes In Exeter, these other planning documents include the General Plan Update, Exeter Downtown Specific Plan, Exeter Redevelopment Plan, the zoning ordinance and various infrastructure master plans. The term “consistency” in planning terms means that the general plan and the other plans have similar community goals and policies, that they advocate similar land use patterns, and they are consistent in their guidance of direction and rate of growth.

Many of the plans listed in the Capabilities Assessment mentioned in Section B.4 have not been updated since the 2011 MJLHMP was adopted. Recommended ways to use and incorporate the new Plan over the next five-year planning cycle, discussed by the Planning Team, included:

- Incorporation of the Exeter Annex into the Health and Safety Element of the City’s General Plan.
- Use of, or reference to, Plan elements in updates to general and comprehensive planning documents, codes, and ordinances
- Addition of defined mitigation actions to capital improvement programming
- Inclusion of Plan elements into development planning and practices
- Resource for developing and/or updating emergency operations plans, emergency response plans, etc.

The Plan will continue to function as a standalone document subject to its own review and revision schedule presented in Sections 7.1 and 7.2. The Plan will also serve as a reference for other mitigation and land planning needs of the participating jurisdictions. Whenever possible, each jurisdiction will endeavor to incorporate the risk assessment results and mitigation actions and projects identified in the Plan, into existing and future planning mechanisms.

At a minimum, each of the responsible agencies/departments noted in **Table 6.3 and the Annexes of Appendix J** will review and reference the Plan and revise and/or update the legal and regulatory planning documents, manuals, codes, and ordinances as appropriate. Specific incorporation of the Plan risk assessment elements into the natural resources and safety elements of each jurisdictions’ General Plans (County comprehensive plan) and development review processes, adding or revising building codes, adding or changing zoning and subdivision ordinances, and incorporating mitigation goals and strategies into general and/or comprehensive plans, will help to ensure hazard mitigated future development.

2017 Tulare County MJLHMP - Annex B City of Exeter

# 2017 Tulare County MJLHMP - Annex C City of Farmersville

## Annex C City of Farmersville

The City was incorporated in 1960. The City of Farmersville provides the following services:

- Public safety (police and fire protection, ambulance)
- Highways and streets
- Wastewater collection, treatment, and disposal
- Domestic water
- Storm drainage

The City contracts for solid waste collection and disposal.

### C.1 Community Profile

**Geography and Climate:** The City has a total area of 2.36 square miles. The City is relatively flat with an elevation of approximately 358 feet above sea level. Farmersville's climate can be described as dry Mediterranean. The summers are hot and dry, and winters are characterized by moderate temperatures and light precipitation. Temperatures and rainfall for Farmersville are typical of that of the rest of the valley floor portion of the County.

**Government:** The City was incorporated in 1960. Farmersville operates as a council-manager form of municipal government which is comprised of five council members serving four-year overlapping terms. One of the council members also serves as mayor.

**Population and Demographics:** The 2010 U.S. Census reported that Farmersville had a population of 10,588 up from 8,737 at the 2000 census. The population density was 4,688.2 people per square mile. The racial makeup of Farmersville was 5,295 (50.0%) White; 60 (0.6%) African American; 213 (2.0%) Native American; 72 (0.7%) Asian; 5 (0.0%) Pacific Islander; 4,494 (42.4%) from other races; and 449 (4.2%) from two or more races. Hispanic or Latino of any race were 8,876 persons (83.8%). The Census reported that 10,588 people (100% of the population) lived in households, no one (0%) lived in non-institutionalized group quarters, and no one (0%) was institutionalized.

In 2010, there were 2,595 households, out of which 1,639 (63.2%) had children under the age of 18 living in them, 1,474 (56.8%) were opposite-sex married couples living together, 515 (19.8%) had a female householder with no husband present, 274 (10.6%) had a male householder with no wife present. There were 257 (9.9%) unmarried opposite-sex partnerships, and 10 (0.4%) same-sex married couples or partnerships. 258 households (9.9%) were made up of individuals and 110 (4.2%) had someone living alone who was 65 years of age or older. The average household size was 4.08. There were 2,263 families (87.2% of all households); the average family size was 4.28.

**Housing:** As of 2015, there were 2,726 housing units at an average density of 1,207.0 per square mile, of which 1,590 (61.3%) were owner-occupied, and 1,005 (38.7%) were occupied by renters. The homeowner vacancy rate was 2.5%; the rental vacancy rate was 4.2%. 6,537 people (61.7% of the population) lived in owner-occupied housing units and 4,051 people (38.3%) lived in rental housing units.

## 2017 Tulare County MJLHMP - Annex C City of Farmersville

**Economy:** Farmersville serves mostly as a commuter town. Local commerce is composed of mostly small, family-owned businesses. The City also hosts a number of major chain stores and restaurants, including Family Dollar stores as well as AutoZone, Napa, and O'Reilly's auto parts stores. Major industrial manufacturers with operations in Farmersville include Cemex, Dunns Sand, and National Raisin Company which operates a fruit dehydrator in the city. La Mejor del Valle tortilla factory, a manufacturer of Mexican food products, is headquartered in Farmersville.

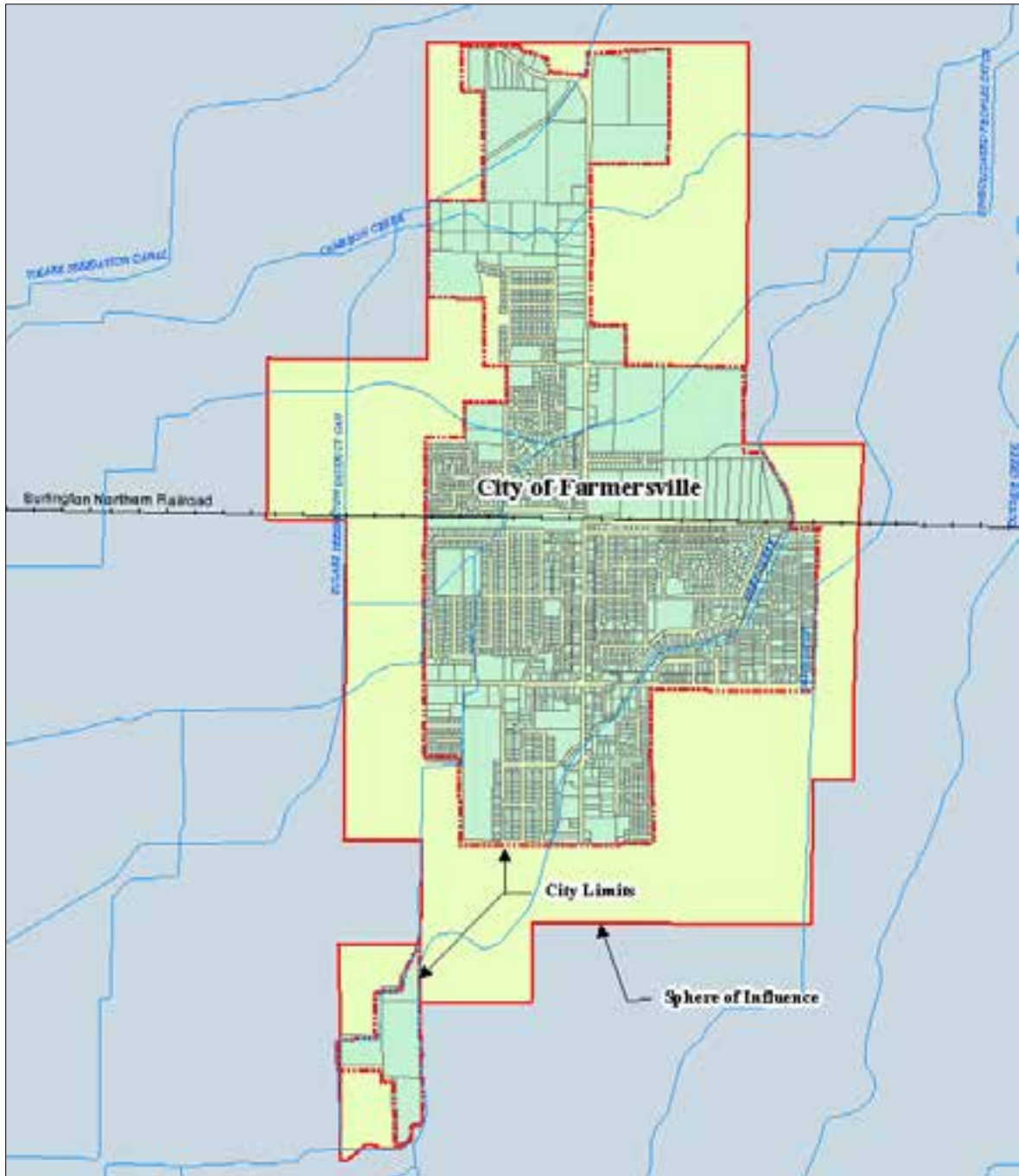
**Land use:** Farmersville's urban area is generally centered along Farmersville Boulevard, the City's major north/south roadway. The City's downtown commercial area is situated along Farmersville Boulevard generally between Visalia Road and Front Street. Additional commercial areas are located on Visalia Road, east and west of Farmersville Boulevard and on Farmersville Boulevard, north of Front Street and south of Visalia Road.

Residential neighborhoods are located throughout the City, with the oldest neighborhoods located around the intersection of Farmersville Boulevard and Visalia Road. Newer residential development is occurring in the northwest portion of the City north and south of Walnut Avenue. The City has experienced a very limited amount of industrial development; current uses include a nut/fruit drying plant, and a cement mixing plant. The City's only industrial park is located along Terry Avenue, west of Farmersville Boulevard.

Major facilities owned by the City of Farmersville include six neighborhood parks, the Farmersville Civic Center, a public works yard, one City-operated child care facility, two community centers and the City's wastewater treatment plant located southwest of the City. **Figure C-1** provides a detailed land use and zoning map of Farmersville.

## 2017 Tulare County MJLHMP - Annex C City of Farmersville

Figure C-1: Land Use and Zoning



**Development trends:** The City plans for future growth through the implementation of policies and standards set forth in its General Plan. The Farmersville General Plan Update (Collins & Schoettler Planning Consultants, September 2002) estimates a build-out population between 17,854 and 20,155, estimated to occur by year 2025. The plan's "low" population projection is based on Farmersville's average annual growth rate from 1980 to 2000 (2.9%), while its "high" population projection is based on the average

## 2017 Tulare County MJLHMP - Annex C City of Farmersville

annual growth rate from 1990 to 2000 (3.4%). The General Plan Update provides a land needs evaluation for a projected year 2025 build-out population of 17,854.

### Development in hazard prone areas:

Because population growth was less than two percent per year since approval of the 2011 MJLHMP, there has been no development in hazard prone areas that has affected overall vulnerability of the County. Development that did occur, was primarily infill in urban areas where vulnerabilities are well understood and described.

Updated dam inundation maps include a much larger area of the County. While little new development occurred in the expanded inundation zones, vulnerability to dam inundation increased substantially and now includes most of the most populace areas of the County. Updated dam inundation maps for the County and affected cities are included in **Appendix B**.

The new MJLHMP addresses the new hazard of climate change. This hazard impacts the entire City. Development in the City, the State and globally with increased carbon emissions will result in increasing overall vulnerabilities to its impacts.

### C.2 HAZARDS IDENTIFICATION AND ANALYSIS

**Hazards:** Farmersville faces many of the hazards that are present in the County. **Table C-1** below provides a summary of hazards. There are no hazards that are unique to Farmersville. Hazards in the City with unlikely frequency, limited extent, limited magnitude and low significance were not included. These include wildfire, earthquake liquefaction - subsidence, civil unrest and terrorism/cyber terrorism. The entire City is within the potential inundation zone for Terminus Dam.

<b>Table C-1: Farmersville Summary of Hazards</b>					
<b>Hazard</b>	<b>Frequency</b>	<b>Extent</b>	<b>Magnitude</b>	<b>Significance</b>	<b>Potential Locations</b>
Climate Change	Highly likely	Extensive	Catastrophic	High	Entire City
Dam Failure	Unlikely	Extensive	Catastrophic	Low	Map B-11 depicts
Drought	Likely	Extensive	Catastrophic	High	Entire City
Earthquake: Shaking	Occasional	Extensive	Limited	Low	Entire City
Flood	Occasional	Limited	Limited	Medium	Map B-10 depicts
Energy Emergency	Occasional	Extensive	Critical	Medium	Entire City
Extreme Heat	Highly Likely	Extensive	Critical	High	Entire City
Fog	Likely	Extensive	Limited	Low	Entire City
Hazardous Materials	Likely	Limited	Limited	Low	Entire City
Levee Failure	Occasional	Limited	Limited	Medium	Unknown
Pandemic and Vector Borne Disease	Likely	Extensive	Critical	Medium	Entire City
Severe Storms and High Winds	Highly Likely	Significant	Limited	Medium	Entire City

#### Guidelines for Hazard Rankings

##### Frequency of Occurrence:

Highly Likely      Near 100% probability in next year

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Likely	Between 10 and 100% probability in next year or at least one chance in ten years
Occasional	Between 1 and 10% probability in next year or at least one chance in next 100 years
Unlikely	Less than 1% probability in next 100 years

**Spatial Extent:**

Limited	Less than 10% of planning area
Significant	10-50% of planning area
Extensive	50-100% of planning area

**Potential Magnitude:**

Catastrophic	More than 50% of area affected
Critical	25 to 50% of area affected
Limited	10 to 25% of area affected
Negligible	Less than 10%

**Significance (subjective):**

low, medium, high

### C.3 RISK ASSESSMENT

The intent of this section is to assess Farmersville’s vulnerability separate from that of the Operational Area as a whole, which has already been assessed in **Section 5.3 Risk Assessment** in the base plan. This risk assessment analyzes the population, property, and other assets vulnerable to the hazards ranked of medium or high significance that may vary from other parts of the planning area. For more information about how hazards affect the County as a whole, see **Section 5** of the base plan.

**Infrastructure and Values at Risk:**

The following data was provided by the City’s Fire Chief. This data should only be used as a guideline to overall values in the City as the information has some limitations. Generally, the land itself is not a loss.

**Table C-2** shows the 2016 inventory for the City.

Table C-2: Farmersville 2016 Asset Inventory			
Name	Address	Value	Hazard Vulnerability
Armstrong Park	E. Ash Street and N. Avery Avenue	\$66,000	Earthquake, 500-Year Floodplain, Fog, Dam Flood
Child Care Facility	455 N. Linnel Avenue	\$1,176,200	Earthquake, 100-Year Floodplain, Fog, Dam Flood
Church/Museum	Front and Farmersville Boulevard	\$126,000	Earthquake, 100-Year Floodplain, Fog, Dam Flood
City Bridge #1	0.2 Mi E. Of Rd 164	\$500,000	Earthquake, 500-Year Floodplain, Flood Dam, Fog
City Bridge #2	Between Larry Street and Costner Street	\$1,000,000	Earthquake, 500-Year Floodplain, Flood Dam, Fog
City Bridge #3	0.15 Mi south of Avenue 280	\$750,000	Earthquake, Fog, Dam Flood
City Bridge #4	N. Dwight Street and Oak View Avenue	\$1,000,000	Earthquake, Dam Flood, Fog
City Hall	909 W. Visalia Road	\$4,938,700	Earthquake, Fog, Dam Flood



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<b>Table C-2: Farmersville 2016 Asset Inventory</b>			
<b>Name</b>	<b>Address</b>	<b>Value</b>	<b>Hazard Vulnerability</b>
City Well	873 S. Farmersville Boulevard	\$138,060	Earthquake, 500-Year Floodplain, Fog, Dam Flood
City Well	E. Ash and Hester	\$130,260	Earthquake, 500-Year Floodplain, Dam Flood, Fog
City Well	Front and Camelia	\$130,260	Earthquake, 500-Year Floodplain, Fog
City Well	Matthew and Walnut	\$775,580	Earthquake, 500-Year Floodplain, Fog
City Well	N. Farmersville Boulevard at Veterans Park	\$178,160	Earthquake, 500-Year Floodplain, Dam Flood, Fog
City Well	N. Farmersville Boulevard south of Noble	\$136,660	Earthquake, 100-Year Floodplain, Dam Flood, Fog
City Well	W. Ash and Matthew	\$152,960	Earthquake, 100-Year Floodplain, Fog, Dam Flood
Corporate Yard	873 S. Farmersville Boulevard	\$673,400	Earthquake, 500-Year Floodplain, Fog, Dam Flood
Farmersville Community Center	623 N. Avery	\$3,402,800	Earthquake, 500-Year Floodplain, Fog, Dam Flood
Future PD/Fire Parcel	Front west of Farmersville Boulevard	\$450,000	Earthquake, 100-year floodplain, Fog, Dam Flood
Jennings Park	N. Linnell Avenue and W. Ash Street	Unknown	Earthquake, 100-Year Floodplain, Fog, Dam Flood
Liberty Park	W. Teddy Street	\$168,797	Earthquake, 500-Year Floodplain, Fog, Dam Flood
Old City Hall	145 E. Front	\$721,821	Earthquake, 500-Year Floodplain, Fog, Dam Flood
Old Fire Station	829 N. Magnolia	\$203,800	Earthquake, 500-Year Floodplain, Fog, Dam Flood
Old Police Department	147 E. Front	\$251,000	Earthquake, 500-Year Floodplain, Fog, Dam Flood
Riverbank Park	Oakland and Farmersville Boulevard	\$5,519	Earthquake, 500-Year Floodplain, Fog, Dam Flood
Roys Park	S. Farmersville Boulevard and 0.3 Mi south of E. Oakland Street	\$98,800	Earthquake, 500-Year Floodplain, Fog, Dam Flood
Sewer Lift Station	Oakview and Ash	\$332,800	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Sewer Lift Station	Petunia and Ventura	\$234,900	Earthquake, 100-Year Floodplain, Fog, Dam Flood
Sewer Lift Station	Sandy and Yew	\$276,800	Earthquake, 500-Year Floodplain, Fog, Dam Flood
Sewer Plant	dirt extension of Virginia South of Qualls	\$799,250	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Veterans Park	Farmersville Boulevard and Citrus	\$505,766	Earthquake, 100-Year Floodplain, Fog, Dam Flood
911 Building	175 Front St	\$8,200	Earthquake, 500-Year Floodplain, Fog, Dam Flood

**Critical Facilities:** The City has identified the following infrastructure in **Table C-3** as critical facilities:

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<b>Table C-3: Farmersville Critical Facilities</b>		
<b>Facility</b>	<b>Address</b>	<b>Value</b>
City Bridge #1	0.2 Mi E. Of Rd 164	Unknown
City Bridge #2	Between Larry Street and Costner Street	Unknown
City Bridge #3	0.15 Mi south of Avenue 280	Unknown
City Bridge #4	N. Dwight Street and Oak View Avenue	Unknown
City Hall	909 W. Visalia Road	\$4,938,700
City Well	873 S. Farmersville Boulevard	\$138,060
City Well	E. Ash and Hester	\$130,260
City Well	Front and Camelia	\$130,260
City Well	Matthew and Walnut	\$775,580
City Well	N. Farmersville Boulevard at Veterans Park	\$178,160
City Well	N. Farmersville Boulevard south of Noble	\$136,660
City Well	W. Ash and Matthew	\$152,960
Corporate Yard	873 S. Farmersville Boulevard	\$673,400
Farmersville Community Center	623 N. Avery	\$3,402,800
Sewer Lift Station	Oakview and Ash	\$332,800
Sewer Lift Station	Petunia and Ventura	\$234,900
Sewer Lift Station	Sandy and Yew	\$276,800
Sewer Plant	dirt extension of Virginia South of Qualls	\$799,250

### **Vulnerabilities and Potential Losses:**

A risk assessment determines the vulnerability of assets within the City by evaluating the inventory of City owned existing property and the population exposed to a hazard. A quantitative vulnerability assessment is limited to the exposure buildings, and infrastructures to the identified hazards. This risk assessment includes only those hazards that are natural.

### **Populations and Businesses at Risk**

Residential population data for the City was obtained from the State of California Department of Finance E-1 Population Estimates for Cities, Counties, and the State—January 1, 2016/2017. The population is estimated to be 24,657 in an area of 2.36 square miles. The estimate is 2,726 residential units with a 2016 median value of \$136,869. The most common employment sectors for those who live in Farmersville are agriculture, retail trade, and manufacturing.

Major industrial manufacturers with operations in Farmersville include Cemex, Dunns Sand, and National Raisin Company which operates a fruit dehydrator in the city. La Mejor del Valle tortilla factory, a manufacturer of Mexican food products, is headquartered in Farmersville. The city also hosts a number of major chain stores and restaurants, including McDonald's, Jack-In-The-Box, Subway Sandwich Shop, Taco Bell, and Family Dollar stores as well as AutoZone, Napa, and O'Reilly's auto parts stores.

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### Economic Risks

The economy of Farmersville is largely based on agriculture and food production. The City serves mostly as a commuter town with many residents having to travel to larger population centers to seek employment. Local commerce is composed of mostly small, family-owned businesses.

### Vulnerability and Potential Losses

FEMA requires that an estimation of loss be conducted for the identified hazards to include the number of potential structures impacted by the hazards and the total potential costs. The analysis of potential losses calculated in **Table C-4** used the best data currently available to produce an understanding of potential loss. These estimates may be used to understand relative risk from hazards and potential losses. There are uncertainties in any loss estimation method, resulting from lack of scientific study and the exact result of hazard effects on the built environment, and from the use of approximations that are necessary for a comprehensive analysis.

<b>Table C-4: Summary of Vulnerabilities and Potential Loss</b>	
<b>Hazard Type</b>	<b>Impacts/Costs</b>
Climate Change	<p><u>Impacts:</u> Climate change will cause multiple effects to infrastructure and community public health. Warmer weather associated with climate change will result in more heat related illness. Drier weather will place increasing demands on imported and well water, and may lead to long lasting draughts that result in water rationing.</p> <p><u>Costs:</u> Climate change costs are difficult to specify. They will occur and accrue over centuries. As temperatures rise, additional costs for climate control such as air conditioning will occur. Less precipitation may result in depletion of stored and ground water reserves with potential for increased water costs and rationing. Much of these costs will be borne by individuals and families. Increased costs will also affect businesses and government owned facilities. Researchers at UC Berkeley (Science, May 2017) concluded that for every 1-degree Fahrenheit increase in global temperatures, the U.S. economy stands to lose about 0.7 percent of its Gross Domestic Product, with each degree of warming costing more than the last.</p>
Dam Inundation	<p><u>Impacts:</u> Dam inundation is a particularly extensive hazard to the City. Both Terminus and Success Dams may inundate Farmersville resulting in an overall potential inundation area of the entire City.</p> <p><u>Costs:</u> A rapid failure of Success or Terminus Dam would result in catastrophic loss of life and injury, and property loss. Map B-6 depicts the potential footprint for dam inundation. Specifics of the inundation curves are contained in the Dam Emergency Action Plans which are a limited distribution documents. The potential injury and death from a short notice dam failure could be in the 1,000s. Total losses within the Visalia jurisdiction could exceed \$100,000,000.</p>
Drought	<p><u>Impacts:</u> Drought produces a variety of impacts that span many sectors of the economy. Reduced crops productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality; and rationing are a few examples of direct impacts. These problems can result in increased prices for food and lumber, unemployment, reduced tax revenues, increased crime, and foreclosures on bank loans to farmers and businesses, and migration. Populations that rely on or are affected by a lack of water or annual rainfall are most directly affected by droughts. The City is dependent on imported water for most of its needs. During prolonged draughts, water rationing is possible resulting in potentially higher water costs and loss of private and public landscaping.</p>

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	<p><u>Costs:</u> Potential costs from draught to the City and its communities are difficult to quantify and are dependent upon draught duration and severity. In addition to increased costs for water, prolonged draught may result in reduced property values, loss of tax revenues and migration, all of which will cause economic losses.</p>
<p>Extreme Heat</p>	<p><u>Impacts:</u> Extreme heat events, present serious health risks to the City’s most vulnerable populations. The effects of extreme heat (over 84°F) on human health are well documented. Increased temperature or extended periods of elevated temperatures can increase heat-related mortality, cardiovascular-related mortality, respiratory mortality, and heart attacks, while increasing hospital admissions and emergency room visits. Extreme heat can also affect a person’s ability to thermo-regulate, causing heat stress and sometimes leading to death.</p> <p><u>Costs:</u> Extreme heat results in increased electricity usage and additional health care costs. While additional power costs affect both commercial and residential properties, added health care costs impact individuals and families. Extreme heat may reduce economic activity if prolonged.</p>
<p>Flood</p>	<p><u>Impacts:</u> Flooding occurs in the City during periods of heavy rain due to inadequate drainage. The flat geography also contributes to ponding.</p> <p><u>Costs:</u> There are no accurate costs values associated with past flood events. Future flood incidents will likely result in structural damage and lost economic activity. Flood cost could be in excess of \$100,000,000. Flood from the failure of Terminus Dam could destroy much of the City.</p>

Based upon previously occurring incidents and the risk assessment, the following hazards are most likely to affect Farmersville:

- Climate Change
- Dam Inundation
- Drought
- Extreme heat
- Flood

These hazards which may impact agriculture, the economic driver of the city, represent critical vulnerabilities. In addition, these are hazards that represent vulnerabilities to infrastructure. Specifically, flooding from a failure of Terminus Dam would result in catastrophic damage to the entire city and surrounding agriculture lands. Additional flooding hazards, particularly from Deep Creek, represent critical vulnerabilities. Over 40% of the population resides within the 100-year flood zone and nearly 60% reside within the 500-year flood zone. Other hazards present vulnerabilities but to a lesser extent. Mitigation action 1 in **Table C-11** was developed to address this issue.

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### C.4 CAPABILITIES ASSESSMENT

#### FEMA REGULATION CHECKLIST: CAPABILITY ASSESSMENT

##### Capability Assessment

**44 CFR § 201.6(c)(3):** – The plan must include mitigation strategies based on the jurisdiction's "existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools."

##### Elements

**C1.** Does the plan document the jurisdiction's existing authorities, policies, programs and resources, and its ability to expand on and improve these existing policies and programs? 44 CFR § 201.6(c)(3)

**C2.** Does the Plan address the jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? 44 CFR § 201.6(c)(3)(ii)

Source: FEMA, *Local Mitigation Plan Review Tool*, March 2013.

**Note:** For coverage of Elements C3 – C5, see Section 8, Mitigation Strategies. For coverage of Element C6, see Section 9, Plan Maintenance.

The reason for conducting a capability assessment is to identify Farmersville's capacity to successfully implement mitigation activities. Understanding internal and external processes, resources and skills forms the basis of implementing a successful HMP. Understanding strengths and weaknesses also helps ensure that goals and objectives are realistic and attainable.

The planning team conducted an assessment of the City's capabilities that contribute to the reduction of long-term vulnerabilities to hazards. The capabilities include authorities and policies, such as legal and regulatory resources, staff, and fiscal resources. Staff resources include technical personnel such as planners/engineers with knowledge of development and land management practices and an understanding of natural or human-caused hazards. The planning team also considered ways to expand on and improve existing policies and programs with the goal of integrating hazard mitigation into the day-to-day activities and programs of the City. In carrying out the capability assessment, several areas were examined:

- Planning and regulatory capabilities
- Administrative and technical resources
- Fiscal resources including grants, mutual aid agreements, operating funds and access to funds
- Technical and staff resources to assist in implementing/overseeing mitigation activities
- Previous and Ongoing Mitigation Activities

Tables C-5 through C-8 provide a list of the City's capabilities.

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**Planning and Regulatory Capabilities:** These include local ordinances, policies and laws to manage growth and development. Examples include land use plans, capital improvement plans, transportation plans, emergency preparedness and response plans, building codes and zoning ordinances.

<b>Table C-5 Farmersville Planning and Regulatory Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
General Plan 2002	<p>The City's General Plan provides a policy base to guide future growth within the City. It was created by planners, engineers and technical staff with knowledge of land development, land management practices, as well as human-caused and natural hazards. The General Plan:</p> <ul style="list-style-type: none"> <li>• Develops and maintains the General Plan, including the Safety Element.</li> <li>• Develops area plans based on the General Plan, to provide more specific guidance for the development of more specific areas.</li> <li>• Reviews private development projects and proposed capital improvements projects and other physical projects involving property for consistency and conformity with the General Plan.</li> <li>• Anticipates and acts on the need for new plans, policies, and Code changes.</li> </ul> <p>Applies the approved plans, policies, code provisions, and other regulations to proposed land uses.</p> <p>The MJLHMP may be adopted as part of the Safety Element by the City Counsel. As the Safety Element is updated, revised hazard analysis from the MHLHMP will be incorporated. Safety Element actions will be aligned with MJLHMP mitigation measures.</p>	All	No requires update	Planning
California Building Code Enforcement	The California Building Standards Code, Title 24 serves as the basis for the design and construction of buildings in California including housing, public buildings and maintenance facilities. Improved safety, sustainability, maintaining consistency, new technology and construction methods, and	Earthquake, Fire, Floods, Severe winter storm/high winds		Regulatory

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Table C-5 Farmersville Planning and Regulatory Capabilities				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
	<p>reliability are paramount to the development of building codes during each Triennial and Intervening Code Adoption Cycle.</p> <p>California’s building codes are published in their entirety every three (3) years. Amendments to California’s building standards are subject to a lengthy and transparent public participation process throughout each code adoption cycle. The California Seismic Safety Commission provides access to an array of regulatory and advisory information at: <a href="http://www.seismic.ca.gov/cog.html">http://www.seismic.ca.gov/cog.html</a></p>			
Capital Improvement Program (CIP)	<p>The City’s CIP provides a foundation and planning tool to assist in the orderly acquisition of municipal facilities and to assure that service needs for the future are met. The CIP provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.</p> <p>The MJLHMP will be used to select potential projects for the CIP. As the CIP is updated, additional mitigation measures will be analyzed and included in the Farmersville section of the MJLHMP. Funding for CIP projects identified in the MJLHMP will be reviewed for mitigation grant program eligibility.</p>	Dam Failure, Earthquake, Fire, Floods, Landslides, Levee failure, Severe winter storm/high winds	Ongoing	Planning
Tulare County Municipal Service Review (MSR)	<p>MSRs are intended to provide a comprehensive analysis of service provision by each of the special districts and other service providers within the legislative authority of the (LAFCo) of a city. This analysis focuses on service providers within the City of Farmersville and makes determinations in each area of evaluation. The MSR considers and makes recommendations based on the following information:</p> <ul style="list-style-type: none"> <li>• Present and planned land uses in the area.</li> <li>• Present and probable need for services in the area.</li> <li>• Present ability of each service provider to provide necessary services.</li> </ul>	All		Planning

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Table C-5 Farmersville Planning and Regulatory Capabilities				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
	<ul style="list-style-type: none"> <li>The fiscal, management, and structural health of each service provider.</li> <li>The existence of any social or economic communities of interest in the area.</li> </ul>			
City Code of Ordinances	<p>The purpose of this code is to establish the minimum requirements to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation and energy conservation, and safety to life and property from fire and other hazards attributed to the built environment; to regulate and control the demolition of all buildings and structures, and for related purposes.</p> <p>The MJLHMP will provide both hazard descriptions and mitigation actions that may address energy conservation, fire protection and development in hazard prone areas. The maps of Farmersville related hazards will be used to augment other mapping products to protect public health and safety when updating City Code.</p>	Earthquake, Fire, Flooding,		Regulatory
1989 Storm Drain Master Plan	<p>Identifies remedial work necessary to bring the system up to current design standards, and additional systems to accommodate future development. The Community Infrastructure Study identifies the more serious problem areas, and suggests solutions. With regard to storm drainage improvements, the Community Infrastructure Study identifies one “urgent priority” improvement, one “high priority” improvement, and several medium and low priority projects.</p> <p>As the Storm Drain Master Plan is update, flooding mitigation measures in the MJLHMP Farmersville Annex will be considered for inclusion as improvement projects. These include Farmersville mitigation action 1.</p>	Flooding		Planning



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<b>Table C-5 Farmersville Planning and Regulatory Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
1993 Water System Master Plan	Evaluated the adequacy and reliability of the City water supply system by determining if the system had reliable standby capacity and adequate flow capacity.	Drought		Planning

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**Administrative and Technical:** These capabilities include community (including public and private) staff and their skills and tools used for mitigation planning and implementation. They include engineers, planners, emergency managers, GIS analysts, building inspectors, grant writers, and floodplain managers.

<b>Table C-6: Farmersville Administrative and Technical Capabilities</b>				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
City Public Works Department	Maintains and operates a wide range of local equipment and facilities as well as provides assistance to members of the public. Services include providing sufficient potable water, reliable waste water services, street maintenance, storm drainage systems, street cleaning, street lights and traffic signals.	All		Technical
Procurement Department	Provides a full range of municipal financial services, administers several licensing measures, and functions as the plan participant's Procurement Services Manager.	All		Technical
City Fire Department	The City of Farmersville currently has four full time firefighters that operates the single fire station in the City. The remaining fire rescue crew consists of 25 volunteers.	All		Technical

**Fiscal:** These capabilities include general funds, property sales, bonds, development impact fees, or other fees.

<b>Table C-7: Farmersville Fiscal Capabilities</b>				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
General Fund	Program operations and specific projects.	All		Financial, Financial Services Department

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**Education and Outreach:** These capabilities include programs in place such as fire safety programs, hazard awareness campaigns, public information or communications offices.

<b>Table C-8: Farmersville Education and Outreach Capabilities</b>				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
Tulare County Association of Governments (TCAG)	TCAG is committed to improving the quality of life for residents and visitors throughout the County. They address traffic congestion, coordinate regional transit programs to make getting around easy and convenient, work to improve air quality and strive to continue to meet national standards. TCAG addresses current and future rail needs and possibilities and gathers data which is used by the census and the public to properly forecast housing and transit needs.	All		Education and Outreach
Farmersville Website <a href="http://www.cityoffarmersville-ca.gov">http://www.cityoffarmersville-ca.gov</a> and other social media	Provides easily accessible conduit to information about planning and zoning, permits and applications and programs that address hazard mitigation such as clean energy efforts.  The updated MJLHMP will be posted to City media sites. As the planned is reviewed annually and new updates made, information on the planning process will be included on web sites and announced on social media.	All		Education and Outreach

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### C.5 MITIGATION STRATEGY

**Table C-9** lists the City specific mitigation actions from the 2011 Plan and provides their status.

Table C-9: Farmersville-Specific Mitigation Actions						
No.	Selected (Y/N)	Description	Prioritization Criteria	Facility to be Mitigated (if known)	Department or Agency	Status
2	Y	Integrate the Tulare County HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	A, B, C, D, E	Not Applicable	City Planning Dept.	Ongoing – Mitigation Action 2 in 2017 MJLHMP
8	Y	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	A, B, C, D	Unknown	Enforcement	Ongoing – Mitigation Action 3 in 2017 MJLHMP
10	Y	Work with FEMA Region IX to address any floodplain management issues that may have arisen/arise from the countywide DFIRM, Community Assessment Visits, and/or DWR.	A, B, C, D, E	Unknown	Enforcement	Ongoing – Mitigation Action 4 in 2017 MJLHMP

**Prioritization Criteria**

- A local jurisdiction department or agency champion currently exists or can be identified
- The action can be implemented during the 5-year lifespan of the HMP
- The action may reduce expected future damages and losses (cost-benefit)
- The action mitigates a high-risk hazard
- The action mitigates multiple hazards

All of the City’s mitigation strategies from the 2011 HMP are still relevant to this update. **Table C-10** contains an updated set of potential mitigation strategies for new Plan. These mitigation strategies were derived from numerous sources including the General Plan, City Code, Capital Improvement Plan and input from the public and stakeholders.

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<b>Table C-10: Farmersville – Potential Mitigation Strategies</b>			
<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
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.	All	Mit.
2	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.	All	Mit.
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.	All	Mit.
4	Designate areas with a potential for significant hazardous conditions for open space, agriculture, and other appropriate low intensity uses.	All	Mit.
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).	All	Mit.
6	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.	FR	Mit.
7	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 very high fire hazard severity zones or state responsibility area by fire hazard zone designation. Identify plans and actions to improve substandard housing structures and neighborhoods.	FR	Mit.
8	Acquire, relocate, or elevate residential structures, in particular those that have been identified as Repetitive Loss (RL) properties that are located within the 100-year floodplain.	FL	Mit.
9	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	FL	Mit.

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10	Reinforce County and local ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	FL	Mit.
11	Work with FEMA Region IX to address any floodplain management issues that may have arisen/arise from the countywide DFIRM, Community Assessment Visits, and/or the DWR.	FL	Mit.
12	Increase participation in the NFIP by entering the Community Rating System program through which enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	FL	Mit.
13	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.	All	Prep.
14	Continue to promote awareness and education among residents regarding possible natural hazards, including soil conditions, earthquakes, flooding, fire hazards, and emergency procedures.	EQ, FL, FR	Mit.
15	Develop a public outreach program that informs property owners located in the dam or levee inundation areas about voluntary flood insurance.	FL, DF, LF	Mit.
16	Promote public safety programs, including neighborhood watch programs, child identification and fingerprinting, public awareness and prevention of fire hazards, and other public education efforts.	CT	Mit.
17	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.	All	Resp.
18	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.	All	Resp.
19	Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about severe valley fog and extreme heat conditions.	FG, EH	Resp.
20	Use Geographic Information Systems (GIS) technology to track fire and law enforcement response times and provide technical assistance to fire and law enforcement agencies.	FR, TR	Mit.

## 2017 Tulare County MJLHMP - Annex C City of Farmersville

21	Require, where feasible, road networks (public and private) to provide for safe and ready access for emergency equipment and provide alternate routes for evacuation	All	Mit.
22	Build upon previously funded restoration projects such as Deep Creek to further restore Deep Creek and other waterways by conducting vegetation management and channel maintenance to reduce the potential for flooding.	FL	Mit.

A list of mitigation actions was selected from the mitigation strategies. **Table C-11** provides the mitigation 2017 MJLHMP actions for the City. New priorities for mitigation actions are listed in the table.

<b>Table C-11: Farmersville - Mitigation Actions</b>					
<b>Action Number</b>	<b>Mitigation Strategy</b>	<b>Department</b>	<b>Cost</b>	<b>Priority</b>	<b>Timeframe</b>
1	Build upon previously funded restoration projects such as Deep Creek to further restore Deep Creek and other waterways by conducting vegetation management and channel maintenance to reduce the potential for flooding.	Public Works	Unknown	High	Within 1 year
2	Integrate the Tulare County HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	All	Unknown	Medium	5 or more years
3	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	Development	Unknown	High	5 or more years
4	Work with FEMA Region IX to address any floodplain management issues that may have arisen/arise from the countywide DFIRM, Community Assessment Visits, and/or DWR.	Development	Unknown	High	2-5 years

Incorporation into other plans: FEMA requires the HMP be consistent with and incorporated into other planning documents and processes. In Farmersville, these other planning documents and process include the General Plan Update, the City Code zoning ordinances and various infrastructure master plans. The term incorporated in planning terms means that the HMP and the other plans have similar community goals and policies, that they advocate similar land use patterns, and they are consistent in their guidance

## 2017 Tulare County MJLHMP - Annex C City of Farmersville

of direction and rate of growth. As other plans are updated or created, the HMP should be used as guidance.

Many of the plans listed in the Capabilities Assessment mentioned in Section C.4 have not been updated since the 2011 MJLHMP was adopted. Recommended ways to use and incorporate the new Plan over the next five-year planning cycle, discussed by the Planning Team, included:

- Incorporation of the Farmerville Annex into the Health and Safety Element of the City's General Plan.
- Use of, or reference to, Plan elements in updates to general and comprehensive planning documents, codes, and ordinances
- Addition of defined mitigation actions to capital improvement programming
- Inclusion of Plan elements into development planning and practices
- Resource for developing and/or updating emergency operations plans, emergency response plans, etc.

The Plan will continue to function as a standalone document subject to its own review and revision schedule presented in Sections 7.1 and 7.2. The Plan will also serve as a reference for other mitigation and land planning needs of the participating jurisdictions. Whenever possible, each jurisdiction will endeavor to incorporate the risk assessment results and mitigation actions and projects identified in the Plan, into existing and future planning mechanisms.

At a minimum, each of the responsible agencies/departments noted in **Table 6.3 and the Annexes of Appendix J** will review and reference the Plan and revise and/or update the legal and regulatory planning documents, manuals, codes, and ordinances as appropriate. Specific incorporation of the Plan risk assessment elements into the natural resources and safety elements of each jurisdictions' General Plans (County comprehensive plan) and development review processes, adding or revising building codes, adding or changing zoning and subdivision ordinances, and incorporating mitigation goals and strategies into general and/or comprehensive plans, will help to ensure hazard mitigated future development.





## Annex D City of Lindsay

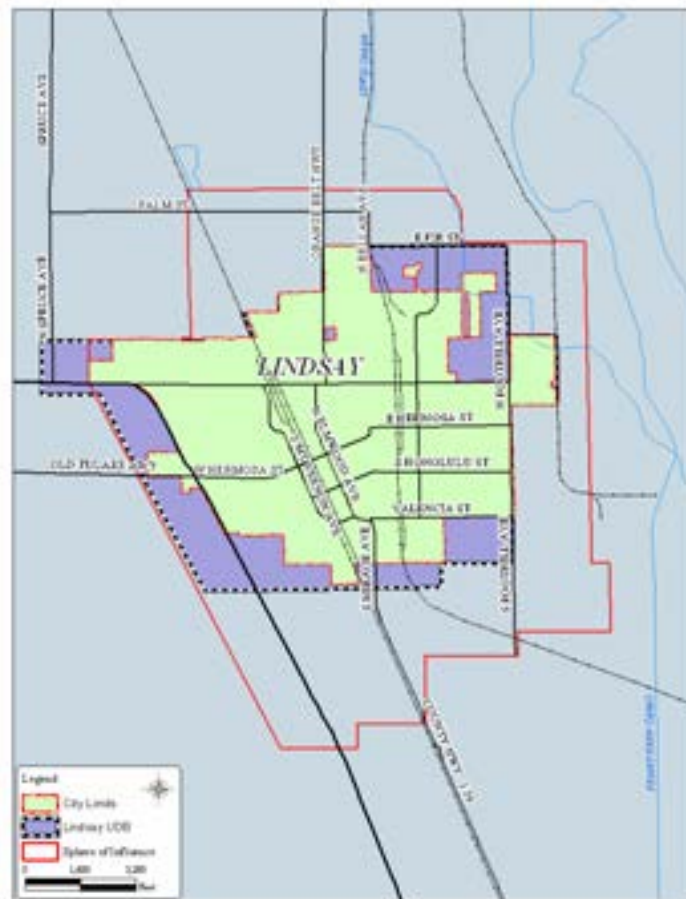
The City of Lindsay was founded in 1889 and incorporated in 1910. The City provides the following services:

- Public safety (police and fire protection, ambulance)
- Highways and streets
- Wastewater collection, treatment, and disposal
- Domestic water
- Storm drainage

The City contracts for solid waste collection and disposal.

Figure D-1 provides a map of Lindsay.

Figure D-1: Lindsay Map



## 2017 Tulare County MJLHMP - Annex D City of Lindsay

### D.1 Community Profile

**Geography and Climate:** The city has a total area of 2.6 square miles. The City is relatively flat with an elevation of approximately 387 feet above sea level. Lindsay's climate can be described as dry Mediterranean. The summers are hot and dry, and winters are characterized by moderate temperatures and light precipitation. Temperatures and rainfall for Lindsay are typical of that of the rest of the valley floor portion of the County.

**Government:** Lindsay operates as a council-manager form of municipal government which is comprised of five council members serving four-year overlapping terms. The mayor is elected separately.

**Population and Demographics:** The 2010 U.S. Census reported that Lindsay had a population of 11,768. The population density was 4,509.4 people per square mile (1,741.1/km<sup>2</sup>). The racial makeup of Lindsay was 6,480 (55.1%) White; 85 (0.7%) African American; 128 (1.1%) Native American; 267 (2.3%) Asian; 4 (0.0%) Pacific Islander; 4,367 (37.1%) from other races; and 437 (3.7%) from two or more races. Hispanic or Latino of any race were 10,056 persons (85.5%). The Census reported that 11,672 people (99.2% of the population) lived in households, no one (0%) lived in non-institutionalized group quarters, and 96 people (0.8%) were institutionalized.

There were 3,014 households, out of which 1,890 (62.7%) had children under the age of 18 living in them, 1,719 (57.0%) were opposite-sex married couples living together, 578 (19.2%) had a female householder with no husband present, 233 (7.7%) had a male householder with no wife present. There were 242 (8.0%) unmarried opposite-sex partnerships, and 19 (0.6%) same-sex married couples or partnerships. 401 households (13.3%) were made up of individuals and 210 (7.0%) had someone living alone who was 65 years of age or older. The average household size was 3.87. There were 2,530 families (83.9% of all households); the average family size was 4.21

**Housing:** There were 3,193 housing units at an average density of 1,223.5 per square mile, of which 1,526 (50.6%) were owner-occupied, and 1,488 (49.4%) were occupied by renters. The homeowner vacancy rate was 2.0%; the rental vacancy rate was 6.2%. 5,909 people (50.2% of the population) lived in owner-occupied housing units and 5,763 people (49.0%) lived in rental housing units.

**Economy:** Lindsay serves primarily as a bedroom town. Local commerce is composed of mostly small, family-owned businesses. The economy of Lindsay is largely based on agriculture and food production.

**Land use:** Lindsay is located along State Highway 65 approximately midway between the community of Strathmore and the City of Lindsay (approximately 5 miles north of Strathmore and 7 miles south of Exeter).

Major transportation routes serving Lindsay include State Highway 65, State Highway 137, State Route 63, State Highway 99, and State Highway 198. Lindsay's close vicinity to these major transportation routes provides an attractive location for industrial activity, and trucking related operations. Lindsay has reached a threshold where its greatest challenge is to attract and sustain economic growth that will be beneficial to its citizens, while enhancing the physical and cultural character of the community. While residents of

## 2017 Tulare County MJLHMP - Annex D City of Lindsay

Lindsay enjoy the slow pace of a small rural community, the City has aggressively pursued economic development opportunities through new industrial and commercial projects.

The Lindsay planning area is dominated by residential, commercial and industrial use, with supporting public and semi-public facilities such as schools, parks, government offices, churches, hospital and public utilities. The City is surrounded by agricultural land which is mostly devoted to orange and olive groves, with some irrigated pasture and field crops to the north. In comparison with other cities in Tulare County, the Lindsay urban area is compact with relatively little developed area within the unincorporated fringe.

**Development trends:** The City plans for future growth through the implementation of policies and standards set forth in its General Plan which states that development is to occur only within the incorporated City Limits with certain exceptions. **Table D-1** provides a projection for population growth in Lindsay.

Table D -1: Lindsay Historic and Projected Population Growth			
Year	Tulare County	Lindsay	% of Total County Population
1990	311,921	8,338	2.7%
2000	368,021	10,297	2.8%
2010	442,179	11,768	2.7%
2025	594,719	16,391	2.8%
2030	650,466	18,098	2.8%

Notes: 1) 1990 to 2010 population data based on U.S. Census Data

2) 2025 to 2030 population projection based in 1990 to 2010 average annual growth rates

### Development in hazard prone areas:

Because population growth was less than two percent per year since approval of the 2011 MJLHMP, there has been no development in hazard prone areas that has affected overall vulnerability of the County. Development that did occur, was primarily infill in urban areas where vulnerabilities are well understood and described.

The new MJLHMP addresses the new hazard of climate change. This hazard impacts the entire City. Development in the City, the State and globally with increased carbon emissions will result in increasing overall vulnerabilities to its impacts.

## D.2 HAZARDS IDENTIFICATION AND ANALYSIS

**Hazards:** Lindsay faces many of the hazards that are present in the County. **Table D-2** below provides a summary of hazards. Hazards in the City with unlikely frequency, limited extent, limited magnitude and low significance were not included. These include dam failure, wild fire, earthquake liquefaction - subsidence, civil unrest and terrorism/cyber terrorism.

## 2017 Tulare County MJLHMP - Annex D City of Lindsay

<b>Table D-2: Lindsay Summary of Hazards</b>					
<b>Hazard</b>	<b>Frequency</b>	<b>Extent</b>	<b>Magnitude</b>	<b>Significance</b>	<b>Location</b>
Climate Change	Highly	Extensive	Catastrophic	High	Entire City
Drought	Likely	Extensive	Catastrophic	High	Entire City
Earthquake: Shaking	Occasional	Extensive	Limited	Low	Entire City
Flood	Likely	Extensive	Critical	High	Map B-12 depicts
Energy Emergency	Occasional	Extensive	Critical	Medium	Entire City
Extreme Heat	Highly	Extensive	Critical	High	Entire City
Fire	Unlikely	Limited	Limited	Low	Entire City
Fog	Likely	Extensive	Limited	Low	Entire City
Hazardous Materials	Likely	Limited	Limited	Low	Entire City
Levee Failure	Occasional	Limited	Limited	Medium	Entire City
Pandemic and Vector Borne Disease	Likely	Extensive	Critical	Medium	Entire City
Severe Storms and High Winds	Highly Likely	Significant	Limited	Medium	Entire City

### Guidelines for Hazard Rankings

#### Frequency of Occurrence:

Highly Likely	Near 100% probability in next year
Likely	Between 10 and 100% probability in next year or at least one chance in ten years
Occasional	Between 1 and 10% probability in next year or at least one chance in next 100 years
Unlikely	Less than 1% probability in next 100 years

#### Spatial Extent:

Limited	Less than 10% of planning area
Significant	10-50% of planning area
Extensive	50-100% of planning area

#### Potential Magnitude:

Catastrophic	More than 50% of area affected
Critical	25 to 50% of area affected
Limited	10 to 25% of area affected
Negligible	Less than 10%

#### Significance (subjective):

low, medium, high

### D.3 RISK ASSESSMENT

The intent of this section is to assess Lindsay’s vulnerability separate from that of the Operational Area as a whole, which has already been assessed in **Section 5.3 Risk Assessment** in the base plan. This risk assessment analyzes the population, property, and other assets vulnerable to the hazards ranked of medium or high significance that may vary from other parts of the planning area. For more information about how hazards affect the County as a whole **see Section 5** of the base plan.

#### Infrastructure and Values at Risk:

The following data was provided by the Director of City Services. This data should only be used as an estimate to determine overall values in the City as the information has some limitations. Generally, the land itself is not a loss. **Table D-3** shows the 2016 inventory for the City.

## 2017 Tulare County MJLHMP - Annex D City of Lindsay

<b>Table D-3: Lindsay 2016 Asset Inventory</b>			
<b>Name</b>	<b>Address</b>	<b>Value</b>	<b>Hazard Vulnerability</b>
CCPI Discharge Line-3 booster pumps	23620 Road 180	\$1,500,000	Earthquake, 500-Year Floodplain, Dam Flood, Fog
City Park	Parkside Avenue and E. Alameda Street	\$3,000,000	Earthquake, 500-Year Floodplain, Fog
City Services Department	150 N. Mirage Avenue	\$150,000	Earthquake, Fog
F.M. Moore Building	Honolulu Street	\$20,000	Earthquake, 500-Year Floodplain, Fog
Friant Kern Canal	E. Honolulu Street	\$500,000	Earthquake, 500-Year Floodplain, Fog
Harvard Park	N. Harvard Avenue	\$500,000	Earthquake, 100-Year Floodplain, Fog
Harvard Ponding Basin	N. Harvard Avenue and E. Tulare Rd	\$500,000	Earthquake, 100-Year Floodplain, Fog
Hickory Lift Station	Hickory/Tulare Road	\$250,000	Earthquake, Fog
Kaku Park	N. Olive Avenue and W. Samoa Street	\$200,000	Earthquake, Fog
Lindsay Chamber of Commerce/Sierra Vista Plaza	133 W. Honolulu Street	\$150,000	Earthquake, Fog
Lindsay City Hall	251 E. Honolulu Street	\$1,000,000	Earthquake, Fog
Lindsay Corporation Yard	476 N. Mount Vernon Avenue	\$250,000	Earthquake, Fog
Lindsay Department of Public Safety	185 N. Gale Hill Avenue	\$250,000	Earthquake, Fog
Lindsay Historical Museum	Gale Hill Avenue	\$100,000	Earthquake, 500-Year Floodplain, Fog
Lindsay Library	157 N. Mirage Avenue	\$500,000	Earthquake, Fog
Lindsay Library	157 N. Mirage Avenue	\$500,000	Earthquake, Fog
Lindsay Municipal Golf Course	801 N. Elmwood Avenue	\$500,000	Earthquake, 500-Year Floodplain, Fog
Lindsay School District Transportation Yard	250 N. Harvard Avenue	\$1,000,000	Earthquake, 100-Year Floodplain, Fog
Lindsay Sewer Treatment Facility	23611 Rd. 196	\$30,000,000	Earthquake, Fog
Lindsay Wellness Center/Aquatic Center	740 N. Sequoia Avenue	\$2,500,000	Earthquake, 500-Year Floodplain, Fog
Lindsay/Strathmore Memorial Building	775 N. Elmwood Avenue	\$350,000	Earthquake, 500-Year Floodplain, Fog
Mariposa Ponding Basin	10 Acres Mariposa/Hwy 65	\$150,000	Earthquake, Fog
Mason House Museum and Gallery	147 N. Gale Hill Avenue	\$125,000	Earthquake, Fog
McDermont Field House & Sports Facility	365 N. Sweetbrier Avenue	\$18,000,000	Earthquake, Fog
McGregor building	130 N. Sweetbrier Avenue	\$75,000	Earthquake, Fog
Mt. Whitney Building	181 E. Honolulu Street	\$500,000	Earthquake, Fog
Old Jail	S. Sweetbrier Avenue and W. Honolulu Street	\$5,000	Earthquake, Fog

## 2017 Tulare County MJLHMP - Annex D City of Lindsay

<b>Table D-3: Lindsay 2016 Asset Inventory</b>			
<b>Name</b>	<b>Address</b>	<b>Value</b>	<b>Hazard Vulnerability</b>
Olive Bowl Baseball stadium	S. Olive Avenue and W. Apia Street	\$700,000	Earthquake, Fog
Parking lot	E. Elmwood Avenue and E. Honolulu Street	\$100,000	Earthquake, Fog
Lindsay Community Center	911 N. Parkside Avenue	\$250,000	Earthquake, 500-Year Floodplain, Fog
Sequoia Lift Station	Sequoia/Hickory	\$500,000	Earthquake, Fog
Sequoia Ponding Basin	Sequoia Avenue and E. Alameda Street	\$250,000	Earthquake, 500-Year Floodplain, Fog
Sweet Brier Plaza	195 N Sweetbriar Avenue	\$2,000,000	Earthquake, Fog
Well # 11	W. Mariposa Street	\$1,500,000	Earthquake, Fog
Well # 14	Avenue 242	\$1,500,000	Earthquake, Fog
Well # 15	Rd 188	\$2,000,000	Earthquake, Fog

**Critical Facilities:** The City has identified the following infrastructure in **Table D-4** as critical facilities:

<b>Table D-4: Lindsay Critical Facilities</b>		
<b>Facility</b>	<b>Address</b>	<b>Value</b>
CCPI Discharge Line-3 booster pumps	23620 Road 180	\$1,500,000
City Services Department	150 N. Mirage Avenue	\$150,000
Friant Kern Canal	E. Honolulu Street	\$500,000
Harvard Ponding Basin	N. Harvard Avenue and E. Tulare Rd	\$500,000
Hickory Lift Station	Hickory/Tulare Road	\$250,000
Lindsay City Hall	251 E. Honolulu Street	\$1,000,000
Lindsay Corporation Yard	476 N. Mount Vernon Avenue	\$250,000
Lindsay Department of Public Safety	185 N. Gale Hill Avenue	\$250,000
Lindsay School District Transportation Yard	250 N. Harvard Avenue	\$1,000,000
Lindsay Sewer Treatment Facility	23611 Rd. 196	\$30,000,000
Lindsay Wellness Center/Aquatic Center	740 N. Sequoia Avenue	\$2,500,000
Mariposa Ponding Basin	10 Acres Mariposa/Hwy 65	\$150,000
Lindsay Community Center	911 N. Parkside Avenue	\$250,000
Sequoia Lift Station	Sequoia/Hickory	\$500,000
Sequoia Ponding Basin	Sequoia Avenue and E. Alameda Street	\$250,000
Well # 11	W. Mariposa Street	\$1,500,000
Well # 14	Avenue 242	\$1,500,000

## 2017 Tulare County MJLHMP - Annex D City of Lindsay

### Vulnerabilities and Potential Losses:

A risk assessment determines the vulnerability of assets within the City by evaluating the inventory of City owned existing property and the population exposed to a hazard. A quantitative vulnerability assessment is limited to the exposure buildings, and infrastructures to the identified hazards. This risk assessment includes only those hazards that are natural.

### Populations and Businesses at Risk

Residential population data for the City was obtained from the State of California Department of Finance E-1 Population Estimates for Cities, Counties, and the State—January 1, 2016/2017. The population is estimated to be 12,980 in an area of 2.6 square miles. The estimate is 3,575 residential units with a 2016 median value of \$134,559. The most common employment sectors for those who live in Lindsay are agriculture, retail trade, and manufacturing.

### Economic Risks

The economy of Lindsay is largely based on agriculture and food production. The City serves mostly as a commuter town with many residents having to travel to larger population centers to seek employment. Local commerce is composed of mostly small, family-owned businesses.

### Vulnerability and Potential Losses

FEMA requires that an estimation of loss be conducted for the identified hazards to include the number of potential structures impacted by the hazards and the total potential costs. The analysis of potential losses calculated in **Table D-5** used the best data currently available to produce an understanding of potential loss. These estimates may be used to understand relative risk from hazards and potential losses. There are uncertainties in any loss estimation method, resulting from lack of scientific study and the exact result of hazard effects on the built environment, and from the use of approximations that are necessary for a comprehensive analysis.

<b>Table D-5: Summary of Vulnerabilities and Potential Loss</b>	
<b>Hazard Type</b>	<b>Impacts/Costs</b>
Climate Change	<p><u>Impacts:</u> Climate change will cause multiple effects to infrastructure and community public health. Warmer weather associated with climate change will result in more heat related illness. Drier weather will place increasing demands on imported and well water, and may lead to long lasting draughts that result in water rationing.</p> <p><u>Costs:</u> Climate change costs are difficult to specify. They will occur and accrue over centuries. As temperatures rise, additional costs for climate control such as air conditioning will occur. Less precipitation may result in depletion of stored and ground water reserves with potential for increased water costs and rationing. Much of these costs will be borne by individuals and families. Increased costs will also affect businesses and government owned facilities. Researchers at UC Berkeley (Science, May 2017) concluded that for every 1-degree Fahrenheit increase in global temperatures, the U.S. economy stands to lose about 0.7 percent of its Gross Domestic Product, with each degree of warming costing more than the last.</p>



## 2017 Tulare County MJLHMP - Annex D City of Lindsay

Drought	<p><u>Impacts:</u> Drought produces a variety of impacts that span many sectors of the economy. Reduced crops productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality; and rationing are a few examples of direct impacts. These problems can result in increased prices for food and lumber, unemployment, reduced tax revenues, increased crime, and foreclosures on bank loans to farmers and businesses, and migration. Populations that rely on or are affected by a lack of water or annual rainfall are most directly affected by droughts. The City is dependent on imported water for most of its needs. During prolonged droughts, water rationing is possible resulting in potentially higher water costs and loss of private and public landscaping.</p> <p><u>Costs:</u> Potential costs from drought to the City and its communities are difficult to quantify and are dependent upon drought duration and severity. In addition to increased costs for water, prolonged drought may result in reduced property values, loss of tax revenues and migration, all of which will cause economic losses.</p>
Extreme Heat	<p><u>Impacts:</u> Extreme heat events, present serious health risks to the City’s most vulnerable populations. The effects of extreme heat (over 84°F) on human health are well documented. Increased temperature or extended periods of elevated temperatures can increase heat-related mortality, cardiovascular-related mortality, respiratory mortality, and heart attacks, while increasing hospital admissions and emergency room visits. Extreme heat can also affect a person’s ability to thermo-regulate, causing heat stress and sometimes leading to death.</p> <p><u>Costs:</u> Extreme heat results in increased electricity usage and additional health care costs. While additional power costs affect both commercial and residential properties, added health care costs impact individuals and families. Extreme heat may reduce economic activity if prolonged.</p>
Flood	<p><u>Impacts:</u> Flooding occurs in the City during periods of heavy rain due to inadequate drainage. The flat geography also contributes to ponding.</p> <p><u>Costs:</u> There are no accurate costs values associated with past flood events. Future flood incidents will likely result in structural damage and lost economic activity. Flood cost could be in excess of \$100,000,000.</p>

Based upon previously occurring incidents and the risk assessment, the following hazards are most likely to affect Lindsay:

- Climate Change
- Drought
- Extreme heat
- Flood

These hazards which may impact agriculture, the economic driver of the city, represent critical vulnerabilities. In addition, these are hazards that represent vulnerabilities to infrastructure.

D.4 CAPABILITIES ASSESSMENT

<p style="text-align: center;"><b>FEMA REGULATION CHECKLIST: CAPABILITY ASSESSMENT</b></p> <p><b>Capability Assessment</b></p> <p><b>44 CFR § 201.6(c)(3):</b> – The plan must include mitigation strategies based on the jurisdiction's “existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.”</p> <p><b>Elements</b></p> <p><b>C1.</b> Does the plan document the jurisdiction’s existing authorities, policies, programs and resources, and its ability to expand on and improve these existing policies and programs? 44 CFR § 201.6(c)(3)</p> <p><b>C2.</b> Does the Plan address the jurisdiction’s participation in the NFIP and continued compliance with NFIP requirements, as appropriate? 44 CFR § 201.6(c)(3)(ii)</p> <p>Source: FEMA, <i>Local Mitigation Plan Review Tool</i>, March 2013.</p> <p><b>Note: For coverage of Elements C3 – C5, see Section 8, Mitigation Strategies. For coverage of Element C6, see Section 9, Plan Maintenance.</b></p>
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The reason for conducting a capability assessment is to identify Lindsay’s capacity to successfully implement mitigation activities. Understanding internal and external processes, resources and skills forms the basis of implementing a successful HMP. Understanding strengths and weaknesses also helps ensure that goals and objectives are realistic and attainable.

The planning team conducted an assessment of the City’s capabilities that contribute to the reduction of long-term vulnerabilities to hazards. The capabilities include authorities and policies, such as legal and regulatory resources, staff, and fiscal resources. Staff resources include technical personnel such as planners/engineers with knowledge of development and land management practices and an understanding of natural or human-caused hazards. The planning team also considered ways to expand on and improve existing policies and programs with the goal of integrating hazard mitigation into the day-to-day activities and programs of the City. In carrying out the capability assessment, several areas were examined:

- Planning and regulatory capabilities
- Administrative and technical resources
- Fiscal resources including grants, mutual aid agreements, operating funds and access to funds
- Technical and staff resources to assist in implementing/overseeing mitigation activities
- Previous and Ongoing Mitigation Activities

Tables D-6 through D-9 provide a list of the City’s capabilities.

## 2017 Tulare County MJLHMP - Annex D City of Lindsay

**Planning and Regulatory Capabilities:** These include local ordinances, policies and laws to manage growth and development. Examples include land use plans, capital improvement plans, transportation plans, emergency preparedness and response plans, building codes and zoning ordinances.

<b>Table D-6 Lindsay Planning and Regulatory Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
General Plan	<p>The City's General Plan provides a policy base to guide future growth within the City. It was created by planners, engineers and technical staff with knowledge of land development, land management practices, as well as human-caused and natural hazards. The General Plan:</p> <ul style="list-style-type: none"> <li>• Develops and maintains the General Plan, including the Safety Element.</li> <li>• Develops area plans based on the General Plan, to provide more specific guidance for the development of more specific areas.</li> <li>• Reviews private development projects and proposed capital improvements projects and other physical projects involving property for consistency and conformity with the General Plan.</li> <li>• Anticipates and acts on the need for new plans, policies, and Code changes.</li> </ul> <p>Applies the approved plans, policies, code provisions, and other regulations to proposed land uses.</p> <p>The MJLHMP may be adopted as part of the Safety Element by the City Counsel. As the Safety Element is updated, revised hazard analysis from the MHLHMP will be incorporated. Safety Element actions will be aligned with MJLHMP mitigation measures.</p>	All	No requires update	Planning
California Building Code Enforcement	The California Building Standards Code, Title 24 serves as the basis for the design and construction of buildings in California including housing, public buildings and maintenance facilities. Improved safety, sustainability, maintaining consistency, new technology and construction methods, and	Earthquake, Fire, Floods, Severe winter storm/high winds		Regulatory

2017 Tulare County MJLHMP - Annex D City of Lindsay

Table D-6 Lindsay Planning and Regulatory Capabilities				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
	<p>reliability are paramount to the development of building codes during each Triennial and Intervening Code Adoption Cycle.</p> <p>California’s building codes are published in their entirety every three (3) years. Amendments to California’s building standards are subject to a lengthy and transparent public participation process throughout each code adoption cycle. The California Seismic Safety Commission provides access to an array of regulatory and advisory information at: <a href="http://www.seismic.ca.gov/cog.html">http://www.seismic.ca.gov/cog.html</a></p>			
Capital Improvement Program (CIP)	<p>The City’s CIP provides a foundation and planning tool to assist in the orderly acquisition of municipal facilities and to assure that service needs for the future are met. The CIP provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.</p> <p>The MJLHMP will be used to select potential projects for the CIP. As the CIP is updated, additional mitigation measures will be analyzed and included in the Lindsey section of the MJLHMP. Funding for CIP projects identified in the MJLHMP will be reviewed for mitigation grant program eligibility.</p>	Dam Failure, Earthquake, Fire, Floods, Landslides, Levee failure, Severe winter storm/high winds		Planning
Tulare County Municipal Service Review (MSR)	<p>MSRs are intended to provide a comprehensive analysis of service provision by each of the special districts and other service providers within the legislative authority of the (LAFCo) of a city. This analysis focuses on service providers within the City of Lindsay and makes determinations in each area of evaluation. The MSR considers and makes recommendations based on the following information:</p> <ul style="list-style-type: none"> <li>• Present and planned land uses in the area.</li> <li>• Present and probable need for services in the area.</li> </ul>	All		Planning

2017 Tulare County MJLHMP - Annex D City of Lindsay

Table D-6 Lindsay Planning and Regulatory Capabilities				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
	<ul style="list-style-type: none"> <li>• Present ability of each service provider to provide necessary services.</li> <li>• The fiscal, management, and structural health of each service provider.</li> <li>• The existence of any social or economic communities of interest in the area.</li> </ul>			
City Code of Ordinances	<p>The purpose of this code is to establish the minimum requirements to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation and energy conservation, and safety to life and property from fire and other hazards attributed to the built environment; to regulate and control the demolition of all buildings and structures, and for related purposes.</p> <p>The MJLHMP will provide both hazard descriptions and mitigation actions that may address energy conservation, fire protection and development in hazard prone areas. The maps of Lindsey related hazards will be used to augment other mapping products to protect public health and safety when updating City Code.</p>	Earthquake, Fire, Flooding,		Regulatory

## 2017 Tulare County MJLHMP - Annex D City of Lindsay

**Administrative and Technical:** These capabilities include community (including public and private) staff and their skills and tools used for mitigation planning and implementation. They include engineers, planners, emergency managers, GIS analysts, building inspectors, grant writers, and floodplain managers.

<b>Table D-7: Lindsay Administrative and Technical Capabilities</b>				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
City Public Works Department	Maintains and operates a wide range of local equipment and facilities as well as provides assistance to members of the public. Services include providing sufficient potable water, reliable waste water services, street maintenance, storm drainage systems, street cleaning, street lights and traffic signals.	All		Technical
Procurement Department	Provides a full range of municipal financial services, administers several licensing measures, and functions as the plan participant's Procurement Services Manager.	All		Technical
City Fire Department	The City of Lindsay currently has three full time firefighters that operate the single fire station in the City. The remaining fire rescue crew consists of volunteers.	All		Technical

**Fiscal:** These capabilities include general funds, property sales, bonds, development impact fees, or other fees.

<b>Table D-8: Lindsay Fiscal Capabilities</b>				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
General Fund	Program operations and specific projects.	All		Financial, Financial Services Department

## 2017 Tulare County MJLHMP - Annex D City of Lindsay

**Education and Outreach:** The capabilities include programs in place such as fire safety programs, hazard awareness campaigns, public information or communications offices.

<b>Table D-9 Lindsay Education and Outreach Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
Tulare County Association of Governments (TCAG)	TCAG is committed to improving the quality of life for residents and visitors throughout the County. They address traffic congestion, coordinate regional transit programs to make getting around easy and convenient, work to improve air quality and strive to continue to meet national standards. TCAG addresses current and future rail needs and possibilities and gathers data which is used by the census and the public to properly forecast housing and transit needs.	All		Education and Outreach
Lindsay Website <a href="http://www.lindsay.ca.us/">http://www.lindsay.ca.us/</a> and other social media	Provides easily accessible conduit to information about planning and zoning, permits and applications and programs that address hazard mitigation such as clean energy efforts  The updated MJLHMP will be posted to City media sites. As the planned is reviewed annually and new updates made, information on the planning process will be included on web sites and announced on social media.	All		Education and Outreach

## 2017 Tulare County MJLHMP - Annex E City of Porterville

### D.5 MITIGATION STRATEGY

**Table D-10** lists the City specific mitigation actions from the 2011 Plan and provides their status.

<b>Table D-10: Porterville-Specific Mitigation Actions</b>						
No.	Selected (Y/N)	Description	Prioritization Criteria	Facility to be Mitigated (if known)	Department or Agency	Status
3	Y	Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency.	A,D,E	Public Safety Building	Police/Fire	Ongoing – Mitigation Action 1 in 2017 MJLHMP
15	Y	Develop a free annual tree chipping and tree pick-up day that encourages residents living in wind hazard areas to manage trees and shrubs at risk at risk to falling on nearby structures.	A,C,E	Not Applicable	Public Works	Ongoing – Mitigation Action 2 in 2017 MJLHMP
16	Y	Bolt down the roofs of critical facilities in wind gust hazard areas in order to prevent wind damage.	A,C,E	Unknown	Public Works	Ongoing – Mitigation Action 3 in 2017 MJLHMP

**Prioritization Criteria**

- A local jurisdiction department or agency champion currently exists or can be identified
- The action can be implemented during the 5-year lifespan of the HMP
- The action may reduce expected future damages and losses (cost-benefit)
- The action mitigates a high-risk hazard
- The action mitigates multiple hazards

All of the City’s mitigation strategies from the 2011 HMP are still relevant to this update. **Table D-11** contains an updated set of potential City mitigation strategies for the new Plan. Mitigation strategies were derived from numerous sources including the General Plan, City Code, Capital Improvement Plan and input from the public and stakeholders.



2017 Tulare County MJLHMP - Annex E City of Porterville

<b>Table D-11: Lindsay – Potential Mitigation Strategies</b>			
<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
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.	All	Mit.
2	Integrate the City HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	All	Mit.
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.	All	Mit.
4	Designate areas with a potential for significant hazardous conditions for open space, agriculture, and other appropriate low intensity uses.	All	Mit.
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).	All	Mit.
6	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.	FR	Mit.
7	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 very high fire hazard severity zones or State responsibility area by fire hazard zone designation. Identify plans and actions to improve substandard housing structures and neighborhoods.	FR	Mit.
8	Acquire, relocate, or elevate residential structures, in particular those that have been identified as Repetitive Loss (RL) properties that are located within the 100-year floodplain.	FL	Mit.
9	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	FL	Mit.
10	Reinforce City ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	FL	Mit.

## 2017 Tulare County MJLHMP - Annex E City of Porterville

11	Work with FEMA Region IX to address any floodplain management issues that may have arisen/arise from the countywide DFIRM, Community Assessment Visits, and/or the DWR.	FL	Mit.
12	Increase participation in the NFIP by entering the Community Rating System program through which enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	FL	Mit.
13	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.	All	Prep.
14	Continue to promote awareness and education among residents regarding possible natural hazards, including soil conditions, earthquakes, flooding, fire hazards, and emergency procedures.	EQ, FL, FR	Mit.
15	Develop a public outreach program that informs property owners located in the dam or levee inundation areas about voluntary flood insurance.	FL, DF, LF	Mit.
16	Promote public safety programs, including neighborhood watch programs, child identification and fingerprinting, public awareness and prevention of fire hazards, and other public education efforts.	CT	Mit.
17	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.	All	Resp.
18	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.	All	Resp.
19	Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about severe valley fog and extreme heat conditions.	FG, EH	Resp.
20	Use Geographic Information Systems (GIS) technology to track fire and law enforcement response times and provide technical assistance to fire and law enforcement agencies.	FR, TR	Mit.
21	Require, where feasible, road networks (public and private) to provide for safe and ready access for emergency equipment and provide alternate routes for evacuation	All	Mit.

## 2017 Tulare County MJLHMP - Annex E City of Porterville

A list of mitigation actions was selected from the mitigation strategies. **Table D-12** provides the mitigation 2017 MJLHMP actions for the City. New priorities for mitigation actions are listed in the table.

<b>Table D-12: Lindsay - Mitigation Actions</b>					
<b>Action Number</b>	<b>Mitigation Strategy</b>	<b>Department</b>	<b>Cost</b>	<b>Priority</b>	<b>Timeframe</b>
1	Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency.	Public Works	Unknown	Medium	5 or more years
2	Develop a free annual tree chipping and tree pick-up day that encourages residents living in wind hazard areas to manage trees and shrubs at risk at risk to falling on nearby structures.	Public Works / Parks and Rec	Unknown	Medium	5 or more years
3	Bolt down the roofs of critical facilities in wind gust hazard areas in order to prevent wind damage.	All	Unknown	High	2-5 years

Incorporation into other plans: FEMA requires the HMP be consistent with and incorporated into other planning documents and processes. In Lindsay, these other planning documents and process include the General Plan Update, the City Code zoning ordinances and various infrastructure master plans. The term incorporated in planning terms means that the HMP and the other plans have similar community goals and policies, that they advocate similar land use patterns, and they are consistent in their guidance of direction and rate of growth. As other plans are updated or created, the HMP should be used as guidance.

Many of the plans listed in the Capabilities Assessment mentioned in Section D.4 have not been updated since the 2011 MJLHMP was adopted. Recommended ways to use and incorporate the new Plan over the next five-year planning cycle, discussed by the Planning Team, included:

- Incorporation of the Lindsay Annex into the Health and Safety Element of the City’s General Plan.
- Use of, or reference to, Plan elements in updates to general and comprehensive planning documents, codes, and ordinances
- Addition of defined mitigation actions to capital improvement programming
- Inclusion of Plan elements into development planning and practices
- Resource for developing and/or updating emergency operations plans, emergency response plans, etc.

## 2017 Tulare County MJLHMP - Annex E City of Porterville

The Plan will continue to function as a standalone document subject to its own review and revision schedule presented in Sections 7.1 and 7.2. The Plan will also serve as a reference for other mitigation and land planning needs of the participating jurisdictions. Whenever possible, each jurisdiction will endeavor to incorporate the risk assessment results and mitigation actions and projects identified in the Plan, into existing and future planning mechanisms.

At a minimum, each of the responsible agencies/departments noted in **Table 6.3 and the Annexes of Appendix J** will review and reference the Plan and revise and/or update the legal and regulatory planning documents, manuals, codes, and ordinances as appropriate. Specific incorporation of the Plan risk assessment elements into the natural resources and safety elements of each jurisdictions' General Plans (County comprehensive plan) and development review processes, adding or revising building codes, adding or changing zoning and subdivision ordinances, and incorporating mitigation goals and strategies into general and/or comprehensive plans, will help to ensure hazard mitigated future development.

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# 2017 Tulare County MJLHMP - Annex E City of Porterville

## Annex E City of Porterville

The City of Porterville, founded in 1849 and incorporated in 1902, is located in the central southern area of Tulare County in the heart of the agriculturally rich San Joaquin Valley. The City became a Charter City in 1926. In the foothills above Porterville is the man-made Lake Success. Porterville's population has grown as it annexed nearby unincorporated areas. The City provides the following services:

- Public safety (police and fire protection, ambulance)
- Highways and streets
- Wastewater collection, treatment, and disposal
- Domestic water
- Storm drainage
- Solid waste collection and disposal.

### E.1 Community Profile

**Geography and Climate:** The city has a total area of 17.7 square miles. Porterville is located on the Tule River at the base of the western foothills of the Sierra Nevada at an elevation of 455 feet. The City is 165 miles north of Los Angeles and 171 miles east of the Pacific Coast. The City has a strategic central location to major markets and a ready access to major transportation routes. Porterville's climate can be described as dry Mediterranean. The summers are hot and dry, and winters are characterized by moderate temperatures and light precipitation. Temperatures and rainfall for Porterville are typical of that of the rest of the valley floor portion of the County. The City consistently suffers from year-round air pollution and air quality that is among the worst in the U.S. because of both geographic conditions, dust from agriculture and vehicle emissions.

**Government:** Porterville operates as a council-manager form of municipal government which is comprised of five council members serving four-year overlapping terms. The mayor is elected separately.

**Population and Demographics:** The City's July 2014 population was estimated at 55,466. The 2010 U.S. Census reported that Porterville had a population of 54,165. The population density was 3,076.3 people per square mile. The racial makeup of Porterville was 31,847 (58.8%) White; 673 (1.2%) African American; 1,007 (1.9%) Native American; 2,521 (4.7%) Asian; 64 (0.1%) Pacific Islander; 15,482 (28.6%) from other races; and 2,571 (4.7%) from two or more races. Hispanic or Latino of any race were 33,549 persons (61.9%). The Census reported that 53,018 people (97.9% of the population) lived in households, 207 people (0.4%) lived in non-institutionalized group quarters, and 940 people (1.7%) were institutionalized.

There were 15,644 households, out of which 8,177 (52.3%) had children under the age of 18 living in them, 8,032 (51.3%) were opposite-sex married couples living together, 2,962 (18.9%) had a female householder with no husband present, 1,315 (8.4%) had a male householder with no wife present. There were 1,424 (9.1%) unmarried opposite-sex partnerships, and 115 (0.7%) same-sex married couples or partnerships. 2,679 households (17.1%) were made up of individuals and 1,193 (7.6%) had someone living alone who was 65 years of age or older. The average household size was 3.39. There were 12,309 families (78.7% of all households); the average family size was 3.78.

## 2017 Tulare County MJLHMP - Annex E City of Porterville

**Housing:** There were 16,734 housing units at an average density of 946.5 per square mile, of which 8,966 (57.3%) were owner-occupied, and 6,678 (42.7%) were occupied by renters. The homeowner vacancy rate was 2.9%; the rental vacancy rate was 6.3%. 30,016 people (55.4% of the population) lived in owner-occupied housing units and 23,002 people (42.5%) lived in rental housing units.

**Economy:** The backbone of Porterville's economy is agriculture with manufacturing adding balance to the economy. Industry has also become a significant factor in the development of the community. The Walmart Distribution Center, Beckman Coulter Inc., and Royalty Carpeting are major industries located in the City. Continued industrial diversification is being encouraged. The top employers in the city are:

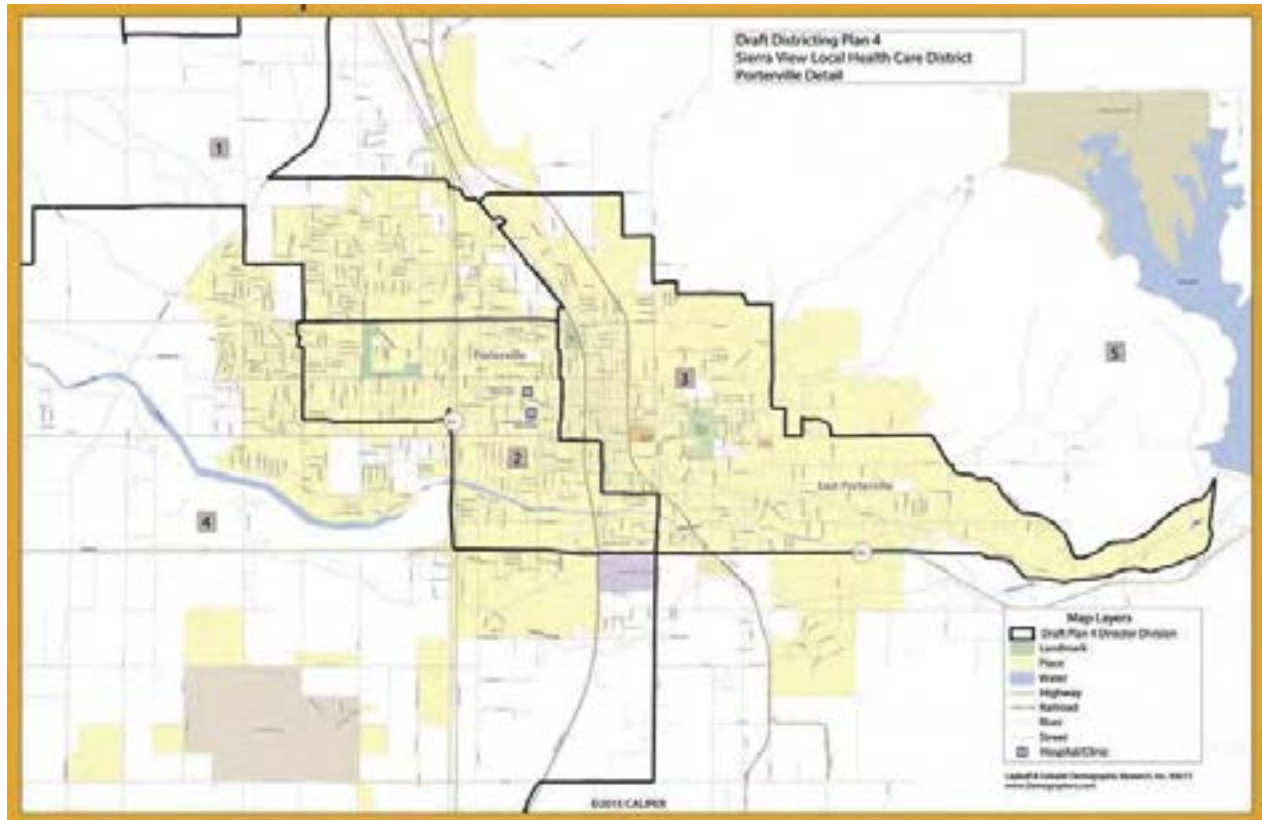
1. Porterville Developmental Center	1,560	(employees)
2. Porterville Unified School District	1,475	
3. Walmart	1,359	
4. Sierra View District Hospital	888	
5. Eagle Mountain Casino	512	
6. City of Porterville	504	
7. Foster Farms	450	
8. Burton School District	436	
9. U.S. Forest Service	371	
10. Beckman Coulter	212	

**Land use:** Porterville is primarily a mix of urban and rural areas with a growing population. Over half of the land within the total land area was being used for agriculture and other rural uses (generally categorized as Agriculture/Rural/Conservation), 13 percent of the planning area is categorized as single family use, 10 percent was identified as vacant land. Other land uses such as commercial, retail, and industrial make up the balance. The City's available residential, industrial and commercial land base is currently building out and may in the future require additional areas for growth. Single-family housing construction in Porterville is likely to continue its growth despite several significant economic hardship cycles. The City population has grown steadily in the last two decades but has seen a decline in the last five years. The housing stock has also increased in the last ten years due to annexations of unincorporated islands.

Porterville's commercial development is centered in the downtown and along the Olive Avenue corridor, which traverses the central portion of the City in an east-west direction. Additional commercial development is located along the Highway 65, specifically in the vicinity of Henderson Avenue, Morton Avenue, and Olive Avenue. The City's industrial areas are located in the southwest quadrant of the City near the Porterville Municipal Airport, north and south of Highway 190, west of Plano Street, and northern part of the City along North Main Street. Schools and parks are scattered throughout the community, locating in neighborhoods that are experiencing a demand for these types of public facilities. **Figure E-1** provides a land use map of Porterville.

## 2017 Tulare County MJLHMP - Annex E City of Porterville

**Figure E-1: Porterville Map**



**Development trends:** Historically Porterville experienced an average growth rate of 3.0 percent between 1990 and 2010. The recession and weak housing market in recent years has caused the annual growth rate to slow in the last four years to 0.7 % between 2010 and 2014. Historical population data and future projections were obtained from the U.S. Census Bureau, and the California Department of Finance. For analysis purposes, this data is compared to other source data relating to growth and population including the City's General Plan. Extrapolating the historical 1990-2010 growth rate of 3.0% would give the City a population of 97,828 or 15.5% of the county population in 2030. DOF released finalized population projections at the county level on January 31, 2013. If the City's share of County population continues to grow at the same level as between 1990 and 2010 (1.4%), the City's population share would be 15.1% of the County or 95,176. This would be an annual increase of 2.9%.

According to the 2008 Porterville General Plan Update, the City's population has grown at an average annual rate of 3.7 percent over a 30-year period. Buildout of the General Plan will accommodate a population of approximately 107,300 in the Planning Area. However, the City's population growth slowed to an average annual rate of 2.8 percent from 1990 to 2005. It is reasonable to assume that the City's population will continue to grow at an average annual rate between 2.5% and 3%.

**Development in hazard prone areas:**



## 2017 Tulare County MJLHMP - Annex E City of Porterville

Because population growth was less than two percent per year since approval of the 2011 MJLHMP, there has been no development in hazard prone areas that has affected overall vulnerability of the County. Development that did occur, was primarily infill in urban areas where vulnerabilities are well understood and described.

Updated dam inundation maps include a much larger area of the County. While little new development occurred in the expanded inundation zones, vulnerability to dam inundation increased substantially and now includes most of the most populace areas of the County. Updated dam inundation maps for the County and affected cities are included in **Appendix B**.

The new MJLHMP addresses the new hazard of climate change. This hazard impacts the entire City. Development in the City, the State and globally with increased carbon emissions will result in increasing overall vulnerabilities to its impacts.

### E.2 HAZARDS IDENTIFICATION AND ANALYSIS

**Hazards:** Porterville faces many of the hazards that are present in the County. **Table E-1** below provides a summary of hazards. Porterville is one of the few incorporated areas in the County with an urban/wildland interface. Eastern portions of the City are in the High and Medium Fire Hazard Severity Zone. The City is also within two miles of Success Dam. Warning times for a dam failure are less than 10 minutes. Much of the western portions of the City are in the inundation zone with water depths exceeding 20 feet. A rapid failure of Success Dam would result in catastrophic loss of life and injury, and property loss. Hazards in the City with unlikely frequency, limited extent, limited magnitude and low significance were not included. These include earthquake liquefaction - subsidence, civil unrest and terrorism/cyber terrorism.

Table E-1: Porterville Summary of Hazards					
Hazard	Frequency	Extent	Magnitude	Significance	Location
Climate Change	Highly	Extensive	Catastrophic	High	Entire City
Dam Failure	Unlikely	Extensive	Catastrophic	High	Map B-15 depicts
Drought	Likely	Extensive	Catastrophic	High	Entire City
Earthquake: Shaking	Occasional	Extensive	Limited	Low	Entire City
Energy Emergency	Occasional	Extensive	Critical	Medium	Entire City
Extreme Heat	Highly	Extensive	Critical	High	Entire City
Fire	Unlikely	Limited	Limited	Low	Entire City
Floods	Highly	Extensive	Critical	High	Map B-14 depicts
Fog	Likely	Extensive	Limited	Low	Entire City
Hazardous Materials	Likely	Limited	Limited	Low	Entire City
Landslide/Mudslide/Debris	Unlikely	Limited	Negligible	Low	Entire City
Pandemic and Vector Borne Disease	Likely	Extensive	Critical	Medium	Entire City
Severe Storms and High Winds	Highly Likely	Significant	Limited	Medium	Entire City
Wildfire	Unlikely	Limited	Limited	Low	Map B-13 depicts

#### Guidelines for Hazard Rankings

## 2017 Tulare County MJLHMP - Annex E City of Porterville

**Frequency of Occurrence:**

Highly Likely	Near 100% probability in next year
Likely	Between 10 and 100% probability in next year or at least one chance in ten years
Occasional	Between 1 and 10% probability in next year or at least one chance in next 100 years
Unlikely	Less than 1% probability in next 100 years

**Spatial Extent:**

Limited	Less than 10% of planning area
Significant	10-50% of planning area
Extensive	50-100% of planning area

**Potential Magnitude:**

Catastrophic	More than 50% of area affected
Critical	25 to 50% of area affected
Limited	10 to 25% of area affected
Negligible	Less than 10%

**Significance (subjective):**

low, medium, high

### E.3 RISK ASSESSMENT

The intent of this section is to assess Porterville’s vulnerability separate from that of the Operational Area as a whole, which has already been assessed in **Section 5.3 Risk Assessment** in the base plan. This risk assessment analyzes the population, property, and other assets vulnerable to the hazards ranked of medium or high significance that may vary from other parts of the planning area. For more information about how hazards affect the County as a whole see **Section 5** of the base plan.

**Infrastructure and Values at Risk:**

The following data was provided by the Director of City Services. This data should only be used as a guideline to overall values in the City as the information has some limitations. Generally, the land itself is not a loss. **Table E-2** shows the 2016 inventory for the City.

Table E-2: Porterville 2016 Asset Inventory			
Name	Address	Value	Hazard Vulnerability
Fire Department Station 1	40 W. Cleveland Ave.	\$2,000,000.00	Earthquake, Dam Flood, Fog
Fire Department Station 2	500 N. Newcomb	\$2,000,000.00	Earthquake, Dam Flood, Fog
Police Department	350 N. "D" St.	\$2,000,000.00	Earthquake, Dam Flood, Fog
Public Safety Facility Police/Fire	980 S. Jaye Street	\$5,000,000.00	Earthquake, Dam Flood, Fog
Centennial Plaza	25 E. Thurman	\$2,400,000.00	Earthquake, Dam Flood, Fog
City Hall	291 N. Main Street	\$12,000,000.00	Earthquake, Dam Flood, Fog
Corporation Yard/Field Services	555 N. Prospect St.	\$2,500,000.00	Earthquake, Dam Flood, Fog
Heritage Center/Youth Center	256 E. Orange Ave.	\$250,000.00	Earthquake, Dam Flood, Fog
Porterville Library	41 W. Thurman Ave.	\$2,000,000.00	Earthquake, Dam Flood, Fog
Wastewater Treatment Facility	555 N. Prospect St.	\$20,000,000.00	Earthquake, Dam Flood, Fog
Porterville Convalescent Hospital	1100 W. Morton	Unknown	Earthquake, Dam Flood, Fog

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<b>Table E-2: Porterville 2016 Asset Inventory</b>			
<b>Name</b>	<b>Address</b>	<b>Value</b>	<b>Hazard Vulnerability</b>
Porterville Developmental Center	26501 Ave. 140	Unknown	Earthquake, Dam Flood, Fog
Porterville Hemodialysis Facility	385 N. Pearson	Unknown	Earthquake, Dam Flood, Fog
Sierra Valley Rehab.	301 W. Putnam	Unknown	Earthquake, Dam Flood, Fog
Sierra View District Hospital	465 W. Putnam Ave.	Unknown	Earthquake, Dam Flood, Fog
Sierra View District Hospital Dialysis Center	283 N. Pearson	Unknown	Earthquake, Dam Flood, Fog
Sun Villa Rehab & Nursing Center	350 N. Villa	Unknown	Earthquake, Dam Flood, Fog
Valley Care Center	661 W. Poplar	Unknown	Earthquake, Dam Flood, Fog
Sewer Lift Station 01	930 W. Mulberry	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 02	Porter Rd. across From Porter BBQ	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 03	1131 N. Newcomb	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 04	Newcomb & North West Grand	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 05	Putnam & Mathew	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 06	South Jaye St. on S.E. side of River	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 07	Airport by Sludge Beds	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 08	Park & Success	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 09	Morton & Westwood	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 10	Poplar & "G" St. by Walmart D.C.	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 11	Mulberry & Mathew	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 12	OHV Park by BMX Track	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 13	459 N. Mathew	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 14	Newcomb & Date	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 15	Newcomb & S. River on S. Side of River	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 16	Mathew & Union	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 17	1850 W. Scranton Ave.	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 18	Westfield & Westwood	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 19	1193 N. Lime	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 20	207 B S. Westwood St.	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 21	487 S. Newcomb	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 22	2200 W. Forest Ave.	\$250,000.00	Earthquake, Dam Flood, Fog
Sewer Lift Station 23	East end of Edison Ct.	\$250,000.00	Earthquake, Dam Flood, Fog
Bridge #46C0424, Porter Slough	"E" Street	\$8,000,000.00	Earthquake, Dam Flood, Fog
Bridge #46C0046, Porter Slough	Main St.	\$8,000,000.00	Earthquake, Dam Flood, Fog

2017 Tulare County MJLHMP - Annex E City of Porterville

<b>Table E-2: Porterville 2016 Asset Inventory</b>			
<b>Name</b>	<b>Address</b>	<b>Value</b>	<b>Hazard Vulnerability</b>
Bridge #46C0076, Tule River/Poplar Ditch	Road 252 (Plano St.)	\$20,000,000.00	Earthquake, Dam Flood, Fog
Bridge #46C0098, Tule River	Road 224 (Westwood)	\$12,500,000.00	Earthquake, Dam Flood, Fog
Bridge #46C0099, Tule River	Road 244 (Jaye St.)	\$12,500,000.00	Earthquake, Dam Flood, Fog
Bridge #46C0111, Porter Slough	Porter Rd.	\$8,000,000.00	Earthquake, Dam Flood, Fog
Bridge #46C0127, Porter Slough	Road 224 (Westwood)	\$8,000,000.00	Earthquake, Dam Flood, Fog
Bridge #46C0168, Porter Slough	Prospect St.	\$8,000,000.00	Earthquake, Dam Flood, Fog
Bridge #46C0170, Porter Slough	Villa St.	\$8,000,000.00	Earthquake, Dam Flood, Fog
Bridge #46C0171, Porter Slough	W. Putnam Ave.	\$8,000,000.00	Earthquake, Dam Flood, Fog
Bridge #46C0172, Porter Slough	Plano St.	\$8,000,000.00	Earthquake, Dam Flood, Fog
Bridge #46C0173, Porter Slough	Leggett Dr.	\$8,000,000.00	Earthquake, Dam Flood, Fog
Bridge #46C0298, Porter Slough	Park Ave.	\$8,000,000.00	Earthquake, Dam Flood, Fog
Bridge #46C0299, Porter Slough	Conner St.	\$8,000,000.00	Earthquake, Dam Flood, Fog
Bridge #46C0424, Porter Slough	"E" Street	\$8,000,000.00	Earthquake, Dam Flood, Fog
Bridge #46C0425, Porter Slough	Cottage St.	\$8,000,000.00	Earthquake, Dam Flood, Fog
Bridge #46C0444, Tule River	Main St.	\$10,000,000.00	Earthquake, Dam Flood, Fog
Porterville Municipal Airport	1893 S. Newcomb St.	\$20,000,000.00	Earthquake, Dam Flood, Fog
Transit Center	61 W. Oak	\$500,000.00	Earthquake, Dam Flood, Fog
SCE Rector Electrical Substation	95 N. Cottage		Earthquake, Dam Flood, Fog
The Gas Company Substation	West of Newcomb on Olive		Earthquake, Dam Flood, Fog
Airport 300K Tank	2200 W. Hope	\$375,000.00	Earthquake, Dam Flood, Fog
East Porterville 3MG Tank	785 N. Jasmine & Henderson alignment	\$3,750,000.00	Earthquake, Dam Flood, Fog
Scenic 310K Tank	1470 Highland Dr.	\$388,000.00	Earthquake, Dam Flood, Fog
Scenic 3MG Tank	1054 Highland Dr.	\$3,750,000.00	Earthquake, Dam Flood, Fog
Well 01A	Putnam east of 4th	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 03	Willow & "E"	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 04	Orange & "E"	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 06	437 W. Kanai	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 07	Orange & Western	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 08	"A" & Walnut	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 10	Mulberry & Hwy 65	\$2,000,000.00	Earthquake, Dam Flood, Fog

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<b>Table E-2: Porterville 2016 Asset Inventory</b>			
<b>Name</b>	<b>Address</b>	<b>Value</b>	<b>Hazard Vulnerability</b>
Well 11	4th & Garden	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 12	892 W. Henderson	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 13	191 W. Poplar	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 15	Morton & "G"	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 16	Veterans Park (Henderson)	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 17	Tomah & Waukesha	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 18	Henderson & Belmont	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 19	Jaye & Tule River	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 20	Veterans Park (Newcomb)	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 21	Harrison & Hockett	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 22	Tomah & Newcomb	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 23	Union & Indiana	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 24	Taylor & Olive	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 25	Newcomb & Date	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 26	Indiana & Hwy 190	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 27	Jaye north of Gibbons	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 28	"F" & Gibbons	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 29	2250 W. Henderson	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well 31	Mathew & Orange	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well AP-01	Airport east of 30K Tank	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well AP-02	West St.	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well EP-05	Springville Dr. (Headgate)	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well L01	Tomah & Beverly	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well L05	Tomah & Salisbury	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well L07	Thurman & Cobb	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well L08	2107 White Chapel	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well R05	Newcomb & Forrest	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well R07	2006 W. Olive Ave.	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well R-11	Iris east of Magnolia	\$2,000,000.00	Earthquake, Dam Flood, Fog
Well R-12	Cedar north of Iris	\$2,000,000.00	Earthquake, Dam Flood, Fog

**Critical Facilities:** The City has identified the following infrastructure in **Table E-3** as critical facilities:

<b>Table E-3: Porterville Critical Facilities</b>		
<b>Facility</b>	<b>Address</b>	<b>Value</b>
Fire Department Station 1	40 W. Cleveland Ave.	\$2,000,000.00
Fire Department Station 2	500 N. Newcomb	\$2,000,000.00
Police Department	350 N. "D" St.	\$2,000,000.00
Public Safety Facility Police/Fire	980 S. Jaye Street	\$5,000,000.00
Centennial Plaza	25 E. Thurman	\$2,400,000.00

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<b>Table E-3: Porterville Critical Facilities</b>		
<b>Facility</b>	<b>Address</b>	<b>Value</b>
City Hall	291 N. Main Street	\$12,000,000.00
Corporation Yard/Field Services	555 N. Prospect St.	\$2,500,000.00
Heritage Center/Youth Center	256 E. Orange Ave.	\$250,000.00
Porterville Library	41 W. Thurman Ave.	\$2,000,000.00
Wastewater Treatment Facility	555 N. Prospect St.	\$20,000,000.00
Porterville Convalescent Hospital	1100 W. Morton	Unknown
Porterville Developmental Center	26501 Ave. 140	Unknown
Porterville Hemodialysis Facility	385 N. Pearson	Unknown
Sierra Valley Rehab.	301 W. Putnam	Unknown
Sierra View District Hospital	465 W. Putnam Ave.	Unknown
Sierra View District Hospital Dialysis Center	283 N. Pearson	Unknown
Sun Villa Rehab & Nursing Center	350 N. Villa	Unknown
Valley Care Center	661 W. Poplar	Unknown
Sewer Lift Station 01	930 W. Mulberry	\$250,000.00
Sewer Lift Station 02	Porter Rd. across From Porter BBQ	\$250,000.00
Sewer Lift Station 03	1131 N. Newcomb	\$250,000.00
Sewer Lift Station 04	Newcomb & North West Grand	\$250,000.00
Sewer Lift Station 05	Putnam & Mathew	\$250,000.00
Sewer Lift Station 06	South Jaye St. on S.E. side of River	\$250,000.00
Sewer Lift Station 07	Airport by Sludge Beds	\$250,000.00
Sewer Lift Station 08	Park & Success	\$250,000.00
Sewer Lift Station 09	Morton & Westwood	\$250,000.00
Sewer Lift Station 10	Poplar & "G" St. by Walmart D.C.	\$250,000.00
Sewer Lift Station 11	Mulberry & Mathew	\$250,000.00
Sewer Lift Station 12	OHV Park by BMX Track	\$250,000.00
Sewer Lift Station 13	459 N. Mathew	\$250,000.00
Sewer Lift Station 14	Newcomb & Date	\$250,000.00
Sewer Lift Station 15	Newcomb & S. River on S. Side of River	\$250,000.00
Sewer Lift Station 16	Mathew & Union	\$250,000.00
Sewer Lift Station 17	1850 W. Scranton Ave.	\$250,000.00
Sewer Lift Station 18	Westfield & Westwood	\$250,000.00
Sewer Lift Station 19	1193 N. Lime	\$250,000.00
Sewer Lift Station 20	207 B S. Westwood St.	\$250,000.00
Sewer Lift Station 21	487 S. Newcomb	\$250,000.00
Sewer Lift Station 22	2200 W. Forest Ave.	\$250,000.00
Sewer Lift Station 23	East end of Edison Ct.	\$250,000.00

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<b>Table E-3: Porterville Critical Facilities</b>		
<b>Facility</b>	<b>Address</b>	<b>Value</b>
Bridge #46C0424, Porter Slough	"E" Street	\$8,000,000.00
Bridge #46C0046, Porter Slough	Main St.	\$8,000,000.00
Bridge #46C0076, Tule River/Poplar Ditch	Road 252 (Plano St.)	\$20,000,000.00
Bridge #46C0098, Tule River	Road 224 (Westwood)	\$12,500,000.00
Bridge #46C0099, Tule River	Road 244 (Jaye St.)	\$12,500,000.00
Bridge #46C0111, Porter Slough	Porter Rd.	\$8,000,000.00
Bridge #46C0127, Porter Slough	Road 224 (Westwood)	\$8,000,000.00
Bridge #46C0168, Porter Slough	Prospect St.	\$8,000,000.00
Bridge #46C0170, Porter Slough	Villa St.	\$8,000,000.00
Bridge #46C0171, Porter Slough	W. Putnam Ave.	\$8,000,000.00
Bridge #46C0172, Porter Slough	Plano St.	\$8,000,000.00
Bridge #46C0173, Porter Slough	Leggett Dr.	\$8,000,000.00
Bridge #46C0298, Porter Slough	Park Ave.	\$8,000,000.00
Bridge #46C0299, Porter Slough	Conner St.	\$8,000,000.00
Bridge #46C0424, Porter Slough	"E" Street	\$8,000,000.00
Bridge #46C0425, Porter Slough	Cottage St.	\$8,000,000.00
Bridge #46C0444, Tule River	Main St.	\$10,000,000.00
Porterville Municipal Airport	1893 S. Newcomb St.	\$20,000,000.00
Transit Center	61 W. Oak	\$500,000.00
SCE Rector Electrical Substation	95 N. Cottage	Unknown
The Gas Company Substation	West of Newcomb on Olive	Unknown
Airport 300K Tank	2200 W. Hope	\$375,000.00
East Porterville 3MG Tank	785 N. Jasmine & Henderson alignment	\$3,750,000.00
Scenic 310K Tank	1470 Highland Dr.	\$388,000.00
Scenic 3MG Tank	1054 Highland Dr.	\$3,750,000.00
Well 01A	Putnam east of 4th	\$2,000,000.00
Well 03	Willow & "E"	\$2,000,000.00
Well 04	Orange & "E"	\$2,000,000.00
Well 06	437 W. Kanai	\$2,000,000.00
Well 07	Orange & Western	\$2,000,000.00
Well 08	"A" & Walnut	\$2,000,000.00
Well 10	Mulberry & Hwy 65	\$2,000,000.00
Well 11	4th & Garden	\$2,000,000.00
Well 12	892 W. Henderson	\$2,000,000.00
Well 13	191 W. Poplar	\$2,000,000.00
Well 15	Morton & "G"	\$2,000,000.00
Well 16	Veterans Park (Henderson)	\$2,000,000.00
Well 17	Tomah & Waukesha	\$2,000,000.00
Well 18	Henderson & Belmont	\$2,000,000.00
Well 19	Jaye & Tule River	\$2,000,000.00
Well 20	Veterans Park (Newcomb)	\$2,000,000.00
Well 21	Harrison & Hockett	\$2,000,000.00

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<b>Table E-3: Porterville Critical Facilities</b>		
<b>Facility</b>	<b>Address</b>	<b>Value</b>
Well 22	Tomah & Newcomb	\$2,000,000.00
Well 23	Union & Indiana	\$2,000,000.00
Well 24	Taylor & Olive	\$2,000,000.00
Well 25	Newcomb & Date	\$2,000,000.00
Well 26	Indiana & Hwy 190	\$2,000,000.00
Well 27	Jaye north of Gibbons	\$2,000,000.00
Well 28	"F" & Gibbons	\$2,000,000.00
Well 29	2250 W. Henderson	\$2,000,000.00
Well 31	Mathew & Orange	\$2,000,000.00
Well AP-01	Airport east of 30K Tank	\$2,000,000.00
Well AP-02	West St.	\$2,000,000.00
Well EP-05	Springville Dr. (Headgate)	\$2,000,000.00
Well L01	Tomah & Beverly	\$2,000,000.00
Well L05	Tomah & Salisbury	\$2,000,000.00
Well L07	Thurman & Cobb	\$2,000,000.00
Well L08	2107 White Chapel	\$2,000,000.00
Well R05	Newcomb & Forrest	\$2,000,000.00
Well R07	2006 W. Olive Ave.	\$2,000,000.00
Well R-11	Iris east of Magnolia	\$2,000,000.00
Well R-12	Cedar north of Iris	\$2,000,000.00

### **Vulnerabilities and Potential Losses:**

A risk assessment determines the vulnerability of assets within the City by evaluating the inventory of City owned existing property and the population exposed to a hazard. A quantitative vulnerability assessment is limited to the exposure buildings, and infrastructures to the identified hazards. This risk assessment includes only those hazards that are natural.

### **Populations and Businesses at Risk**

Residential population data for the City was obtained from the State of California Department of Finance E-1 Population Estimates for Cities, Counties, and the State—January 1, 2016/2017. The population is estimated to be 59,908 in an area of 17.7 square miles. The estimate is 16,734 residential units with a 2016 median value of \$149,400. The most common employment sectors for those who live in Porterville are government, agriculture, retail trade, and manufacturing.

### **Economic Risks**

The backbone of Porterville's economy is agriculture with manufacturing adding balance to the economy. Industry has also become a significant factor in the development of the community. The Wal-Mart Distribution Center, Beckman Coulter Inc., and Royalty Carpeting are major industries located in the City. Continued industrial diversification is being encouraged. The top employers in the city are:

- |  |                   |
|--|-------------------|
| 1. Porterville Developmental Center    | 1,560 (employees) |
| 2. Porterville Unified School District | 1,475             |
| 3. Walmart                             | 1,359             |



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4. Sierra View District Hospital	888
5. Eagle Mountain Casino	512
6. City of Porterville	504
7. Foster Farms	450
8. Burton School District	436
9. U.S. Forest Service	371
10. Beckman Coulter	212

### Vulnerability and Potential Losses

FEMA requires that an estimation of loss be conducted for the identified hazards to include the number of potential structures impacted by the hazards and the total potential costs. The analysis of potential losses calculated in **Table E-4** used the best data currently available to produce an understanding of potential loss. These estimates may be used to understand relative risk from hazards and potential losses. There are uncertainties in any loss estimation method, resulting from lack of scientific study and the exact result of hazard effects on the built environment, and from the use of approximations that are necessary for a comprehensive analysis.

<b>Table E-4: Summary of Vulnerabilities and Potential Loss</b>	
<b>Hazard Type</b>	<b>Impacts/Costs</b>
Climate Change	<p><u>Impacts:</u> Climate change will cause multiple effects to infrastructure and community public health. Warmer weather associated with climate change will result in more heat related illness. Drier weather will place increasing demands on imported and well water, and may lead to long lasting draughts that result in water rationing.</p> <p><u>Costs:</u> Climate change costs are difficult to specify. They will occur and accrue over centuries. As temperatures rise, additional costs for climate control such as air conditioning will occur. Less precipitation may result in depletion of stored and ground water reserves with potential for increased water costs and rationing. Much of these costs will be borne by individuals and families. Increased costs will also affect businesses and government owned facilities. Researchers at UC Berkeley (Science, May 2017) concluded that for every 1-degree Fahrenheit increase in global temperatures, the U.S. economy stands to lose about 0.7 percent of its Gross Domestic Product, with each degree of warming costing more than the last.</p>
Dam Inundation	<p><u>Impacts:</u> Success Dam is located within two miles of the eastern boundary of Porterville. Warning times for a dam failure are less than 10 minutes. Much of the western portions of the City are in the inundation zone with water depths exceeding 20 feet.</p> <p><u>Costs:</u> A rapid failure of Success Dam would result in catastrophic loss of life and injury, and property loss. Map B-15 depicts the potential footprint for dam inundation. Specifics of the inundation curves are contained in the Success Dam Emergency Action Plan which is a limited distribution document. The potential injury and death from a short notice dam failure could be in the 10,000s. Total losses within the Porterville jurisdiction could exceed \$1,000,000,000.</p>
Drought	<p><u>Impacts:</u> Drought produces a variety of impacts that span many sectors of the economy. Reduced crops productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality; and</p>

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	<p>rationing are a few examples of direct impacts. These problems can result in increased prices for food and lumber, unemployment, reduced tax revenues, increased crime, and foreclosures on bank loans to farmers and businesses, and migration. Populations that rely on or are affected by a lack of water or annual rainfall are most directly affected by droughts. The City is dependent on imported water for most of its needs. During prolonged draughts, water rationing is possible resulting in potentially higher water costs and loss of private and public landscaping.</p> <p><u>Costs:</u> Potential costs from draught to the City and its communities are difficult to quantify and are dependent upon draught duration and severity. In addition to increased costs for water, prolonged draught may result in reduced property values, loss of tax revenues and migration, all of which will cause economic losses.</p>
<p>Extreme Heat</p>	<p><u>Impacts:</u> Extreme heat events, present serious health risks to the City’s most vulnerable populations. The effects of extreme heat (over 84°F) on human health are well documented. Increased temperature or extended periods of elevated temperatures can increase heat-related mortality, cardiovascular-related mortality, respiratory mortality, and heart attacks, while increasing hospital admissions and emergency room visits. Extreme heat can also affect a person’s ability to thermo-regulate, causing heat stress and sometimes leading to death.</p> <p><u>Costs:</u> Extreme heat results in increased electricity usage and additional health care costs. While additional power costs affect both commercial and residential properties, added health care costs impact individuals and families. Extreme heat may reduce economic activity if prolonged.</p>
<p>Flood</p>	<p><u>Impacts:</u> Flooding occurs in the City during periods of heavy rain due to inadequate drainage. The flat geography also contributes to ponding.</p> <p><u>Costs:</u> There are no accurate costs values associated with past flood events. Future flood incidents will likely result in structural damage and lost economic activity. Flood cost could be in excess of \$100,000,000.</p>
<p>Wildland Fire</p>	<p><u>Impacts:</u> Structures near the urban/wildland interface are susceptible to wildland fire. Impacts on low density communities are limited.</p> <p><u>Costs:</u> Costs to the City will include emergency response and damage to private property. Total costs are likely to be less than \$10,000,000.</p>

Based upon previously occurring incidents and the risk assessment, the following hazards are most likely to affect Porterville:

- Climate Change
- Dam Inundation
- Drought
- Extreme heat
- Flood

These hazards which may impact agriculture, the economic driver of the city, represent critical vulnerabilities. In addition, these are hazards that represent vulnerabilities to infrastructure.

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### E.4 CAPABILITIES ASSESSMENT

#### FEMA REGULATION CHECKLIST: CAPABILITY ASSESSMENT

##### Capability Assessment

**44 CFR § 201.6(c)(3):** – The plan must include mitigation strategies based on the jurisdiction's "existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools."

##### Elements

**C1.** Does the plan document the jurisdiction's existing authorities, policies, programs and resources, and its ability to expand on and improve these existing policies and programs? 44 CFR § 201.6(c)(3)

**C2.** Does the Plan address the jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? 44 CFR § 201.6(c)(3)(ii)

Source: FEMA, *Local Mitigation Plan Review Tool*, March 2013.

**Note:** For coverage of Elements C3 – C5, see Section 8, Mitigation Strategies. For coverage of Element C6, see Section 9, Plan Maintenance.

The reason for conducting a capability assessment is to identify Porterville's capacity to successfully implement mitigation activities. Understanding internal and external processes, resources and skills forms the basis of implementing a successful HMP. Understanding strengths and weaknesses also helps ensure that goals and objectives are realistic and attainable.

The planning team conducted an assessment of the City's capabilities that contribute to the reduction of long-term vulnerabilities to hazards. The capabilities include authorities and policies, such as legal and regulatory resources, staff, and fiscal resources. Staff resources include technical personnel such as planners/engineers with knowledge of development and land management and an understanding of natural or human-caused hazards. The planning team also considered ways to expand on and improve existing policies and programs with the goal of integrating hazard mitigation into the day-to-day activities and programs of the City. In carrying out the capability assessment, several areas were examined:

- Planning and regulatory capabilities
- Administrative and technical resources
- Fiscal resources including grants, mutual aid agreements, operating funds and access to funds
- Technical and staff resources to assist in implementing/overseeing mitigation activities
- Previous and Ongoing Mitigation Activities

Tables E-5 through E-8 provide a list of the City's capabilities.

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**Planning and Regulatory Capabilities:** These include local ordinances, policies and laws to manage growth and development. Examples include land use plans, capital improvement plans, transportation plans, emergency preparedness and response plans, building codes and zoning ordinances.

**Table E-5: Porterville Planning and Regulatory Capabilities**

Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
General Plan 2035	<p>The City’s General Plan provides a policy base to guide future growth within the City. It was created by planners, engineers and technical staff with knowledge of land development, land management practices, as well as human-caused and natural hazards. The General Plan:</p> <ul style="list-style-type: none"> <li>• Develops and maintains the General Plan, including the Safety Element.</li> <li>• Develops area plans based on the General Plan, to provide more specific guidance for the development of more specific areas.</li> <li>• Reviews private development projects and proposed capital improvements projects and other physical projects involving property for consistency and conformity with the General Plan.</li> <li>• Anticipates and acts on the need for new plans, policies, and Code changes.</li> </ul> <p>Applies the approved plans, policies, code provisions, and other regulations to proposed land uses.</p> <p>The MJLHMP may be adopted as part of the Safety Element by the City Counsel. As the Safety Element is updated, revised hazard analysis from the MHLHMP will be incorporated. Safety Element actions will be aligned with MJLHMP mitigation measures.</p>	All	Updated 2014 – Safety Element	Planning
California Building Code Enforcement	The California Building Standards Code, Title 24 serves as the basis for the design and construction of buildings in California including housing, public buildings and maintenance facilities. Improved safety, sustainability, maintaining consistency, new technology and construction methods, and	Earthquake, Fire, Floods, Severe winter storm/high winds		Regulatory

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Table E-5: Porterville Planning and Regulatory Capabilities				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
	<p>reliability are paramount to the development of building codes during each Triennial and Intervening Code Adoption Cycle.</p> <p>California’s building codes are published in their entirety every three (3) years. Amendments to California’s building standards are subject to a lengthy and transparent public participation process throughout each code adoption cycle. The California Seismic Safety Commission provides access to an array of regulatory and advisory information at: <a href="http://www.seismic.ca.gov/cog.html">http://www.seismic.ca.gov/cog.html</a></p>			
Capital Improvement Program (CIP)	<p>The City’s CIP provides a foundation and planning tool to assist in the orderly acquisition of municipal facilities and to assure that service needs for the future are met. The CIP provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.</p> <p>The MJLHMP will be used to select potential projects for the CIP. As the CIP is updated, additional mitigation measures will be analyzed and included in the Porterville section of the MJLHMP. Funding for CIP projects identified in the MJLHMP will be reviewed for mitigation grant program eligibility.</p>	Dam Failure, Earthquake, Fire, Floods, Landslides, Levee failure, Severe winter storm/high winds		Planning
Tulare County Municipal Service Review (MSR)	<p>MSRs are intended to provide a comprehensive analysis of service provision by each of the special districts and other service providers within the legislative authority of the (LAFCo) of a city. This analysis focuses on service providers within the City of Lindsay and makes determinations in each area of evaluation. The MSR considers and makes recommendations based on the following information:</p> <ul style="list-style-type: none"> <li>• Present and planned land uses in the area.</li> <li>• Present and probable need for services in the area.</li> </ul>	All		Planning

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Table E-5: Porterville Planning and Regulatory Capabilities				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
	<ul style="list-style-type: none"> <li>• Present ability of each service provider to provide necessary services.</li> <li>• The fiscal, management, and structural health of each service provider.</li> <li>• The existence of any social or economic communities of interest in the area.</li> </ul>			
City Code of Ordinances	<p>The purpose of this code is to establish the minimum requirements to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation and energy conservation, and safety to life and property from fire and other hazards attributed to the built environment; to regulate and control the demolition of all buildings and structures, and for related purposes.</p> <p>The MJLHMP will provide both hazard descriptions and mitigation actions that may address energy conservation, fire protection and development in hazard prone areas. The maps of Porterville related hazards will be used to augment other mapping products to protect public health and safety when updating City Code.</p>	Earthquake, Fire, Flooding,		Regulatory
Emergency Operations Plan (2015)	Describes what the local jurisdiction's actions will be during a response to an emergency. Includes annexes that describe in more detail the actions required of the local jurisdiction's departments/agencies. Further, this plan describes the role of the Emergency Operation Center (EOC) and the coordination that occurs between the EOC and the local jurisdiction's departments and other response agencies. Finally, this plan describes how the EOC serves as the focal point among local, state, and federal governments in times of disaster.	All	Yes: Mitigation and preparedness sections. Hazard descriptions.	Planning

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<b>Table E-5: Porterville Planning and Regulatory Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
	The MJLHMP will be used as an essential tool to update the City EOP. Cal OES requires that EOPs describe applicable hazards as part of the Plan. The latest MJLHMP hazards descriptions will be included. Mitigation actions that are preparedness and response in nature will be analyzed for applicability to include in the description of EOP processes and procedures.			
Stormwater Quality Management Program (SWQMP) - Storm Water Management Plan (2009)	Describes measures that the local jurisdiction will take to minimize stormwater pollution. The SWQMP is required by the National Pollutant Discharge Elimination System Phase II regulations, which became effective in March 2003.	Flooding		Planning

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**Administrative and Technical:** These capabilities include community (including public and private) staff and their skills and tools used for mitigation planning and implementation. They include engineers, planners, emergency managers, GIS analysts, building inspectors, grant writers, and floodplain managers.

**Table E-6: Porterville Administrative and Technical Capabilities**

Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
Engineer, project managers, technical staff, equipment operators, and construction staff within the Public Works Department.	Maintains and operates a wide range of local equipment and facilities as well as providing assistance to members of the public. These include providing sufficient clean fresh water, reliable sewer services, street maintenance, storm drainage systems, street cleaning, street lights and traffic signals.	All		Technical
Procurement Department	Provides a full range of municipal financial services, administers several licensing measures, and functions as the plan participant's Procurement Services Manager.	All		Technical
Engineers, Inspectors, Code enforcement officers, and other technical staff within Tulare City Fire Department Building Inspections	Provides for building inspection and code certifications.	Fire, Earthquake		Technical



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and Planning Division				
Floodplain Administrator	Reviews and ensures that new development proposals do not increase flood risk, and that new developments are not located below the 100-year flood level. In addition, the Floodplain Administrator is responsible for planning and managing flood risk reduction projects throughout the local jurisdiction or tribal area.	Flood		Technical
Emergency Manager	Maintains and updates the Emergency Operations Plan for the local jurisdiction. In addition, coordinates local response and relief activities within the Emergency Operation Center, and works closely with County, state, and federal partners to support planning and training and to provide information and coordinate assistance.	All		Technical

**Fiscal:** These capabilities include general funds, property sales, bonds, development impact fees, or other fees.

<b>Table E-7: Porterville Fiscal Capabilities</b>				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
General Fund	Program operations and specific projects.	All		Financial, Financial Services Department
General Obligation Bonds	GO Bonds are appropriately used for the construction and/or acquisition of improvements to real property broadly available to residents and visitors. Such facilities include, but are not limited to, libraries, hospitals, parks, public safety facilities, and cultural and educational facilities.	All		Financial
Lease Revenue Bonds Funding	Lease revenue bonds are used to finance capital projects that (1) have an identified budgetary stream for repayment (e.g., specified fees, tax receipts, etc.); (2) generate project revenue but rely on a broader pledge of general fund revenues to reduce borrowing costs; or (3) finance the acquisition and installation of equipment for the local jurisdiction's general governmental purposes.	All		Financial

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Public-Private Partnerships for Economic and Redevelopment	Includes the use of local professionals, business owners, residents, and civic groups and trade associations, generally for the study of issues and the development of guidance and recommendations.	All		Financial
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**Education and Outreach:** Programs in place such as fire safety programs, hazard awareness campaigns, public information or communications offices.

<b>Table E-8: Porterville Education and Outreach Capabilities</b>				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
Tulare County Association of Governments (TCAG)	TCAG is committed to improving the quality of life for residents and visitors throughout the County. They address traffic congestion, coordinate regional transit programs to make getting around easy and convenient, work to improve air quality and strive to continue to meet national standards. TCAG addresses current and future rail needs and possibilities and gathers data which is used by the census and the public to properly forecast housing and transit needs.	All		Education and Outreach
Porterville Website <a href="http://www.ci.porterville.ca.us/">http://www.ci.porterville.ca.us/</a> and other social media	Provides easily accessible conduit to information about planning and zoning, permits and applications and programs that address hazard mitigation such as clean energy efforts.  The updated MJLHMP will be posted to City media sites. As the planned is reviewed annually and new updates made, information on the planning process will be included on web sites and announced on social media.	All		Education and Outreach

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### E.5 MITIGATION STRATEGY

**Table E-9** lists the City specific mitigation actions from the 2011 Plan and provides their status.

Table E-9: Porterville-Specific Mitigation Actions						
No.	Selected (Y/N)	Description	Prioritization Criteria	Facility to be Mitigated (if known)	Department or Agency	Status
10	Y	Work with FEMA Region IX to address any floodplain management issues that may have arisen/arise from the countywide DFIRM, Community Assessment Visits, and/or DWR.	A, B, C, D	Unknown	Public Works	Ongoing: Mitigation Action 9 in 2017 Plan.
11	Y	Increase participation in the NFIP by entering the Community Rating System program which through enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	A, B, C, D, E	Unknown	Public Works	Ongoing: Mitigation Action 10 in 2017 Plan.

**Prioritization Criteria**

- A local jurisdiction department or agency champion currently exists or can be identified
- The action can be implemented during the 5-year lifespan of the HMP
- The action may reduce expected future damages and losses (cost-benefit)
- The action mitigates a high-risk hazard
- The action mitigates multiple hazards

The City’s mitigation strategies from the 2011 HMP are still relevant to this update. **Table E-10** contains an updated set of potential mitigation strategies for new Plan. Mitigation actions were derived from numerous sources including the General Plan, City Code, Capital Improvement Plan and input from the public and stakeholders.

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<b>Table E-10: Porterville - Potential Mitigation Strategies</b>			
<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
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.	All	Mit.
2	Integrate the City HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plan, and capital improvement plans.	All	Mit.
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.	All	Mit.
4	Designate areas with a potential for significant hazardous conditions for open space, agriculture, and other appropriate low intensity uses.	All	Mit.
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).	All	Mit.
6	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.	FR	Mit.
7	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 very high fire hazard severity zones or State responsibility area by fire hazard zone designation. Identify plans and actions to improve substandard housing structures and neighborhoods.	FR	Mit.
8	Acquire, relocate, or elevate residential structures, in particular those that have been identified as Repetitive Loss (RL) properties that are located within the 100-year floodplain.	FL	Mit.

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9	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	FL	Mit.
10	Reinforce City ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	FL	Mit.
11	<p>Regulate development in the 100-year floodplain zones, as designated on maps prepared by FEMA in accordance with the following:</p> <ul style="list-style-type: none"> <li>• Critical facilities (those facilities which should be open and accessible during emergencies) shall not be permitted.</li> <li>• Passive recreational activities (those requiring non-intensive development, such as hiking, horseback riding, picnicking) are permissible.</li> <li>• 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.</li> </ul>	FL	Mit.
12	Increase participation in the NFIP by entering the Community Rating System program through which enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	FL	Mit.
13	Within the City limits, where storm and flood prevention improvements have not been installed, initiate a program to upgrade in accordance with the Master Drainage Control Plan for the area. Priorities should be conditioned upon locations where flood and sheet flow hazards are greatest.	FL	Mit.
14	Ensure that new City flood control projects will not adversely impact downstream properties or contribute to flooding hazards.	FL	Mit.
15	Maintain emergency evacuation plans for areas identified as subject to potential flooding.	FL	Mit.
16	Continue aggressive clearing of storm drain problem areas for mitigation/prevention of localized flooding	FL	Mit.
17	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.	All	Prep.

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18	Continue to promote awareness and education among residents regarding possible natural hazards, including soil conditions, earthquakes, flooding, fire hazards, and emergency procedures.	EQ, FL, FR	Mit.
19	Develop a public outreach program that informs property owners located in the dam or levee inundation areas about voluntary flood insurance.	FL, DF, LF	Mit.
20	Promote public safety programs, including neighborhood watch programs, child identification and fingerprinting, public awareness and prevention of fire hazards, and other public education efforts.	CT	Mit.
21	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.	All	Resp.
22	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.	All	Resp.
23	Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about dam inundation, severe valley fog and extreme heat conditions.	FG, EH	Resp.
24	Use Geographic Information Systems (GIS) technology to track fire and law enforcement response times and provide technical assistance to fire and law enforcement agencies.	FR, TR	Mit.
25	Require, where feasible, road networks (public and private) to provide for safe and ready access for emergency equipment and provide alternate routes for evacuation	All	Mit.

A list of mitigation actions was selected from the mitigation strategies. **Table E-11** provides the mitigation 2017 MJLHMP actions for the City. New priorities for mitigation actions are listed in the table.

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Table E-11 Portville - Mitigation Actions					
Action Number	Mitigation Strategy	Department	Cost	Priority	Timeframe
1	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.	Planning	Unknown	Medium	Ongoing
2	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 very high fire hazard severity zones or State responsibility area by fire hazard zone designation. Identify plans and actions to improve substandard housing structures and neighborhoods.	Development	Unknown	Medium	One year
3	Regulate development in the 100-year floodplain zones, as designated on maps prepared by FEMA in accordance with the following: <ul style="list-style-type: none"> <li>• Critical facilities (those facilities which should be open and accessible during emergencies) shall not be permitted.</li> <li>• Passive recreational activities (those requiring non-intensive development, such as hiking, horseback riding, picnicking) are permissible.</li> </ul> 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.	Planning	Unknown	Medium	One year
4	Within the City limits, where storm and flood prevention improvements have not been installed, initiate a program to upgrade in accordance with the Master Drainage Control	Public Works	Unknown	Medium	One year

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	Plan for the area. Priorities should be conditioned upon locations where flood and sheet flow hazards are greatest.				
5	Ensure that new City flood control projects will not adversely impact downstream properties or contribute to flooding hazards.	Public Works	Unknown	Medium	Ongoing
6	Maintain emergency evacuation plans for areas identified as subject to potential flooding.	Fire Department	Unknown	High	One Year
7	Continue aggressive clearing of storm drain problem areas for mitigation/prevention of localized flooding	Public Works	Unknown	Medium	Ongoing
8	Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about dam inundation, severe valley fog and extreme heat conditions.	Fire Department	Unknown	High	Ongoing
9	Work with FEMA Region IX to address any floodplain management issues that may have arisen/arise from the countywide DFIRM, Community Assessment Visits, and/or DWR.	Planning	Unknown	Medium	Ongoing
10	Increase participation in the NFIP by entering the Community Rating System program which through enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	Planning	Unknown	Medium	One year

Incorporation into other plans: FEMA requires the HMP be consistent with and incorporated into other planning documents and processes. In Porterville, these other planning documents and process include the General Plan Update, the City Code zoning ordinances and various infrastructure master plans. The term incorporated in planning terms means that the HMP and the other plans have similar community goals and policies, that they advocate similar land use patterns, and they are consistent in their guidance of direction and rate of growth. As other plans are updated or created, the HMP should be used as guidance.

Some of the plans listed in the Capabilities Assessment mentioned in Section E.4 have not been updated since the 2011 MJLHMP was adopted. Recommended ways to use and incorporate the new Plan over the next five-year planning cycle, discussed by the Planning Team, included:

- Incorporation of the Dinuba Annex into the Health and Safety Element of the City’s General Plan.
- Use of, or reference to, Plan elements in updates to general and comprehensive planning documents, codes, and ordinances



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- Addition of defined mitigation actions to capital improvement programming
- Inclusion of Plan elements into development planning and practices
- Resource for developing and/or updating emergency operations plans emergency response plans, etc.

The Plan will continue to function as a standalone document subject to its own review and revision schedule presented in Sections 7.1 and 7.2. The Plan will also serve as a reference for other mitigation and land planning needs of the participating jurisdictions. Whenever possible, each jurisdiction will endeavor to incorporate the risk assessment results and mitigation actions and projects identified in the Plan, into existing and future planning mechanisms.

At a minimum, each of the responsible agencies/departments noted in **Table 6.3 and the Annexes of Appendix J** will review and reference the Plan and revise and/or update the legal and regulatory planning documents, manuals, codes, and ordinances as appropriate.

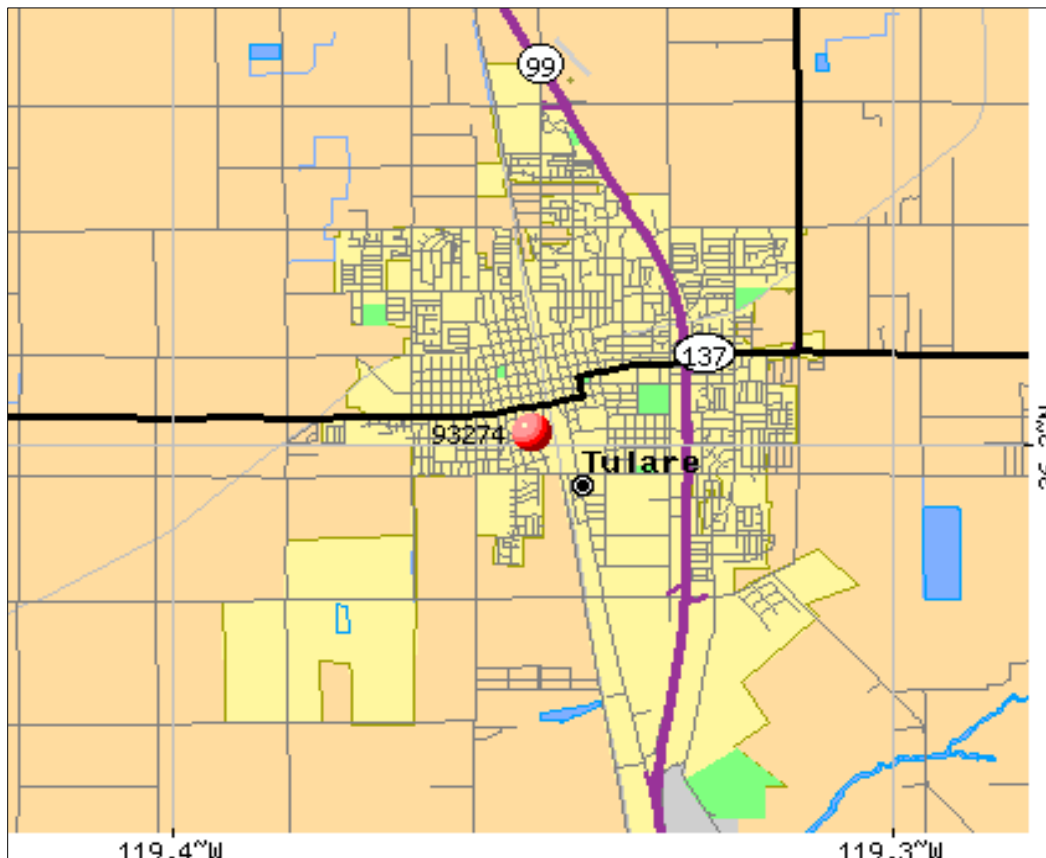
Although Porterville did not incorporate the Plan risk assessment elements into the natural resources and safety elements of the City's 2014 update to the General Plan, it should do so once the new Plan is complete. The City should also use the update Plan for development review processes, adding or revising building codes, adding or changing zoning and subdivision ordinances, and incorporating mitigation goals and strategies into general and/or comprehensive plans, will help to ensure hazard mitigated future development.

## Annex F City of Tulare

The City of Tulare is located in the heart of the Central Valley, eight miles south of Visalia and sixty miles north of Bakersfield. It was incorporated in 1888. The City provides the following services:

- Public safety (police and fire protection, ambulance)
- Highways and streets
- Wastewater collection, treatment, and disposal
- Domestic water
- Storm drainage
- Solid waste collection and disposal.

Figure F-1: City of Tulare Map



### F.1 Community Profile

**Geography and Climate:** The City has an incorporated area of 21.0 square miles. The City is relatively flat with an elevation of approximately 289 feet above sea level. Tulare's climate can be described as dry Mediterranean. The summers are hot and dry, and winters are characterized by moderate temperatures and light precipitation. Temperatures and rainfall for Tulare are typical of that of the rest of the valley floor portion of the County. Tulare consistently suffers from year-round air pollution and air quality that is among the worst in the U.S. because of both geographic conditions, dust from agriculture and vehicle emissions.

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**Government:** Tulare operates as a council-manager form of municipal government which is comprised of five council members serving four-year overlapping terms. The mayor is elected separately.

**Population and Demographics:** The 2010 U.S. Census reported that Tulare had a population of 59,278. The population density was 2,820.5 people per square mile. The racial makeup of Tulare was 36,347 (61.3%) White; 2,328 (3.9%) African American; 694 (1.2%) Native American; 1,276 (2.2%) Asian; 80 (0.1%) Pacific Islander; 15,713 (26.5%) from other races; and 2,840 (4.8%) from two or more races. Hispanic or Latino of any race were 34,062 persons (57.5%). The Census reported that 59,000 people (99.5% of the population) lived in households, 62 people (0.1%) lived in non-institutionalized group quarters, and 216 people (0.4%) were institutionalized.

There were 17,720 households, out of which 8,991 (50.7%) had children under the age of 18 living in them, 9,373 (52.9%) were opposite-sex married couples living together, 3,190 (18.0%) had a female householder with no husband present, 1,507 (8.5%) had a male householder with no wife present. There were 1,543 (8.7%) unmarried opposite-sex partnerships, and 120 (0.7%) same-sex married couples or partnerships. 2,862 households (16.2%) were made up of individuals and 1,249 (7.0%) had someone living alone who was 65 years of age or older. The average household size was 3.33. There were 14,070 families (79.4% of all households); the average family size was 3.68.

**Housing:** There were 18,863 housing units at an average density of 897.5 per square mile (346.5/km<sup>2</sup>), of which 10,389 (58.6%) were owner-occupied, and 7,331 (41.4%) were occupied by renters. The homeowner vacancy rate was 2.8%; the rental vacancy rate was 5.5%. 33,367 people (56.3% of the population) lived in owner-occupied housing units and 25,633 people (43.2%) lived in rental housing units.

**Economy:** The backbone of Tulare's economy is agricultural and the dairy industry. Tulare is responsible for a significant part of Tulare County's 342,600 dairy cows, which produce more than 8.9 billion pounds of milk each year. The nation's largest single-site dairy complex, operated by Land O'Lakes, is located in Tulare.

Tulare is the home of the Tulare County Fair, held since 1915. Tulare is also home to the internationally known World Ag Expo, held annually at the International Agri-Center. Since 1968, the three-day event in February is the largest annual agricultural exposition in the world, with 1,600 exhibitors on hand showcasing the best in current agricultural technology and products. Over 100,000 people from throughout the world visit the Expo annually.

The top private employers in the City are:

1. Land O'Lakes	580 (employees)
2. Nestlé	300
3. Walmart	280
4. Southern California Edison	270
5. Saputo	250
6. United States Cold Storage	200
7. Kraft Foods	150
8. J.D. Heiskell & Company	125

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9. Ruiz Foods	120
10. Tulare Cultured Specialties	120

**Land use:** The existing land uses include 5,056 acres of residential, 1,598 acres of commercial, 1,781 acres of industrial, 340 acres of Parks and Recreation, and 1,625 acres of Public facilities. Between 1990 and 2010, an average of 99,669 square feet of new commercial development was constructed per year in Tulare, for a total of 1.9 million square feet. Based upon State and regional demographic data, it is likely that Tulare could grow at an average annual growth rate between 2.5 and 3.0 percent over the next 20 years.

Tulare is becoming a regional commercial center due to the Tulare Outlet Center and proximity to State Route 99. Tulare has access to a wide range of goods, services and shopping centers. Tulare's downtown features various gift shops, custom-made clothing stores, florists and antique shops, restaurants, banks, service stations and other businesses. The Tulare Outlet Center is located on Hwy 99, and is the only large outlet center within a 2 1/2 hour driving radius. The Center is 226,413 sq. ft. encompassing over 50 brand name outlets, a ten-screen movie theatre and restaurants.

The City has four industrial parks, at an estimated 1,200 acres zoned for light to heavy industries. Parcel sizes range from 1 acre to 195 acres, and are mostly improved. Terrain is flat with good drainage, while subsoil is sandy and piling is not required. Most sites are adjacent to the 99 Freeway and Union Pacific rail. **Figure F-2** provides a land use map of Tulare.

**Development trends:** Since 2006, Tulare has successfully annexed over 1,200 acres of land into the City. The State DOF estimated Tulare had a population of 63,515 in 2016. Tulare finds itself becoming an urbanized city with an expanding population. Despite a slightly slower pace of development compared to the average annual growth rate from 1990 through 2010 of 2.9 percent, the City expects to add 42,020 residents over the next 20 years at an average annual growth rate of 2.7 percent.

### **Development in hazard prone areas:**

Because population growth was less than two percent per year since approval of the 2011 MJLHMP, there has been no development in hazard prone areas that has affected overall vulnerability of the County. Development that did occur, was primarily infill in urban areas where vulnerabilities are well understood and described.

Updated dam inundation maps include a much larger area of the County. While little new development occurred in the expanded inundation zones, vulnerability to dam inundation increased substantially and now includes most of the most populace areas of the County. Updated dam inundation maps for the County and affected cities are included in **Appendix B**.

The new MJLHMP addresses the new hazard of climate change. This hazard impacts the entire City. Development in the City, the State and globally with increased carbon emissions will result in increasing overall vulnerabilities to its impacts.

# 2017 Tulare County MJLHMP - Annex F City of Tulare

## F.2 HAZARDS IDENTIFICATION AND ANALYSIS

**Hazards:** Tulare faces many of the hazards that are present in the County. **Table F-1** below provides a summary of hazards. There are no hazards that are unique to Tulare. Dam inundation is a particularly extensive hazard to the City. Both Terminus and Success Dams may inundate Tulare resulting in an overall potential inundation area of the entire City. Hazards in the City with unlikely frequency, limited extent, limited magnitude and low significance were not included. These include wild fire, earthquake liquefaction - subsidence, civil unrest and terrorism/cyber terrorism.

<b>Hazard</b>	<b>Frequency</b>	<b>Extent</b>	<b>Magnitude</b>	<b>Significance</b>	<b>Location</b>
Climate Change	Highly	Extensive	Catastrophic	High	Entire City
Dam Failure	Unlikely	Extensive	Catastrophic	High	Map B-17 depicts
Drought	Likely	Extensive	Catastrophic	High	Entire City
Earthquake: Shaking	Occasional	Extensive	Limited	Low	Entire City
Energy Emergency	Occasional	Extensive	Critical	Medium	Entire City
Extreme Heat	Highly	Extensive	Critical	High	Entire City
Fire	Unlikely	Limited	Limited	Low	Entire City
Floods	Highly	Limited	limited	Low	Map B-16 depicts
Fog	Likely	Extensive	Limited	Low	Entire City
Hazardous Materials	Likely	Limited	Limited	Low	Entire City
Pandemic and Vector Borne Disease	Likely	Extensive	Critical	Medium	Entire City
Severe Storms and High Winds	Highly Likely	Significant	Limited	Medium	Entire City

### Guidelines for Hazard Rankings

#### Frequency of Occurrence:

Highly Likely	Near 100% probability in next year
Likely	Between 10 and 100% probability in next year or at least one chance in ten years
Occasional	Between 1 and 10% probability in next year or at least one chance in next 100 years
Unlikely	Less than 1% probability in next 100 years

#### Spatial Extent:

Limited	Less than 10% of planning area
Significant	10-50% of planning area
Extensive	50-100% of planning area

#### Potential Magnitude:

Catastrophic	More than 50% of area affected
Critical	25 to 50% of area affected
Limited	10 to 25% of area affected
Negligible	Less than 10%

#### Significance (subjective):

low, medium, high

## F.3 RISK ASSESSMENT

The intent of this section is to assess Tulare’s vulnerability separate from that of the Operational Area as a whole, which has already been assessed in **Section 5.3 Risk Assessment** in the base plan. This risk assessment analyzes the population, property, and other assets vulnerable to the hazards ranked of

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medium or high significance that may vary from other parts of the planning area. For more information about how hazards affect the County as a whole, see **Section 5** of the base plan.

### Infrastructure and Values at Risk:

The following data was provided by the Director of City Services. This data should only be used as a guideline to determining overall values in the City as the information has some limitations. Generally, the land itself is not a loss. **Table F-2** shows the 2016 inventory for the City.

<b>Table F-2: Tulare 2016 Asset Inventory</b>			
<b>Name</b>	<b>Address</b>	<b>Value</b>	<b>Hazard Vulnerability</b>
Activity Center Building/ Community Center Building	830 Blackstone	\$2,772,118	Earthquake, Dam Flood, Fog
Alice Topham Park	85 W. Tulare Avenue	Unknown	Earthquake, Dam Flood, Fog
Bender Park	1855 W. Pleasant Avenue	Unknown	Earthquake, Dam Flood, Fog
Blain Park	2300 North M Street	Unknown	Earthquake, Dam Flood, Fog
Centennial Park	900 North H Street	Unknown	Earthquake, Dam Flood, Fog
Cesar Chavez Memorial Park	900 E. Bardsley Avenue	Unknown	Earthquake, Dam Flood, Fog
City Bridge #1	At Paige Avenue	Unknown	Earthquake, Dam Flood, Fog
City Bridge #2	At Paige Avenue	Unknown	Earthquake, Dam Flood, Fog
City Bridge #3	0.25 mi N of Paige Avenue	Unknown	Earthquake, Dam Flood, Fog
City Bridge #4	At Mooney Blvd	Unknown	Earthquake, Dam Flood, Fog
City Bridge #5	North of D109A	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
City Hall	411 Kern Avenue	\$7,436,999	Earthquake, Dam Flood, Fog
Cypress Park	1610 E. Cypress	Unknown	Earthquake, Dam Flood, Fog
Del Lago Park	1700 N. Laspina	Unknown	Earthquake, Dam Flood, Fog
Fire Station #61	800 S. Blackstone St.	\$1,284,296	Earthquake, Dam Flood, Fog
Fire Station #62	138 North E St.	\$404,189	Earthquake, Dam Flood, Fog
Fire Station #63	2900 North M St.	\$1,126,744	Earthquake, Dam Flood, Fog
Hillman Healthcare Center	1062 S. K St.		Earthquake, Dam Flood, Fog
Lift Station	K St. & Goodin	\$106,023	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Mooney & Foster	\$100,999	Earthquake, Dam Flood, Fog
Lift Station	West & Sonora	\$100,999	Earthquake, Dam Flood, Fog
Lift Station	Alpine & Spruce	\$106,023	Earthquake, Dam Flood, Fog
Lift Station	Inyo & West	\$106,023	Earthquake, Dam Flood, Fog
Lift Station	Retherford Drive & Hillman	\$99,933	Earthquake, Dam Flood, Fog
Lift Station	J St. & Mitchell	\$99,933	Earthquake, Dam Flood, Fog
Lift Station	Kraft & South USA	\$90,778	Earthquake, Dam Flood, Fog
Lift Station	Mt. Melvin & Academy	\$90,778	Earthquake, Dam Flood, Fog
Lift Station	Sierra	\$110,895	Earthquake, Dam Flood, Fog
Lift Station	Cross & West	\$110,895	Earthquake, Dam Flood, Fog
Lift Station	Beaumont & Lamar	\$110,895	Earthquake, Dam Flood, Fog
Lift Station	West & Pleasant	\$110,895	Earthquake, Dam Flood, Fog
Lift Station	F St. & Pleasant	\$113,013	Earthquake, Dam Flood, Fog
Lift Station	Merrit & Cherry	\$113,013	Earthquake, Dam Flood, Fog
Lift Station	M St. & Prosperity	\$111,513	Earthquake, Dam Flood, Fog

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<b>Table F-2: Tulare 2016 Asset Inventory</b>			
<b>Name</b>	<b>Address</b>	<b>Value</b>	<b>Hazard Vulnerability</b>
Lift Station	M St. & Washington	\$111,513	Earthquake, Dam Flood, Fog
Live Oak Park	600 N. Laspina	Unknown	Earthquake, Dam Flood, Fog
Parkwood Meadows Park	Oakwood and E Street	Unknown	Earthquake, Dam Flood, Fog
Police Station and HVAC	260 South M St.	\$2,998,105	Earthquake, Dam Flood, Fog
Prosperity Sports Park Clubhouse/Restrooms	846 W. Prosperity	\$817,303	Earthquake, Dam Flood, Fog
Public Works	3981 South K Street	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Recreation Center-Tulare Youth Community	948 North H St.	\$4,136,152	Earthquake, Dam Flood, Fog
Senior Center Building	201 North F St.	\$1,712,123	Earthquake, Dam Flood, Fog
Soccer Complex Concession & Restroom	5700 S. Laspina	\$147,272	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Transit Center Building	360 North K St.	\$241,730	Earthquake, Fog
Tulare Municipal Airport	Rankin Avenue	Unknown	Earthquake, 100-Year Floodplain, Fog
Tulare Public Library, Cafe, City Council Chamber	475 North M St.	\$14,117,273	Earthquake, Dam Flood, Fog
Tulare Regional Medical Center	869 N. Cherry St	Unknown	E arthquake, Dam Flood, Fog
Tulare Station #3	Cartmill/M St		Earthquake, Dam Flood, Fog
Tyler Park	140 North E Street		Earthquake, Dam Flood, Fog
Waste Lift Station-Del Lago Station Dry Well and Wet Well	Pasel Del Lago	\$289,366	Earthquake, Dam Flood, Fog
Wastewater Treatment Plant, Pump Stations, Water Well, Headwork, and Splitter Box Well	1875 South West St.	\$62,881,871	Earthquake, Dam Flood, Fog
Well	1301 East Paige	\$47,828	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Well	2100 W Paige Avenue	\$62,120	Earthquake, Dam Flood, Fog
Well # 1	C Street & San Joaquin	\$183,848	Earthquake, Dam Flood, Fog
Well # 11	Sonora & U Street	\$228,119	Earthquake, Dam Flood, Fog
Well # 12	Pleasant & I Street	\$221,495	Earthquake, Fog
Well # 13	Laspina & Kern	\$144,969	Earthquake, Dam Flood, Fog
Well # 14	Olson west of South K St.	\$132,340	Earthquake, Dam Flood, Fog
Well # 15	Cross west of Mooney	\$162,636	Earthquake, Dam Flood, Fog
Well # 17	Continental & O Street	\$255,836	Earthquake, Dam Flood, Fog
Well # 2	T Street & Sonora	\$119,223	Earthquake, Dam Flood, Fog
Well # 20	Gem, north of Gail	\$69,533	Earthquake, Dam Flood, Fog
Well # 22	Cherry St. south of Prosperity	\$257,654	Earthquake, Dam Flood, Fog
Well # 23	963 Cardoza	\$82,043	Earthquake, Dam Flood, Fog
Well # 24	Laspina & Levin	\$108,434	Earthquake, Dam Flood, Fog
Well # 25	Hwy 99 & Frontage	\$209,485	Earthquake, Dam Flood, Fog
Well # 26	Pleasant & Denair	\$366,530	Earthquake, Dam Flood, Fog
Well # 27	Blain Park	\$239,632	Earthquake, Dam Flood, Fog
Well # 31	North Hillman	\$241,348	Earthquake, Dam Flood, Fog
Well # 33	Gemini & Sonora	\$342,309	Earthquake, Dam Flood, Fog

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<b>Table F-2: Tulare 2016 Asset Inventory</b>			
<b>Name</b>	<b>Address</b>	<b>Value</b>	<b>Hazard Vulnerability</b>
Well # 34	Cross & Delwood	\$144,237	Earthquake, Dam Flood, Fog
Well # 35	Bardsley & Mooney	\$313,078	Earthquake, Dam Flood, Fog
Well # 36	2690 Korbel Court	\$424,561	Earthquake, Fog
Well # 37	E. Side Mooney/Tulare Avenue.	\$227,695	Earthquake, Dam Flood, Fog
Well # 38	NE Corner Laspina/Santa Fe Trails	\$227,695	Earthquake, Dam Flood, Fog
Well # 39	Mooney & Palm Ranch	\$241,100	Earthquake, Dam Flood, Fog
Well # 40	South E St and Lemonwood Avenue	\$326,654	Earthquake, Dam Flood, Fog
Well # 41	W.P.C.F. 2000 W Paige Avenue	\$311,226	Earthquake, Dam Flood, Fog
Well # 42	6096 Leonard Noel Drive	\$305,867	Earthquake, Dam Flood, Fog
Well # 43 and # 44	2245 South Linwood Street (COS Farm)	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Well # 6	I Street & Inyo	\$170,359	Earthquake, Dam Flood, Fog
Well # 8	O Street & Kern	\$130,059	Earthquake, Dam Flood, Fog
Woman's Clubhouse	88 West Tulare	\$865,259	Earthquake, Dam Flood, Fog
Zumwalt Park	400 E. Tulare Avenue	Unknown	Earthquake, Dam Flood, Fog

**Critical Facilities:** The City has identified the following infrastructure in **Table F-3** as critical facilities:

<b>Table F-3: Tulare Critical Facilities</b>		
<b>Facility</b>	<b>Address</b>	<b>Value</b>
City Bridge #1	At Paige Avenue	Earthquake, Dam Flood, Fog
City Bridge #2	At Paige Avenue	Earthquake, Dam Flood, Fog
City Bridge #3	0.25 mi N of Paige Avenue	Earthquake, Dam Flood, Fog
City Bridge #4	At Mooney Blvd	Earthquake, Dam Flood, Fog
City Bridge #5	North of D109A	Earthquake, 100-Year Floodplain, Dam Flood, Fog
City Hall	411 Kern Avenue	Earthquake, Dam Flood, Fog
Fire Station #61	800 S. Blackstone St.	Earthquake, Dam Flood, Fog
Fire Station #62	138 North E St.	Earthquake, Dam Flood, Fog
Fire Station #63	2900 North M St.	Earthquake, Dam Flood, Fog
Hillman Healthcare Center	1062 S. K St.	Earthquake, Dam Flood, Fog
Lift Station	K St. & Goodin	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Mooney & Foster	Earthquake, Dam Flood, Fog
Lift Station	West & Sonora	Earthquake, Dam Flood, Fog
Lift Station	Alpine & Spruce	Earthquake, Dam Flood, Fog
Lift Station	Inyo & West	Earthquake, Dam Flood, Fog
Lift Station	Retherford Drive & Hillman	Earthquake, Dam Flood, Fog
Lift Station	J St. & Mitchell	Earthquake, Dam Flood, Fog
Lift Station	Kraft & South USA	Earthquake, Dam Flood, Fog
Lift Station	Mt. Melvin & Academy	Earthquake, Dam Flood, Fog
Lift Station	Sierra	Earthquake, Dam Flood, Fog
Lift Station	Cross & West	Earthquake, Dam Flood, Fog



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<b>Table F-3: Tulare Critical Facilities</b>		
<b>Facility</b>	<b>Address</b>	<b>Value</b>
Lift Station	Beaumont & Lamar	Earthquake, Dam Flood, Fog
Lift Station	West & Pleasant	Earthquake, Dam Flood, Fog
Lift Station	F St. & Pleasant	Earthquake, Dam Flood, Fog
Lift Station	Merrit & Cherry	Earthquake, Dam Flood, Fog
Lift Station	M St. & Prosperity	Earthquake, Dam Flood, Fog
Lift Station	M St. & Washington	Earthquake, Dam Flood, Fog
Police Station and HVAC	260 South M St.	Earthquake, Dam Flood, Fog
Prosperity Sports Park Clubhouse/Restrooms	846 W. Prosperity	Earthquake, Dam Flood, Fog
Public Works	3981 South K Street	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Recreation Center-Tulare Youth Community	948 North H St.	Earthquake, Dam Flood, Fog
Senior Center Building	201 North F St.	Earthquake, Dam Flood, Fog
Transit Center Building	360 North K St.	Earthquake, Dam Flood, Fog
Tulare Municipal Airport	Rankin Avenue	Earthquake, 100-Year Floodplain, Fog
Tulare Public Library, Cafe, City Council Chamber	475 North M St.	Earthquake, Dam Flood, Fog
Tulare Regional Medical Center	869 N. Cherry St	Earthquake, Dam Flood, Fog
Tulare Station #3	Cartmill/M St	Earthquake, Dam Flood, Fog
Waste Lift Station-Del Lago Station Dry Well and Wet Well	Pasel Del Lago	Earthquake, Dam Flood, Fog
Wastewater Treatment Plant, Pump Stations, Water Well, Headwork, and Splitter Box	1875 South West St.	Earthquake, Dam Flood, Fog
Well	1301 East Paige	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Well	2100 W Paige Avenue	Earthquake, Dam Flood, Fog
Well # 1	C Street & San Joaquin	Earthquake, Dam Flood, Fog
Well # 11	Sonora & U Street	Earthquake, Dam Flood, Fog
Well # 12	Pleasant & I Street	Earthquake, Dam Flood, Fog
Well # 13	Laspina & Kern	Earthquake, Dam Flood, Fog
Well # 14	Olson west of South K St.	Earthquake, Dam Flood, Fog
Well # 15	Cross west of Mooney	Earthquake, Dam Flood, Fog
Well # 17	Continental & O Street	Earthquake, Dam Flood, Fog
Well # 2	T Street & Sonora	Earthquake, Dam Flood, Fog
Well # 20	Gem, north of Gail	Earthquake, Dam Flood, Fog
Well # 22	Cherry St. south of Prosperity	Earthquake, Dam Flood, Fog
Well # 23	963 Cardoza	Earthquake, Dam Flood, Fog
Well # 24	Laspina & Levin	Earthquake, Dam Flood, Fog
Well # 25	Hwy 99 & Frontage	Earthquake, Dam Flood, Fog
Well # 26	Pleasant & Denair	Earthquake, Dam Flood, Fog
Well # 27	Blain Park	Earthquake, Dam Flood, Fog
Well # 31	North Hillman	Earthquake, Dam Flood, Fog
Well # 33	Gemini & Sonora	Earthquake, Dam Flood, Fog
Well # 34	Cross & Delwood	Earthquake, Dam Flood, Fog
Well # 35	Bardsley & Mooney	Earthquake, Dam Flood, Fog
Well # 36	2690 Korbels Court	Earthquake, Dam Flood, Fog

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<b>Table F-3: Tulare Critical Facilities</b>		
<b>Facility</b>	<b>Address</b>	<b>Value</b>
Well # 37	E. Side Mooney/Tulare Avenue.	Earthquake, Dam Flood, Fog
Well # 38	NE Corner Laspina/Santa Fe Trails	Earthquake, Dam Flood, Fog
Well # 39	Mooney & Palm Ranch	Earthquake, Dam Flood, Fog
Well # 40	South E St and Lemonwood Avenue	Earthquake, Dam Flood, Fog
Well # 41	W.P.C.F. 2000 W Paige Avenue	Earthquake, Dam Flood, Fog
Well # 42	6096 Leonard Noel Drive	Earthquake, Dam Flood, Fog
Well # 43 and # 44	2245 South Linwood Street (COS Farm)	Earthquake, 500-Year Floodplain, Dam Flood, Fog

### **Vulnerabilities and Potential Losses:**

A risk assessment determines the vulnerability of assets within the City by evaluating the inventory of City owned existing property and the population exposed to a hazard. A quantitative vulnerability assessment is limited to the exposure buildings, and infrastructures to the identified hazards. This risk assessment includes only those hazards that are natural.

### **Populations and Businesses at Risk**

Residential population data for the City was obtained from the State of California Department of Finance E-1 Population Estimates for Cities, Counties, and the State—January 1, 2016/2017. The population is estimated to be 62,779 in an area of 17.7 square miles. The estimate is 18,863 residential units with a 2016 median value of \$163,100. The most common employment sectors for those who live in Tulare are government, agriculture, retail trade, and manufacturing.

### **Economic Risks**

The backbone of Visalia's economy is agricultural and the dairy industry. Tulare is responsible for a significant part of Tulare County's 342,600 dairy cows, which produce more than 8.9 billion pounds of milk each year. The nation's largest single-site dairy complex, operated by Land O'Lakes, is located in Tulare.

Tulare is the home of the Tulare County Fair, held since 1915. Tulare is also home to the internationally known World Ag Expo, held annually at the International Agri-Center. Since 1968, the three-day event in February is the largest annual agricultural exposition in the world, with 1,600 exhibitors on hand showcasing the best in current agricultural technology and products. Over 100,000 people from throughout the world visit the Expo annually.

The top private employers in the City are:

- |                               |                 |
|-------------------------------|-----------------|
| 1. Land O'Lakes               | 580 (employees) |
| 2. Nestlé                     | 300             |
| 3. Walmart                    | 280             |
| 4. Southern California Edison | 270             |
| 5. Saputo                     | 250             |
| 6. United States Cold Storage | 200             |
| 7. Kraft Foods                | 150             |

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8.	J.D. Heiskell & Company	125
9.	Ruiz Foods	120
10.	Tulare Cultured Specialties	120

### Vulnerability and Potential Losses

FEMA requires that an estimation of loss be conducted for the identified hazards to include the number of potential structures impacted by the hazards and the total potential costs. The analysis of potential losses calculated in **Table F-4** used the best data currently available to produce an understanding of potential loss. These estimates may be used to understand relative risk from hazards and potential losses. There are uncertainties in any loss estimation method, resulting from lack of scientific study and the exact result of hazard effects on the built environment, and from the use of approximations that are necessary for a comprehensive analysis.

<b>Table F-4: Summary of Vulnerabilities and Potential Loss</b>	
<b>Hazard Type</b>	<b>Impacts/Costs</b>
Climate Change	<p><u>Impacts:</u> Climate change will cause multiple effects to infrastructure and community public health. Warmer weather associated with climate change will result in more heat related illness. Drier weather will place increasing demands on imported and well water, and may lead to long lasting draughts that result in water rationing.</p> <p><u>Costs:</u> Climate change costs are difficult to specify. They will occur and accrue over centuries. As temperatures rise, additional costs for climate control such as air conditioning will occur. Less precipitation may result in depletion of stored and ground water reserves with potential for increased water costs and rationing. Much of these costs will be borne by individuals and families. Increased costs will also affect businesses and government owned facilities. Researchers at UC Berkeley (Science, May 2017) concluded that for every 1-degree Fahrenheit increase in global temperatures, the U.S. economy stands to lose about 0.7 percent of its Gross Domestic Product, with each degree of warming costing more than the last.</p>
Dam Inundation	<p><u>Impacts:</u> Dam inundation is a particularly extensive hazard to the City. Both Terminus and Success Dams may inundate Tulare resulting in an overall potential inundation area of the entire City.</p> <p><u>Costs:</u> A rapid failure of Success or Terminus Dam would result in catastrophic loss of life and injury, and property loss. Map B-15 depicts the potential footprint for dam inundation. Specifics of the inundation curves are contained in the Dam Emergency Action Plans which are limited distribution documents. The potential injury and death from a short notice dam failure could be in the 10,000s. Total losses within the Tulare jurisdiction could exceed \$1,000,000,000.</p>
Drought	<p><u>Impacts:</u> Drought produces a variety of impacts that span many sectors of the economy. Reduced crops productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality; and rationing are a few examples of direct impacts. These problems can result in increased prices for food and lumber, unemployment, reduced tax revenues, increased crime, and foreclosures on bank loans to farmers and businesses, and migration. Populations that rely on or are affected by a lack of water or annual rainfall are most directly affected by droughts. The City is dependent on imported water for most of its</p>

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	<p>needs. During prolonged draughts, water rationing is possible resulting in potentially higher water costs and loss of private and public landscaping.</p> <p><u>Costs:</u> Potential costs from draught to the City and its communities are difficult to quantify and are dependent upon draught duration and severity. In addition to increased costs for water, prolonged draught may result in reduced property values, loss of tax revenues and migration, all of which will cause economic losses.</p>
Extreme Heat	<p><u>Impacts:</u> Extreme heat events, present serious health risks to the City’s most vulnerable populations. The effects of extreme heat (over 84°F) on human health are well documented. Increased temperature or extended periods of elevated temperatures can increase heat-related mortality, cardiovascular-related mortality, respiratory mortality, and heart attacks, while increasing hospital admissions and emergency room visits. Extreme heat can also affect a person’s ability to thermo-regulate, causing heat stress and sometimes leading to death.</p> <p><u>Costs:</u> Extreme heat results in increased electricity usage and additional health care costs. While additional power costs affect both commercial and residential properties, added health care costs impact individuals and families. Extreme heat may reduce economic activity if prolonged.</p>
Flood	<p><u>Impacts:</u> Flooding occurs in the City during periods of heavy rain due to inadequate drainage. The flat geography also contributes to ponding.</p> <p><u>Costs:</u> There are no accurate costs values associated with past flood events. Future flood incidents will likely result in structural damage and lost economic activity. Flood cost could be in excess of \$100,000,000.</p>

Based upon previously occurring incidents and the risk assessment, the following hazards are most likely to affect Tulare:

- Climate Change
- Dam Inundation
- Drought
- Extreme heat
- Flood

These hazards which may impact agriculture, the economic driver of the city, represent critical vulnerabilities. In addition, these are hazards that represent vulnerabilities to infrastructure.

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### F.4 CAPABILITIES ASSESSMENT

#### FEMA REGULATION CHECKLIST: CAPABILITY ASSESSMENT

##### Capability Assessment

**44 CFR § 201.6(c)(3):** – The plan must include mitigation strategies based on the jurisdiction's "existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools."

##### Elements

**C1.** Does the plan document the jurisdiction's existing authorities, policies, programs and resources, and its ability to expand on and improve these existing policies and programs? 44 CFR § 201.6(c)(3)

**C2.** Does the Plan address the jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? 44 CFR § 201.6(c)(3)(ii)

Source: FEMA, *Local Mitigation Plan Review Tool*, March 2013.

**Note:** For coverage of Elements C3 – C5, see Section 8, Mitigation Strategies. For coverage of Element C6, see Section 9, Plan Maintenance.

The reason for conducting a capability assessment is to identify Tulare's capacity to successfully implement mitigation activities. Understanding internal and external processes, resources and skills forms the basis of implementing a successful HMP. Understanding strengths and weaknesses also helps ensure that goals and objectives are realistic and attainable.

The planning team conducted an assessment of the City's capabilities that contribute to the reduction of long-term vulnerabilities to hazards. The capabilities include authorities and policies, such as legal and regulatory resources, staff, and fiscal resources. Staff resources include technical personnel such as planners/engineers with knowledge of development and land management practices and an understanding of natural or human-caused hazards. The planning team also considered ways to expand on and improve existing policies and programs with the goal of integrating hazard mitigation into the day-to-day activities and programs of the City. In carrying out the capability assessment, several areas were examined:

- Planning and regulatory capabilities
- Administrative and technical resources
- Fiscal resources including grants, mutual aid agreements, operating funds and access to funds
- Technical and staff resources to assist in implementing/overseeing mitigation activities
- Previous and Ongoing Mitigation Activities

Tables F-5 through F-8 provide a list of the City's capabilities.

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**Planning and Regulatory Capabilities:** These include local ordinances, policies and laws to manage growth and development. Examples include land use plans, capital improvement plans, transportation plans, emergency preparedness and response plans, building codes and zoning ordinances.

<b>Table F-5 Tulare Planning and Regulatory Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
General Plan 2035	<p>The City's General Plan provides a policy base to guide future growth within the City. It was created by planners, engineers and technical staff with knowledge of land development, land management practices, as well as human-caused and natural hazards. The General Plan:</p> <ul style="list-style-type: none"> <li>• Develops and maintains the General Plan, including the Safety Element.</li> <li>• Develops area plans based on the General Plan, to provide more specific guidance for the development of more specific areas.</li> <li>• Reviews private development projects and proposed capital improvements projects and other physical projects involving property for consistency and conformity with the General Plan.</li> <li>• Anticipates and acts on the need for new plans, policies, and Code changes.</li> </ul> <p>Applies the approved plans, policies, code provisions, and other regulations to proposed land uses.</p> <p>The MJLHMP may be adopted as part of the Safety Element by the City Counsel. As the Safety Element is updated, revised hazard analysis from the MHLHMP will be incorporated. Safety Element actions will be aligned with MJLHMP mitigation measures.</p>	All	Updated 2013 – Health and Safety Element	Planning
California Building Code Enforcement	The California Building Standards Code, Title 24 serves as the basis for the design and construction of buildings in California including housing, public buildings and maintenance facilities. Improved safety, sustainability, maintaining consistency, new technology and construction methods, and	Earthquake, Fire, Floods, Severe winter		Regulatory

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Table F-5 Tulare Planning and Regulatory Capabilities				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
	<p>reliability are paramount to the development of building codes during each Triennial and Intervening Code Adoption Cycle.</p> <p>California’s building codes are published in their entirety every three (3) years. Amendments to California’s building standards are subject to a lengthy and transparent public participation process throughout each code adoption cycle. The California Seismic Safety Commission provides access to an array of regulatory and advisory information at: <a href="http://www.seismic.ca.gov/cog.html">http://www.seismic.ca.gov/cog.html</a></p>	storm/high winds		
Capital Improvement Program (CIP)	<p>The City’s CIP provides a foundation and planning tool to assist in the orderly acquisition of municipal facilities and to assure that service needs for the future are met. The CIP provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.</p> <p>The MJLHMP will be used to select potential projects for the CIP. As the CIP is updated, additional mitigation measures will be analyzed and included in the Tulare section of the MJLHMP. Funding for CIP projects identified in the MJLHMP will be reviewed for mitigation grant program eligibility.</p>	Dam Failure, Earthquake, Fire, Floods, Landslides, Levee failure, Severe winter storm/high winds		Planning
Tulare County Municipal Service Review (MSR)	<p>MSRs are intended to provide a comprehensive analysis of service provision by each of the special districts and other service providers within the legislative authority of the (LAFCo) of a city. This analysis focuses on service providers within the City of Tulare and makes determinations in each area of evaluation. The MSR considers and makes recommendations based on the following information:</p> <ul style="list-style-type: none"> <li>• Present and planned land uses in the area.</li> <li>• Present and probable need for services in the area.</li> </ul>	All		Planning

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Table F-5 Tulare Planning and Regulatory Capabilities				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
	<ul style="list-style-type: none"> <li>• Present ability of each service provider to provide necessary services.</li> <li>• The fiscal, management, and structural health of each service provider.</li> <li>• The existence of any social or economic communities of interest in the area.</li> </ul>			
City Code of Ordinances	<p>The purpose of this code is to establish the minimum requirements to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation and energy conservation, and safety to life and property from fire and other hazards attributed to the built environment; to regulate and control the demolition of all buildings and structures, and for related purposes.</p> <p>The MJLHMP will provide both hazard descriptions and mitigation actions that may address energy conservation, fire protection and development in hazard prone areas. The maps of Tulare related hazards will be used to augment other mapping products to protect public health and safety when updating City Code.</p>	Earthquake, Fire, Flooding,		Regulatory
Emergency Operations Plan	Describes what the local jurisdiction's actions will be during a response to an emergency. Includes annexes that describe in more detail the actions required of the local jurisdiction's departments/agencies. Further, this plan describes the role of the Emergency Operation Center (EOC) and the coordination that occurs between the EOC and the local jurisdiction's departments and other response agencies. Finally, this plan describes how the EOC serves as the focal point among local, state, and federal governments in times of disaster.	All		Planning



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<b>Table F-5 Tulare Planning and Regulatory Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
	The MJLHMP will be used as an essential tool to update the City EOP. Cal OES requires that EOPs describe applicable hazards as part of the Plan. The latest MJLHMP hazards descriptions will be included. Mitigation actions that are preparedness and response in nature will be analyzed for applicability to include in the description of EOP processes and procedures.			
Stormwater Quality Management Program (SWQMP) - Storm Water Management Plan	Describes measures that the local jurisdiction will take to minimize stormwater pollution. The SWQMP is required by the National Pollutant Discharge Elimination System Phase II regulations, which became effective in March 2003.	Flooding		Planning

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**Administrative and Technical:** These capabilities include community (including public and private) staff and their skills and tools used for mitigation planning and implementation. They include engineers, planners, emergency managers, GIS analysts, building inspectors, grant writers, and floodplain managers.

<b>Table F-6: Tulare Administrative and Technical Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
Engineer, project managers, technical staff, equipment operators, and construction staff within the Public Works Department.	Maintains and operates a wide range of local equipment and facilities as well as providing assistance to members of the public. These include providing sufficient clean fresh water, reliable sewer services, street maintenance, storm drainage systems, street cleaning, street lights and traffic signals.	All		Technical
Procurement Department	Provides a full range of municipal financial services, administers several licensing measures, and functions as the plan participant's Procurement Services Manager.	All		Technical
Engineers, Inspectors, Code enforcement officers, and other technical staff within Tulare City Fire Department Building Inspections	Provides for building inspection and code certifications.	Fire, Earthquake		Technical

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Table F-6: Tulare Administrative and Technical Capabilities				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
and Planning Division				
Floodplain Administrator	Reviews and ensures that new development proposals do not increase flood risk, and that new developments are not located below the 100-year flood level. In addition, the Floodplain Administrator is responsible for planning and managing flood risk reduction projects throughout the local jurisdiction or tribal area.	Flood		Technical
Emergency Manager	Maintains and updates the Emergency Operations Plan for the local jurisdiction. In addition, coordinates local response and relief activities within the Emergency Operation Center, and works closely with County, state, and federal partners to support planning and training and to provide information and coordinate assistance.	All		Technical

**Fiscal:** These capabilities include general funds, property sales, bonds, development impact fees, or other fees.

Table F-7: Tulare Fiscal Capabilities				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
General Fund	Program operations and specific projects.	All		Financial, Financial Services Department
General Obligation Bonds	GO Bonds are appropriately used for the construction and/or acquisition of improvements to real property broadly available to residents and visitors. Such facilities include, but are not limited to, libraries, hospitals, parks, public safety facilities, and cultural and educational facilities.	All		Financial

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<b>Table F-7: Tulare Fiscal Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
Lease Revenue Bonds Funding	Lease revenue bonds are used to finance capital projects that (1) have an identified budgetary stream for repayment (e.g., specified fees, tax receipts, etc.), (2) generate project revenue but rely on a broader pledge of general fund revenues to reduce borrowing costs, or (3) finance the acquisition and installation of equipment for the local jurisdiction's general governmental purposes.	All		Financial
Public-Private Partnerships for Economic and Redevelopment	Includes the use of local professionals, business owners, residents, and civic groups and trade associations, generally for the study of issues and the development of guidance and recommendations.	All		Financial

**Education and Outreach:** Programs in place such as fire safety programs, hazard awareness campaigns, public information or communications offices.

<b>Table F-8: Tulare Education and Outreach Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
Tulare County Association of Governments (TCAG)	TCAG is committed to improving the quality of life for residents and visitors throughout the County. They address traffic congestion, coordinate regional transit programs to make getting around easy and convenient, work to improve air quality and strive to continue to meet national standards. TCAG addresses current and future rail needs and possibilities and gathers data which is used by the census and the public to properly forecast housing and transit needs.	All		Education and Outreach

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<p>Tulare Website  <a href="http://www.tulare.ca.gov/home">http://www.tulare.ca.gov/home</a> and other social media</p>	<p>Provides easily accessible conduit to information about planning and zoning, permits and applications and programs that address hazard mitigation such as clean energy efforts.</p> <p>The updated MJLHMP will be posted to City media sites. As the planned is reviewed annually and new updates made, information on the planning process will be included on web sites and announced on social media.</p>	<p>All</p>		<p>Education and Outreach</p>
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# 2017 Tulare County MJLHMP - Annex G Tulare County Office of Education

## F.5 MITIGATION STRATEGY

**Table F-9** lists the City specific mitigation actions from the 2011 Plan and provides their status.

Table F-9: Tulare-Specific Mitigation Actions						
No.	Selected (Y/N)	Description	Prioritization Criteria	Facility to be Mitigated (if known)	Department or Agency	Status
2	Y	Integrate the Tulare County HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	A, B, D, E	Updating EOC	Planning Division	Ongoing: Mitigation Action 9 in 2017 Plan.
3	Y	Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency.	A, B, D	Fire Station 62 & 61	Tulare City Fire Department and Building Inspection and Planning Division	Completed

### Prioritization Criteria

- A local jurisdiction department or agency champion currently exists or can be identified
- The action can be implemented during the 5-year lifespan of the HMP
- The action may reduce expected future damages and losses (cost-benefit)
- The action mitigates a high-risk hazard
- The action mitigates multiple hazards

The City’s mitigation strategy 2 from the 2011 HMP is still relevant to this update. **Table F-10** contains an updated set of potential mitigation strategies for new Plan. Mitigation actions were derived from numerous sources including the General Plan, City Code, Capital Improvement Plan and input from the public and stakeholders.

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<b>Table F-10: Tulare Potential Mitigation Strategies</b>			
<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
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.	All	Mit.
2	Integrate the City HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	All	Mit.
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.	All	Mit.
4	Designate areas with a potential for significant hazardous conditions for open space, agriculture, and other appropriate low intensity uses.	All	Mit.
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).	All	Mit.
6	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.	FR	Mit.
7	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 very high fire hazard severity zones or State responsibility area by fire hazard zone designation. Identify plans and actions to improve substandard housing structures and neighborhoods.	FR	Mit.

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8	Acquire, relocate, or elevate residential structures, in particular those that have been identified as Repetitive Loss (RL) properties that are located within the 100-year floodplain.	FL	Mit.
9	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	FL	Mit.
10	Reinforce City ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	FL	Mit.
11	<p>Regulate development in the 100-year floodplain zones, as designated on maps prepared by FEMA in accordance with the following:</p> <ul style="list-style-type: none"> <li>• Critical facilities (those facilities which should be open and accessible during emergencies) shall not be permitted.</li> <li>• Passive recreational activities (those requiring non-intensive development, such as hiking, horseback riding, picnicking) are permissible.</li> <li>• 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.</li> </ul>	FL	Mit.
12	Increase participation in the NFIP by entering the Community Rating System program through which enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	FL	Mit.
13	Within the City limits, where storm and flood prevention improvements have not been installed, initiate a program to upgrade in accordance with the Master Drainage Control Plan for the area. Priorities should be conditioned upon locations where flood and sheet flow hazards are greatest.	FL	Mit.
14	Ensure that new City flood control projects will not adversely impact downstream properties or contribute to flooding hazards.	FL	Mit.
15	Maintain emergency evacuation plans for areas identified as subject to potential flooding.	FL	Mit.
16	Continue aggressive clearing of storm drain problem areas for mitigation/prevention of localized flooding	FL	Mit.



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17	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.	All	Prep.
18	Continue to promote awareness and education among residents regarding possible natural hazards, including soil conditions, earthquakes, flooding, fire hazards, and emergency procedures.	EQ, FL, FR	Mit.
19	Develop a public outreach program that informs property owners located in the dam or levee inundation areas about voluntary flood insurance.	FL, DF, LF	Mit.
20	Promote public safety programs, including neighborhood watch programs, child identification and fingerprinting, public awareness and prevention of fire hazards, and other public education efforts.	CT	Mit.
21	Develop a public outreach program that informs property owners located in the dam or levee inundation areas about voluntary flood insurance.	FL, DF, LF	Mit.
22	Promote public safety programs, including neighborhood watch programs, child identification and fingerprinting, public awareness and prevention of fire hazards, and other public education efforts.	CT	Mit.
23	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.	All	Resp.
24	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.	All	Resp.
25	Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about severe valley fog and extreme heat conditions.	FG, EH	Resp.
27	Use Geographic Information Systems (GIS) technology to track fire and law enforcement response times and provide technical assistance to fire and law enforcement agencies.	FR, TR	Mit.
28	Require, where feasible, road networks (public and private) to provide for safe and ready access for emergency equipment and provide alternate routes for evacuation	All	Mit.

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29	Construct a new storm water lift station at Levin Ave and West St. The new lift station will help relieve flooding citywide. The new lift station will pump water into the retention basin at the WWTP. Construction will be coordinated with TID. This is priority 2 of the new lift stations proposed. Cost \$300,000.	Flood	Mit.
30	Construct a new storm water lift station at mid-stream on Levin Ave. Staff converted the old dairy waste line to a storm drain line in 2015. A lift station is now needed to relieve the overflow at Bardsley and West. The new lift station will pump water into the retention basin at the WWTP. This is priority 1 of the new lift stations proposed. Cost \$300,000.	Flood	Mit.
31	Install SCADA at storm water lift stations. Project includes the initial cost of integration into the existing SCADA system and installation of SCADA at critical sites. Cost \$375,000.	Flood	Mit.
32	Install portable generators to ensure function of surface water lift stations during power outage. Limit street flooding. Enables lift station operations during rain events and lessen risk of street flooding. Cost \$135,000.	Flood	Mit.
33	Acquire trailer mounted trash pumps used for pumping undeveloped roadside flooding city wide. Enables removing localized flooding from city streets. Cost \$11,000.	Flood	Mit.
34	Purchase and develop sites for groundwater recharge basins. Additional property is needed to construct new ponding basins and/or recharge basins to collect rain and nuisance water for HEP program recharge. Cost \$1,000,000	Flood	Mit.

A list of mitigation actions was selected from the mitigation strategies. **Table F-11** provides the mitigation 2017 MJLHMP actions for the City. New priorities for mitigation actions are listed in the table.

<b>Table F-11 Tulare - Mitigation Actions</b>					
<b>Action Number</b>	<b>Mitigation Strategy</b>	<b>Department</b>	<b>Cost</b>	<b>Priority</b>	<b>Timeframe</b>
1	Construct a new storm water lift station at Levin Ave and West St. The new lift station will help relieve flooding citywide. The new lift station will pump water into the retention	Public Works	\$300,000	2	2-5 Years

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	basin at the WWTP. Construction will be coordinated with TID. This is priority 2 of the new lift stations proposed.				
2	Construct a new storm water lift station at mid-stream on Levin Ave. Staff converted the old dairy waste line to a storm drain line in 2015. A lift station is now needed to relieve the overflow at Bardsley and West. The new lift station will pump water into the retention basin at the WWTP. This is priority 1 of the new lift stations proposed.	Public Works	\$300,000	1	2-5 Years
3	Install SCADA at storm water lift stations. Project includes the initial cost of integration into the existing SCADA system and installation of SCADA at critical sites. Cost.	Public Works	\$375,000	Medium	One year
4	Install portable generators to ensure function of surface water lift stations during power outage. Limit street flooding. Enables lift station operations during rain events and lessen risk of street flooding.	Public Works	\$135,000	High	2-5 Years
5	Acquire trailer mounted trash pumps used for pumping undeveloped roadside flooding city wide. Enables removing localized flooding from city streets.	Public Works	\$11,000.	Low	One year
6	Purchase and develop sites for groundwater recharge basins. Additional property is needed to construct new ponding basins and/or recharge basins to collect rain and nuisance water for HEP program recharge.	Public Works	\$1,000,000	Medium	2-5 Years
7	Integrate the Tulare County HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	Planning	Unknown	Medium	Ongoing

Incorporation into other plans: FEMA requires the HMP be consistent with and incorporated into other planning documents and processes. In the City of Tulare, these other planning documents and process include the General Plan Update, the City Code zoning ordinances and various infrastructure master plans. The term incorporated in planning terms means that the HMP and the other plans have similar community goals and policies in that they advocate similar land use patterns, and they are consistent in their guidance

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of direction and rate of growth. As other plans are updated or created, the HMP should be used as guidance.

Some of the plans listed in the Capabilities Assessment mentioned in Section F.4 have not been updated since the 2011 MJLHMP was adopted. Recommended ways to use and incorporate the new Plan over the next five-year planning cycle, discussed by the Planning Team, included:

- Incorporation of the Tulare Annex into the Health and Safety Element of the City's General Plan.
- Use of, or reference to, Plan elements in updates to general and comprehensive planning documents, codes, and ordinances
- Addition of defined mitigation actions to capital improvement programming
- Inclusion of Plan elements into development planning and practices
- Resource for developing and/or updating emergency operations plans emergency response plans, etc.

The Plan will continue to function as a standalone document subject to its own review and revision schedule presented in Sections 7.1 and 7.2. The Plan will also serve as a reference for other mitigation and land planning needs of the participating jurisdictions. Whenever possible, each jurisdiction will endeavor to incorporate the risk assessment results and mitigation actions and projects identified in the Plan, into existing and future planning mechanisms.

At a minimum, each of the responsible agencies/departments noted in **Table 6.3 and the Annexes of Appendix J** will review and reference the Plan and revise and/or update the legal and regulatory planning documents, manuals, codes, and ordinances as appropriate.

Although Tulare did not incorporate the Plan risk assessment elements into the natural resources and safety elements of the City's 2013 update to the General Plan, it should do so once the new Plan is complete. The City should also use the update Plan for development review processes, adding or revising building codes, adding or changing zoning and subdivision ordinances, and incorporating mitigation goals and strategies into general and/or comprehensive plans, will help to ensure hazard mitigated future development.



## Annex G Tulare County Office of Education

The Tulare County Office of Education (TCOE) serves over 100,000 students, and 43 elementary and nine high school districts in the County. Tulare County school districts range from single-school districts with as few as 20 students to large, multi-school districts with over 25,000 students. To address the challenge of serving such a diversity of districts, the TCOE is organized into four primary divisions: Business Services, Human Resources, Instructional Services, and Special Services.

**Table G-1** contains a list of school districts:

<b>Table G-1: TCOE Districts</b>			
<b>Elementary School Districts</b>			
Allensworth	Exeter Unified	Pixley	Sunnyside
Alpaugh Unified	Farmersville Unified	Pleasant View	Terra Bella
Alta Vista	Hope	Porterville Unified	Three Rivers
Buena Vista	Hot Springs	Richgrove	Tipton
Burton	Kings River	Rockford	Traver
Citrus South Tule	Liberty	Sausalito	Tulare City
Columbine	Lindsay Unified	Sequoia Union	Visalia Unified
Cutler-Orosi Unified	Monson-Sultana	Springville	Waukena
Dinuba Unified	Oak Valley	Stone Corral	Woodlake Unified
Ducor	Outside Creek	Strathmore	Woodville
Earlimart	Palo Verde	Sundale	
<b>High School Districts</b>			
Alpaugh Unified	Farmersville Unified	Tulare High	Porterville Unified
Cutler-Orosi Unified	Lindsay Unified	Visalia Unified	Woodlake Unified
Dinuba Unified			

### G.1 Community Profile

The school districts are located throughout the County. As special districts within the cities and County, they fit within their individual community profiles.

### G.2 Hazards Identification and Analysis

The school districts that are supported by TCOE face similar hazards to the communities they are located within. There are no hazards that are unique to the school districts. **Table G-2** contains a risk analysis of the TCOE school districts based upon the County analysis. Hazards in the City with unlikely frequency, limited extent, limited magnitude and low significance were not included. These include earthquake liquefaction – subsidence and civil unrest.

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**Table G–2: TCOE Summary of Hazards**

Hazard	Frequency	Extent	Magnitude	Significance	Location
Climate Change	Highly likely	Extensive	Catastrophical	High	County-wide
Dam Failure	Unlikely	Extensive	Catastrophical	Low	Map B-6 depicts
Drought	Likely	Extensive	Catastrophical	High	County-wide
Earthquake: Shaking	Occasional	Extensive	Limited	Low	Map B-3 depicts
Energy Emergency	Occasional	Extensive	Critical	Medium	County-wide
Extreme Heat	Highly Likely	Extensive	Critical	High	County-wide
Fire	Unlikely	Limited	Limited	Low	County-wide
Floods	Highly Likely	Extensive	Critical	High	Map B-5 depicts
Fog	Likely	Extensive	Limited	Low	County-wide
Hazardous Materials	Likely	Limited	Limited	Low	County-wide
Levee Failure	Occasional	Limited	Limited	Medium	County-wide
Pandemic and Vector Borne Disease	Likely	Extensive	Critical	Medium	County-wide
Severe Storms and High Winds	Highly Likely	Significant	Limited	Medium	County-wide
Terrorism/Cyber Terrorism	Unlikely	Extensive	Limited	Low	County-wide
Wildfire	Unlikely	Limited	Limited	Low	Map B-4 depicts

### G.3 Risk Assessment

The intent of this section is to assess the TCOE’s vulnerability separate from that of the Operational Area as a whole, which has already been assessed in **Section 5.3 Risk Assessment** in the base plan. This risk assessment analyzes the population, property, and other assets vulnerable to the hazards ranked of medium or high significance that may vary from other parts of the planning area. For more information about how hazards affect the County as a whole, **see Section 5** of the base plan.

#### Infrastructure and Values at Risk:

This data should only be used as a guideline to determine the overall values in the school districts as the information has some limitations. Generally, the land itself is not a loss. **Table G-3** shows the 2016 inventory for the school districts. All schools are part of the built environment.

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<b>Table G-3: List of School Properties</b>				
<b>Name</b>	<b>Address</b>	<b>City</b>	<b>Value</b>	<b>Hazards</b>
Adult School Program	3110 East Houston	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Alila School	955 E. Tulare Avenue	Tulare	Unknown	Earthquake, Fog
Allensworth Elementary School	3320 Young Rd	Earlimart	Unknown	Earthquake, 100-Year Floodplain, Fog
Alpauch Junior-Senior High/Alpaugh Elementary School	5313 Road 39	Alpaugh	Unknown	Earthquake, Fog, Winter Storm
Alta Vista Elementary School	2293 E Crabtree Avenue	Porterville	Unknown	Earthquake, Dam Flood, Fog
Annie R. Mitchell Elementary School	2121 E Laura St	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Bartlett Middle School/Charter Alternative Academy School	355 North "G" Street	Porterville	Unknown	Earthquake, Dam Flood, Fog
Belleview Elementary School	197 West Belleview Street	Porterville	Unknown	Earthquake, Dam Flood, Fog
Bravo Lake High School	450 West Sequoia	Woodlake	Unknown	Earthquake, Fog
Buckley Elementary School	2573 W. Westfield	Porterville	Unknown	Earthquake, Dam Flood, Fog
Buena Vista Elementary School	21660 Road 60	Tulare	Unknown	Earthquake, Dam Flood, Fog
Burton Community Day School	264 N Westwood	Porterville	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Burton Elementary School	2375 W Morton Avenue	Porterville	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Burton Middle School	1155 N. Elderwood St.,	Porterville	Unknown	Earthquake, Dam Flood, Fog
Butterfield Charter High School/Porterville Adult School	901 N Mooney Blvd	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Button Pathways Charter Academy	1414 West Olive Avenue.	Porterville	Unknown	Earthquake, Dam Flood, Fog



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<b>Table G-3: List of School Properties</b>				
<b>Name</b>	<b>Address</b>	<b>City</b>	<b>Value</b>	<b>Hazards</b>
Carl Smith Middle School	23825 Avenue 92	Terra Bella	Unknown	Earthquake, Fog
Castle Rock Elementary	360 N Castle Rock St	Woodlake	Unknown	Earthquake, Dam Flood, Fog
Charter Alternative Academy School/Union Elementary School	28050 Road 148	Visalia	Unknown	Earthquake, 500-Year Floodplain, Fog
Charter Home School Academy	31411 Road 160	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Cherry Middle School	540 N Cherry St	Tulare	Unknown	Earthquake, Fog
Citrus High School	261 E Mulberry Avenue	Porterville	Unknown	Earthquake, Fog
Citrus South Tule Elementary School	31374 Success Valley Drive	Porterville	Unknown	Earthquake, Fire
College of The Sequoias	895 W. Gail	Tulare	Unknown	Earthquake, Fog
Columbine Elementary School	2240 Road 160	Delano	Unknown	Earthquake, 500-Year Floodplain, Fog
Conyer Elementary School	999 N Crawford Avenue	Dinuba	Unknown	Earthquake, 500-Year Floodplain, Fog, Winter Storm
Cottonwood Creek Elementary School	4222 S Dans St	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Countryside High School	1084 South Pratt Street	Tulare	Unknown	Earthquake, Fog
Crestwood Elementary School	3001 W Whitendale Avenue	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Crowley Elementary School	214 East Ferguson	Visalia	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Culter-Orosi Community Day School	14198 Avenue 384	Yetttem	Unknown	Earthquake, 500-Year Floodplain, Fog
Cutler Elementary School	40532 Road 128	Cutler	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog, Winter Storm
Cutler-Orosi Adult School/Esperanza Alternative High School	12623 Avenue 416	Orosi	Unknown	Earthquake, Dam Flood, Winter Storm, Fog

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<b>Table G-3: List of School Properties</b>				
<b>Name</b>	<b>Address</b>	<b>City</b>	<b>Value</b>	<b>Hazards</b>
Cypress Elementary School	1870 South Laspina	Tulare	Unknown	Earthquake, Dam Flood, Fog
Deep Creek Continuation Academy	281 S Farmersville Blvd	Farmersville	Unknown	Earthquake, 100-Year Floodplain, Fog
Dinuba Adult School / Ronald Reagan Academy / Sierra Vista High School	9637 Avenue 196	Tulare	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Dinuba High School	340 E Kern St	Dinuba	Unknown	Earthquake, 100-Year Floodplain, Fog, Winter Storm
Divisadero Middle School	1200 S Divisadero St	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Ducor Union Elementary School	23761 Avenue 56	Ducor	Unknown	Earthquake, Fog
Earlimart Elementary School	192 S Church Rd	Earlimart	Unknown	Earthquake, Fog
Earlimart Middle School	599 S Church Rd	Earlimart	Unknown	Earthquake, 500-Year Floodplain, Fog
El Diamante High School	5100 W Whitendale Avenue	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
El Monte Middle School	42111 Road 128	Orosi	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog, Winter Storm
Elbow Creek Elementary School	32747 Road 138	Visalia	Unknown	Earthquake, Dam Flood, Fog
Exeter Community Day School	1107 East Rocky Hill Drive	Exeter	Unknown	Earthquake, 500-Year Floodplain, Fog
Exeter Union High School	505 Rocky Hill Drive	Exeter	Unknown	Earthquake, 500-Year Floodplain, Fog
Fairview Elementary School	1051 Robin Drive	Visalia	Unknown	Earthquake, 500-Year Floodplain, Flood Dam, Fog
Farmersville High School	631 E Walnut Avenue	Farmersville	Unknown	Earthquake, 500-Year Floodplain, Fog
Farmersville Jr High School	650 N Virginia Avenue	Farmersville	Unknown	Earthquake, 100-Year Floodplain, Fog

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<b>Table G-3: List of School Properties</b>				
<b>Name</b>	<b>Address</b>	<b>City</b>	<b>Value</b>	<b>Hazards</b>
Four Creeks Elementary School	1844 N Burke St	Visalia	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Francis J White Learning Center	700 North Cypress St.	Woodlake	Unknown	Earthquake, Fog
Freedom Elementary School	575 E Citrus Drive	Farmersville	Unknown	Earthquake, 500-Year Floodplain, Fog
Garden Elementary	640 E. Pleasant	Tulare	Unknown	Earthquake, Fog
George L Snowden School	301 S Farmersville Blvd	Farmersville	Unknown	Earthquake, 100-Year Floodplain, Fog
Golden Oak Elementary School	1700 N Lovers Ln	Visalia	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Golden Valley Elementary School	41465 Road 127	Orosi	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog, Winter Storm
Golden West High School	1717 N Mcauliff St	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Goshen Elementary School	6505 Avenue 308	Visalia	Unknown	Earthquake, Dam Flood, Fog
Grand View Elementary	39746 Road 64	Dinuba	Unknown	Earthquake, Fog
Granite Hills High School	1701 E Putnam Avenue	Porterville	Unknown	Earthquake, 100-Year Floodplain, Fog
Green Acres Middle School	1147 N Mooney Blvd	Visalia	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Harmony Magnet Academy	19429 Road 228	Strathmore	Unknown	Earthquake, 100-Year Floodplain, Fog
Heritage Elementary School	915 South Mooney Blvd	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
High School Farm	591 W. Bardsley Avenue.	Tulare	Unknown	Earthquake, Fog
Highland Elementary School	701 N Stevenson St	Visalia	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Hope Elementary School	613 W Tea Pot Dome	Porterville	Unknown	Earthquake, Dam Flood, Fog
Horizon Community Day School	1051 S Plano St	Porterville	Unknown	Earthquake, Dam Flood, Fog, Fire

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<b>Table G-3: List of School Properties</b>				
<b>Name</b>	<b>Address</b>	<b>City</b>	<b>Value</b>	<b>Hazards</b>
Hot Springs Elementary School	801 W. Gail	Tulare	Unknown	Earthquake, Fog
Houston Elementary School	1200 N Giddings St	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Hurley Elementary School	6600 W Hurley Avenue	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Ivanhoe Elementary School	16030 Avenue 332	Ivanhoe	Unknown	Earthquake, Dam Flood, Fog
Je Hester Elementary School	477 E Ash St	Farmersville	Unknown	Earthquake, 500-Year Floodplain, Fog
Jefferson Elementary School	333 N Westwood Avenue	Lindsay	Unknown	Earthquake, Fog
Jefferson Elementary School	1660 E Sierra Way	Dinuba	Unknown	Earthquake, 500-Year Floodplain, Fog, Winter Storm
Jim Maples Academy	252 N. Westwood	Porterville	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
John F Kennedy 6Th Grade Academy	814 S Sowell St	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
John J Cairns High School	467 E Honolulu St	Lindsay	Unknown	Earthquake, Fog
John J Doyle Elementary School	1045 E Orange Avenue	Porterville	Unknown	Earthquake, Dam Flood, Fog
Johnsondale Elementary School	755 E. Tulare Avenue.	Tulare	Unknown	Earthquake, Fog
Kaweah High School, Exeter Virtual High School	21215 Avenue 300	Exeter	Unknown	Earthquake, 100-Year Floodplain, Fog
Kings River Union Elementary School	3961 Avenue 400	Kingsburg	Unknown	Earthquake, Fog
Kohn Elementary School	500 S. Laspina	Tulare	Unknown	Earthquake, Dam Flood, Fog
La Joya Middle School	4711 W La Vida Avenue	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
La Sierra High School - Military	1735 E Houston Avenue	Visalia	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog

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<b>Table G-3: List of School Properties</b>				
<b>Name</b>	<b>Address</b>	<b>City</b>	<b>Value</b>	<b>Hazards</b>
Academy/La Sierra Junior Academy				
La Sierra High School - Porterville Campus	1414 W Olive Avenue	Porterville	Unknown	Earthquake, Dam Flood, Fog
Liberty Elementary School	11535 Avenue 264	Visalia	Unknown	Earthquake, Fog
Lincoln Elementary School	900 S Conyer St	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lincoln Elementary School	9364 Road 238	Terra Bella	Unknown	Earthquake, Fog
Lincoln Elementary School	960 N Newcomb St	Porterville	Unknown	Earthquake, Fog
Lincoln Elementary School	333 S D St	Exeter	Unknown	Earthquake, 500-Year Floodplain, Fog
Lindsay Community Day School	519 East Honolulu St.	Lindsay	Unknown	Earthquake, Fog
Lindsay High School	1701 E Tulare Rd	Lindsay	Unknown	Earthquake, 100-Year Floodplain, Fog
Linwood Elementary School	3129 S Linwood St	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Live Oak Middle School	980 N. Laspina	Tulare	Unknown	Earthquake, Fog
Los Robles Elementary School	500 E Mulberry Avenue	Porterville	Unknown	Earthquake, Fog
Los Tules Middle School	Po Box 38 Mountain Road 56	Hot Springs	Unknown	Earthquake, Fog
Lovell Continuation High School	12724 Avenue 392	Cutler	Unknown	Earthquake, Fog
Manuel F. Hernandez Elementary School	2133 North Leila Street	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Maple Elementary School	640 W. Cross	Tulare	Unknown	Earthquake, Fog
Mid-County Community School	2101 N Shirk Rd	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Mineral King Elementary School	3333 E Kaweah Avenue	Visalia	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog

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<b>Table G-3: List of School Properties</b>				
<b>Name</b>	<b>Address</b>	<b>City</b>	<b>Value</b>	<b>Hazards</b>
Mission Oak High School	3442 E. Bardsley Avenue.	Tulare	Unknown	Earthquake, Dam Flood, Fog
Mission Valley Elementary School	1695 Bella Oaks	Tulare	Unknown	Earthquake, Fog
Monache High School	850 N. Eaton Avenue	Dinuba	Unknown	Earthquake, 500-Year Floodplain, Fog, Winter Storm
Monson-Sultana School	10643 Avenue 416	Sultana	Unknown	Earthquake, Fog, Winter Storm
Monte Vista Elementary School	701 W Westfield	Porterville	Unknown	Earthquake, Dam Flood, Fog
Mount Whitney High School	909 E. Cedar	Tulare	Unknown	Earthquake, Dam Flood, Fog
Mountain View Elementary School	2021 S Encina St	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Mulcahy Middle School	1001 W. Sonora	Tulare	Unknown	Earthquake, Fog
Oak Grove Elementary School	4445 W Ferguson Avenue	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Oak Grove Elementary School	1873 W Mulberry Avenue	Porterville	Unknown	Earthquake, Dam Flood, Fog
Oak Valley Elementary School	24500 Road 68	Tulare	Unknown	Earthquake, Fog
Olive Street Elementary School	255 W Olive Avenue	Porterville	Unknown	Earthquake, Dam Flood, Fog
Orosi High School	41815 Road 128	Orosi	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog, Winter Storm
Outside Creek Elementary School	26452 Road 164	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Palm Elementary School	12915 Avenue 419	Orosi	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog, Winter Storm
Palo Verde Elementary School	9637 Avenue 196	Tulare	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Pinkham Elementary School	2200 E Tulare Avenue	Visalia	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Pioneer Middle School	225 E College Avenue	Porterville	Unknown	Earthquake, Dam Flood, Fog

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<b>Table G-3: List of School Properties</b>				
<b>Name</b>	<b>Address</b>	<b>City</b>	<b>Value</b>	<b>Hazards</b>
Pixley Elementary School	300 N. School St	Pixley	Unknown	Earthquake, 100-Year Floodplain, Fog
Pixley Middle School	1520 E. Court Street	Pixley	Unknown	Earthquake, Fog
Pleasant Elementary School	1855 W. Pleasant	Tulare	Unknown	Earthquake, Fog
Pleasant View Elementary School	18900 Avenue 145	Porterville	Unknown	Earthquake, Dam Flood, Fog
Pleasant View West School	14004 Road 184	Porterville	Unknown	Earthquake, Dam Flood, Fog
Porterville College	100 E College	Porterville	Unknown	Earthquake, Dam Flood, Fog
Porterville High School	465 W Olive Avenue	Porterville	Unknown	Earthquake, Dam Flood, Fog
Prospect Education Center	645 N Prospect	Porterville	Unknown	Earthquake, Dam Flood, Fog
Redwood High School	1001 W Main St	Visalia	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Richgrove Elementary School	20908 Grove Drive	Richgrove	Unknown	Earthquake, Fog
River Bend Elementary School	1800 N Lovers Ln	Visalia	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Roche Avenue Elementary School	388 N Roche Avenue	Porterville	Unknown	Earthquake, Fog
Rockford Elementary School	14983 Road 208	Porterville	Unknown	Earthquake, Dam Flood, Fog
Rocky Hill Elementary School	313 Sequoia Drive	Exeter	Unknown	Earthquake, 500-Year Floodplain, Fog
Roosevelt Elementary School	1311 N. Euclid Avenue	Dinuba	Unknown	Earthquake, 100-Year Floodplain, Fog, Winter Storm
Roosevelt Elementary School	1046 W. Sonora	Tulare	Unknown	Earthquake, Fog
Royal Oaks Elementary School	1323 S Clover St	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Santa Fe Elementary School	286 E Orange Avenue	Porterville	Unknown	Earthquake, Dam Flood, Fog
Sausalito Elementary School	17615 Avenue 104	Terra Bella	Unknown	Earthquake, 100-Year Floodplain, Fog

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<b>Table G-3: List of School Properties</b>				
<b>Name</b>	<b>Address</b>	<b>City</b>	<b>Value</b>	<b>Hazards</b>
Sequoia High School	900 West Pioneer Avenue	Porterville	Unknown	Earthquake, Dam Flood, Fog
Sequoia Middle School	1450 W Castle	Porterville	Unknown	Earthquake, Dam Flood, Fog
Sequoia Union School	23958 Avenue 324	Lemon Cove	Unknown	Earthquake, Fire
Sierra Elementary School	50151 Whitaker Forest Rd	Badger	Unknown	Earthquake, Winter Storm, Snow, Wind, Fall, Fire
Sierra Vista High School	8470 Avenue 406	Dinuba	Unknown	Earthquake, Fog
Springville Union Elementary School	35424 Ward Avenue	Springville	Unknown	Earthquake, Winter Storm, Fire
Steve Garvey Junior High School	340 N Harvard Avenue	Lindsay	Unknown	Earthquake, 100-Year Floodplain, Fog
Stone Corral Elementary School	15590 Avenue 383	Visalia	Unknown	Earthquake, 500-Year Floodplain, Fog
Strathmore Union Elementary	23024 Avenue 198	Strathmore	Unknown	Earthquake, Fog
Strathmore High School	22568 Avenue 196	Strathmore	Unknown	Earthquake, Fog
Strathmore Middle School	19840 Orange Belt Drive	Strathmore	Unknown	Earthquake, Fog
Success Community School	14871 Road 192	Porterville	Unknown	Earthquake, Dam Flood, Fog
Summit Charter Academy - Mathew Campus	175 S Mathew St	Porterville	Unknown	Earthquake, Dam Flood, Fog
Summit Charter Collegiate Academy	15550 Redwood St	Porterville	Unknown	Earthquake, Dam Flood, Fog
Sundale School	13990 Avenue 240	Tulare	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Sunnyside Union Elementary School	21644 Avenue 196	Strathmore	Unknown	Earthquake, Fog
Superior Community School	1105 South O St.	Tulare	Unknown	Earthquake, Dam Flood, Fog
Terra Bella Elementary School	851 N Stanford Avenue	Lindsay	Unknown	Earthquake, 100-Year Floodplain, Fog
Three Rivers Elementary School	41932 Sierra Drive	Three Rivers	Unknown	Earthquake, 500-Year Floodplain, Fire



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<b>Table G-3: List of School Properties</b>				
<b>Name</b>	<b>Address</b>	<b>City</b>	<b>Value</b>	<b>Hazards</b>
Tipton Elementary School	370 N Evans Rd	Tipton	Unknown	Earthquake, Fog
Traver Joint Elementary School	36736 Canal Drive	Traver	Unknown	Earthquake, 100-Year Floodplain, Fog
Tulare Adult School	575 W. Maple Avenue.	Tulare	Unknown	Earthquake, Fog
Tulare City Community Day School	601 Delwood St	Tulare	Unknown	Earthquake, Fog
Tulare Union High School	Route 1 Box 104	Kernville	Unknown	Earthquake, Fog
Tulare Western High School	824 W Maple	Tulare	Unknown	Earthquake, Fog
Valley High School / Tulare Tech Prep School	737 W. Bardsley Avenue.	Tulare	Unknown	Earthquake, Fog
Valley Oak Middle School	2000 N Lovers Ln	Visalia	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Vandalia Elem School	271 E College Avenue	Porterville	Unknown	Earthquake, Dam Flood, Fog
Veva Blunt Elementary School	1119 S Chinowth St	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Vine Street Community Day School	140 S C St	Porterville	Unknown	Earthquake, Dam Flood, Fog
Visalia Charter Independent Study	1821 West Meadow Lane	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Visalia Technical Education	2049 South Linwood Street	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Washington Elementary School	500 S Garden St	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Washington Elementary School	451 E Samoa St	Lindsay	Unknown	Earthquake, Fog
Washington Intermediate School	1150 N Hayes Avenue	Dinuba	Unknown	Earthquake, 500-Year Floodplain, Fog, Winter Storm
Waukena Joint Union Elementary School	19113 Road 28	Tulare	Unknown	Earthquake, Dam Flood, Fog, Winter Storm

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<b>Table G-3: List of School Properties</b>				
<b>Name</b>	<b>Address</b>	<b>City</b>	<b>Value</b>	<b>Hazards</b>
West Putnam Elementary School	1345 W Putnam Avenue	Porterville	Unknown	Earthquake, Dam Flood, Fog
Westfield Elem School	1151 W Pioneer Avenue	Porterville	Unknown	Earthquake, Dam Flood, Fog
Willow Glen Elementary School	310 N Akers St	Visalia	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Wilson Elementary School	850 W. Washington Avenue	Earlimart	Unknown	Earthquake, Fog
Wilson Elementary School	305 E Kamm Avenue	Dinuba	Unknown	Earthquake, Fog
Wilson Middle School	265 Albert Avenue	Exeter	Unknown	Earthquake, 500-Year Floodplain, Fog
Woodlake Union High School	400 West Whitney Avenue.	Woodlake	Unknown	Earthquake, Fog
Woodlake Valley Middle School	497 N Palm St	Woodlake	Unknown	Earthquake, 100-Year Floodplain, Fog
Woodville Elementary School	16541 Road 168	Porterville	Unknown	Earthquake, Dam Flood, Fog
Yetterm Continuation High School	13198 Avenue 484	Yetterm	Unknown	Earthquake, 500-Year Floodplain, Fog

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### **Vulnerabilities and Potential Losses:**

A risk assessment determines the vulnerability of assets within the TCOE by evaluating the inventory of existing property exposed to a hazard. The population and economy are considered as part of the overall County analysis. A quantitative vulnerability assessment is limited to the exposure buildings, and infrastructures to the identified hazards. This risk assessment includes those hazards that are natural and terrorism.

### **Populations at Risk**

The County estimated population for 2017 was 460,437. Approximately 20.9% are between the ages of 5 and 18. While not all of that segment attends TCOE school district institutions, the school day population is approximately 90,000 students, plus additional teachers and other staff.

### **Economic Risks**

The economic risks associated with loss of schools extends beyond the value of the buildings. Schools serve as centers of the community and provide recreational, social and cultural benefits. During emergencies, schools serve as shelters. In all communities, schools provide child care, a critical service for single parent and two working parent families. Additionally, schools support nutritional, access and function needs, and enrichment services. These economic benefits, while tangible, are difficult to quantify.

### **Vulnerability and Potential Losses**

FEMA requires that an estimation of loss be conducted for the identified hazards to include the number of potential structures impacted by the hazards and the total potential costs. The analysis of potential losses calculated in **Table G-4** used the best data currently available to produce an understanding of potential loss. These estimates may be used to understand relative risk from hazards and potential losses. There are uncertainties in any loss estimation method, resulting from lack of scientific study and the exact result of hazard effects on the built environment, and from the use of approximations that are necessary for a comprehensive analysis.

<b>Table G-4: Summary of Vulnerabilities and Potential Loss</b>	
<b>Hazard Type</b>	<b>Impacts/Costs</b>
Climate Change	<p><u>Impacts:</u> Climate change will cause multiple effects to infrastructure and community public health. Warmer weather associated with climate change will result in more heat related illness. Drier weather will place increasing demands on imported and well water, and may lead to long lasting draughts that result in water rationing.</p> <p><u>Costs:</u> Climate change costs are difficult to specify. They will occur and accrue over centuries. As temperatures rise, additional costs for climate control such as air conditioning will occur. Less precipitation may result in depletion of stored and ground water reserves with potential for increased water costs and rationing. Much of these costs will be borne by individuals and families. Increased costs will also affect businesses and government owned facilities. Researchers at UC Berkeley (Science, May 2017) concluded</p>

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	<p>that for every 1-degree Fahrenheit increase in global temperatures, the U.S. economy stands to lose about 0.7 percent of its Gross Domestic Product, with each degree of warming costing more than the last.</p>
Dam Inundation	<p><u>Impacts:</u> Success and Terminus Dams have large inundation areas</p> <p><u>Costs:</u> A rapid failure of Success or Terminus Dam would result in catastrophic loss of life and injury, and property loss. Map B-6 depicts the potential footprint for dam inundation. Specifics of the inundation curves are contained in the dam Emergency Action Plans which are limited distribution documents. The potential injury and death from a short notice dam failure could be in the 10,000s. Total losses within the County to school facilities could exceed \$1,000,000,000.</p>
Drought	<p><u>Impacts:</u> Drought produces a variety of impacts that span many sectors of the economy. Reduced crops productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality; and rationing are a few examples of direct impacts. These problems can result in increased prices for food and lumber, unemployment, reduced tax revenues, increased crime, and foreclosures on bank loans to farmers and businesses, and migration. Populations that rely on or are affected by a lack of water or annual rainfall are most directly affected by droughts. The County is dependent on imported water for most of its needs. During prolonged droughts, water rationing is possible resulting in potentially higher water costs and loss of private and public landscaping.</p> <p><u>Costs:</u> Potential costs from drought to the County and its communities are difficult to quantify and are dependent upon drought duration and severity. In addition to increased costs for water, prolonged drought may result in reduced property values, loss of tax revenues and migration, all of which will cause economic losses.</p>
Extreme Heat	<p><u>Impacts:</u> Extreme heat events, present serious health risks to the County’s most vulnerable populations. The effects of extreme heat (over 84°F) on human health are well documented. Increased temperature or extended periods of elevated temperatures can increase heat-related mortality, cardiovascular-related mortality, respiratory mortality, and heart attacks, while increasing hospital admissions and emergency room visits. Extreme heat can also affect a person’s ability to thermo-regulate, causing heat stress and sometimes leading to death.</p> <p><u>Costs:</u> Extreme heat results in increased electricity usage and additional health care costs. While additional power costs affect both commercial and residential properties, added health care costs impact individuals and families. Extreme heat may reduce economic activity if prolonged.</p>
Flood	<p><u>Impacts:</u> Flooding occurs throughout the County during periods of heavy rain due to inadequate drainage. The flat geography also contributes to ponding.</p> <p><u>Costs:</u> There are no accurate costs values associated with past flood events. Future flood incidents will likely result in structural damage and lost economic activity. Flood costs to County school districts could be in excess of \$1,000,000,000.</p>
Terrorism	<p><u>Impacts:</u> Terrorist attacks against schools are an unfortunate but real potential vulnerability. Previous incidents have targeted single facilities and resulted in mass fatalities. Likely impacts from a terrorist attack on a school are multiple deaths and injuries, damage to facilities and loss of confidence in community cohesion.</p> <p><u>Costs:</u> The costs of terrorist attacks are difficult to quantify. In addition to emergency services response costs and damage to facilities, the community costs are real but intangible. Individual costs include medical and funeral expenses. Long term increased law enforcement and security costs are also likely to occur.</p>

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Based upon previously occurring incidents and the risk assessment, the following hazards are most likely to affect Tulare:

- Climate Change
- Dam Inundation
- Drought
- Extreme heat
- Flood
- Terrorism

## G.4 Capabilities Assessment

### FEMA REGULATION CHECKLIST: CAPABILITY ASSESSMENT

#### Capability Assessment

**44 CFR § 201.6(c)(3):** – The plan must include mitigation strategies based on the jurisdiction's "existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools."

#### Elements

**C1.** Does the plan document the jurisdiction's existing authorities, policies, programs and resources, and its ability to expand on and improve these existing policies and programs? 44 CFR § 201.6(c)(3)

**C2.** Does the Plan address the jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? 44 CFR § 201.6(c)(3)(ii)

Source: FEMA, *Local Mitigation Plan Review Tool*, March 2013.

**Note:** For coverage of Elements C3 – C5, see Section 8, Mitigation Strategies. For coverage of Element C6, see Section 9, Plan Maintenance.

The reason for conducting a capability assessment is to identify TCOE's capacity to successfully implement mitigation activities. Understanding internal and external processes, resources and skills forms the basis of implementing a successful HMP. Understanding strengths and weaknesses also helps ensure that goals and objectives are realistic and attainable.

The planning team conducted an assessment of TCOE's capabilities that contribute to the reduction of long-term vulnerabilities to hazards. The capabilities include authorities and policies, such as legal and regulatory resources, staff, and fiscal resources. Staff resources include technical personnel such as planners/engineers with knowledge of development and land management and an understanding of natural or human-caused hazards. The planning team also considered ways to expand on and improve existing policies and programs with the goal of integrating hazard mitigation into the day-to-day activities and programs of TCOE. In carrying out the capability assessment, several areas were examined:

- Planning and regulatory capabilities
- Administrative and technical resources
- Fiscal resources including grants, mutual aid agreements, operating funds and access to funds
- Technical and staff resources to assist in implementing/overseeing mitigation activities
- Previous and Ongoing Mitigation Activities

**Table G-5** provides a list of TCOE's capabilities:

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<b>Table G-5: TCOE's Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
Tulare County Office of Education will assist all agencies in emergency situations	Describes what the County Office of Education and schools that house Tulare County Office of Education's programs, actions will be during a response to an emergency. The office will follow the emergency plans of the district in which the facilities are located.	All	No	Administrative
Tulare County Superintendent of Schools Pandemic Influenza Crisis Response Plan	Describes what the response will be between Tulare County Superintendent of Schools, Tulare County Public Health Department and Tulare County Office of Emergency Services during the different stages of a pandemic influenza crisis as it relates to schools.		No	Administrative
Tulare County Office of Education Comprehensive Safety Plan	Describes policies and procedures for maximizing school safety to create a positive learning environment that teaches strategies for violence prevention and emphasizes high expectations for student conduct.		No	Administrative
Tulare County School Districts	Individual Districts have developed their own safety plans applicable to their school sites. Tulare County Office of Education employees will follow the District safety plans when on other District sites.		Yes	Administrative
Tulare County Office of Education, Assistant Superintendent	Under the direction of the Superintendent, plan, organize, control, and direct the activities and operations of the Business Services Office, coordinate assigned activities with other divisions, departments, school districts, and outside agencies; maintain the fiscal integrity and solvency of the organization; assure programs are operating within the appropriate fiscal parameters and remain in compliance with the appropriate federal, state, or local regulations.		No	Administrative
Tulare County Office of Education, Facilities Coordinator	Under the direction of the Superintendent/Designee, coordinate and develop short- and long-range plans for school housing facilities; plan, organize, and coordinate the activities and operations of the facilities and planning functions, including new construction, renovation, and leasing; act as a liaison between the County Office of		No	Administrative

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<b>Table G-5: TCOE's Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
	Education and the agencies of the State, County, and City governments.			
Tulare County Office of Education, Business Services Administrative Assistant	Under the direction of Chief Business and Administrative Services Officer, perform highly responsible and confidential secretarial and administrative assistant duties to relieve the administrator of a variety of administrative details; interpret policies and regulations to officials, staff, and the public; plan, coordinate, and organize office activities and coordinate flow of communications and information for the assigned administrators, maintain confidentiality of sensitive and privileged information.		No	Administrative
Tulare County Office of Education, Chief Information Technology Officer	Under the direction of the Assistant Superintendent, plan, organize, control and direct strategic planning of management information services for the Tulare County Superintendent of Schools and the school districts of Tulare County; direct and support the use of personal computer hardware and software, computer, and computer-related needs of the TCOE Local Area Network and Wide Area Network; direct the maintenance and programming of the electronic communications systems for the County-wide Financial System; direct the operations and maintenance of the TCOE communications network.	All	No	Administrative



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### G.5 Mitigation Strategy

Table G-6 lists the TCOE specific mitigation actions from the 2011 Plan and provides their status.

<b>Table G-6. Tulare County Office of Education, Mitigation Action Plan</b>						
No.	Selected (Y/N)	Description	Prioritization Criteria	Facility to be Mitigated (if known)	Department or Agency	Status
1	Y	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.	B, C, D, E	Not Applicable	TCOE	Ongoing: Mitigation Action 6 in 2017 Plan.
3	Y	Seismically retrofit or replace emergency response facilities that are necessary during and/or immediately after a disaster or emergency.	B, C, D, E	Schools designated for sheltering	TCOE	Ongoing: Mitigation Action 7 in 2017 Plan.
8	Y	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	B, C, D, E	Various Schools in the following districts: Allensworth, Dinuba Unified, Exeter High, Farmersville Unified, Lindsay Unified, Palo Verde, Pixley, Saucelito, Terra Bella, Travel, Tulare City, Visalia Unified and Woodlake Elementary	TCOE	Ongoing: Mitigation Action 8 in 2017 Plan.

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10	Y	Work with FEMA Region IX to address any floodplain management issues that may have arisen/arise from the countywide DFIRM, Community Assessment Visits, and/or DWR.	B, C, D, E	Various Schools in the following districts: Alta Vista, Buena Vista, Burton, Cutler- Orosi Unified, Dinuba Unified, Exeter Elementary, Hope, Lindsay Unified, Outside Creek, Palo Verde, Pleasant View, Porterville Unified, Sequoia Union, Sundale, Tulare City, Tulare High, Visalia, Waukena, and Woodville	TCOE	Ongoing: Mitigation Action 9 in 2017 Plan.
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**Prioritization Criteria**

- A local jurisdiction department or agency champion currently exists or can be identified
- The action can be implemented during the 5-year lifespan of the HMP
- The action may reduce expected future damages and losses (cost-benefit)
- The action mitigates a high-risk hazard
- The action mitigates multiple hazards

The TCOE mitigation strategies from the 2011 HMP are still relevant to this update. **Table G-7** contains an updated set of potential mitigation strategies for new Plan. Mitigation actions were derived from numerous sources including the Capital Improvement Plan and input from the public and stakeholders.

<b>Table G-7: TCOE Potential Mitigation Strategies</b>			
<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
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.	All	Mit.

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2	Integrate the County HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	All	Mit.
3	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).	All	Mit.
4	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.	FR	Mit.
5	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 very high fire hazard severity zones or State responsibility area by fire hazard zone designation. Identify plans and actions to improve substandard housing structures and neighborhoods.	FR	Mit.
6	Acquire, relocate, or elevate residential structures, in particular those that have been identified as Repetitive Loss (RL) properties that are located within the 100-year floodplain.	FL	Mit.
7	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	FL	Mit.
8	Maintain emergency evacuation plans all facilities.	FL	Mit.
10	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.	All	Prep.
11	Promote public safety programs, including neighborhood watch programs, child identification and fingerprinting, public awareness and prevention of fire hazards, and other public education efforts.	CT	Mit.

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12	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.	All	Resp.
13	Tulare County Office of Education Inspection. Inspection of facilities and grounds to identify areas of repair.	All	Mit.
14	Securing all bookcases and cabinets to walls and assessing rooms for falling objects. Securing all bookcases and cabinets to walls and assessing rooms for falling objects.	EQ	Mit.
15	Encourage Districts to participate in statewide Earthquake and Evacuation drill. These activities also encourage districts to review school sites for safe areas and preparing classrooms from falling debris. Encourage Districts to participate in statewide Earthquake and Evacuation drill. These activities also encourage districts to review school sites for safe areas and preparing classrooms from falling debris.	EQ	Mit.
16	Ensure basins at sites are clear to provide capacity for high precipitation events. Ensure basins at sites are clear to provide capacity for high precipitation events.	FL	Mit.
17	Encourage Districts to attend Active Shooter trainings and provide that training to District personnel. Encourage Districts to attend Active Shooter trainings and provide that training to District personnel.	CT	Prep.

All of TCOE's mitigation strategies from the 2011 HMP are still relevant to this update. **Table G-8** contains an updated set of current and future TCOE-specific mitigation actions.

<b>Table G-8 TCOE - Mitigation Actions</b>					
<b>Action Number</b>	<b>Mitigation Strategy</b>	<b>Department</b>	<b>Cost</b>	<b>Priority</b>	<b>Timeframe</b>
1	Inspection of facilities and grounds to identify areas of repair.	All Districts	Unknown	High	One year

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2	Secure all bookcases and cabinets to walls and assess rooms for falling objects.	All Districts	Unknown	High	One year
3	Encourage Districts to participate in statewide Earthquake and Evacuation drill. These activities also encourage districts to review school sites for safe areas and preparing classrooms from falling debris.	All Districts	Unknown	High	One year
4	Encourage Districts to attend Active Shooter trainings and provide that training to District personnel. Encourage Districts to attend Active Shooter trainings and provide that training to District personnel.	All Districts	Unknown	High	One year

Incorporation into other plans: FEMA requires the HMP be consistent with and incorporated into other planning documents and processes. For the TCOE this includes Tulare County Office of Education Comprehensive Safety Plan. The term “consistency” in planning terms means that the general plan and the other plans have similar community goals and policies, that they advocate similar land use patterns, and they are consistent in their guidance of direction and rate of growth.

Some of the plans listed in the Capabilities Assessment mentioned in Section G.4 have not been updated since the 2011 MJLHMP was adopted. Recommended ways to use and incorporate the new Plan over the next five-year planning cycle, discussed by the Planning Team, included:

- Incorporation of the TCOE Annex Tulare County Office of Education Comprehensive Safety Plan.
- Resource for developing and/or updating emergency operations plans emergency response plans, etc.

The Plan will continue to function as a standalone document subject to its own review and revision schedule presented in Sections 7.1 and 7.2. The Plan will also serve as a reference for other mitigation and land planning needs of the participating jurisdictions. Whenever possible, each jurisdiction will endeavor to incorporate the risk assessment results and mitigation actions and projects identified in the Plan, into existing and future planning mechanisms.

At a minimum, each school district will review and reference the Plan and revise and/or update the legal and regulatory planning documents, manuals, codes, and ordinances as appropriate.

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### Annex H Tule River Tribe

The Tule River Indian Tribe (hereafter referred to as the Tule River Tribe) is a Federally-recognized tribe that inhabits the Tule River Indian Reservation, which was established in 1873. **Figure H-1** provides a map of the Reservation.

#### H.1 COMMUNITY PROFILE

**Geography and Climate:** Established in 1873, the Tule River Indian Reservation is estimated to cover almost 85 square miles of rugged foothill lands of the Sierra Nevada Mountains. The reservation is located in a remote rural area approximately 20 miles from the nearest town of Porterville. The Reservation is accessible only by one winding paved road that follows the meandering South Fork of the Tule River. It is isolated in a rugged setting that allows for privacy and for development independent from urban or recreational sprawl. The Tribe also owns 40 acres in the Porterville Airport Industrial Park and 79.9 acres in the foothill scenic development corridor along Highway 190.

**Government:** The Tule River Tribal Council, which was created by the constitution and bylaws of the Tule River Tribe and approved January 15, 1936, conducts executive, legislative, and business functions. The Tribal Council consists of nine council members elected by secret ballot. The elected officials then decide who will perform the functions of chairman, vice chairman, secretary, and treasurer.

**Population and demographics:** The Tule River Tribe has a population of 997. The Tribe consists of Yokut, Western Mono, and Tubatulabal peoples.

**Economy:** The Tule River Tribe has three enterprises that assist the tribe in making their community a better place. Through these enterprises, the Tule River Tribe is able to be a self-sufficient entity improving the everyday lives of their members. The enterprises are:

- Eagle Mountain Casino is the only full-service casino in Tulare County offering local residents gaming 24 hours a day
- Tule River Aero-Industries is a 20,000-square foot facility that is a major engine and airframe repair station equipped with a full line aircraft sales department
- Eagle Feather Trading Post is one of the largest convenience stores in Tulare County, located on Hwy 190 just above Lake Success. The store has a full line of groceries; cold beer, wine, fishing and bait supplies

#### **Development in hazard prone areas:**

Because population growth was less than two percent per year since approval of the 2011 MJLHMP, there has been no development in hazard prone areas that has affected overall vulnerability of the County. Development that did occur, was primarily infill in urban areas where vulnerabilities are well understood and described.

The new MJLHMP addresses the new hazard of climate change. This hazard impacts the entire City. Development in the City, the State and globally with increased carbon emissions will result in increasing overall vulnerabilities to its impacts.

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## H.2 HAZARDS IDENTIFICATION AND ANALYSIS

**Hazards:** While the Tule River Tribe faces many of the hazards that are present in the County, the severity of the hazards is different. Hazards in the Reservation with unlikely frequency, limited extent, limited magnitude and low significance were not included. These include dam failure, earthquake, earthquake liquefaction - subsidence, flood, civil unrest, levee failure and terrorism/cyber terrorism. Because of its location in the foothills of the Sierra Nevada Mountains, the Reservation faces more severe threat from wildland fires and winter storms. **Table H-1** below provides a summary of hazards. There are no hazards that are unique to the Tribe.

Table H-1: Tule River Tribe Summary of Hazards					
Hazard	Frequency	Extent	Magnitude	Significance	Location
Climate Change	Highly likely	Extensive	Catastrophic	High	Entire jurisdiction
Drought	Likely	Extensive	Catastrophic	High	Entire jurisdiction
Energy Emergency	Occasional	Extensive	Critical	Medium	Entire jurisdiction
Extreme Heat	Highly Likely	Extensive	Critical	High	Entire jurisdiction
Fire	Highly Likely	Extensive	Limited	Medium	Entire jurisdiction
Hazardous Materials	Likely	Limited	Limited	Low	Entire jurisdiction
Pandemic and Vector Borne Disease	Likely	Extensive	Critical	Medium	Entire jurisdiction
Severe Storms and High Winds	Highly Likely	Significant	Critical	Medium	Entire jurisdiction
Wildfire	Highly Likely	Extensive	Critical	High	Map B-4 depicts

### Guidelines for Hazard Rankings

#### Frequency of Occurrence:

Highly Likely	Near 100% probability in next year
Likely	Between 10 and 100% probability in next year or at least one chance in ten years
Occasional	Between 1 and 10% probability in next year or at least one chance in next 100 years
Unlikely	Less than 1% probability in next 100 years

#### Spatial Extent:

Limited	Less than 10% of planning area
Significant	10-50% of planning area
Extensive	50-100% of planning area

#### Potential Magnitude:

Catastrophic	More than 50% of area affected
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#### Significance (subjective):

low, medium, high

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Critical	25 to 50% of area affected
Limited	10 to 25% of area affected
Negligible	Less than 10%

### H.3 RISK ASSESSMENT

The intent of this section is to assess the Tule River Tribe's vulnerability separate from that of the Operational Area as a whole, which has analyzed and described in **Section 5.3 Risk Assessment** in the base plan. This risk assessment analyzes the population, property, and other assets vulnerable to the hazards ranked of medium or high significance that may vary from other parts of the planning area. For more information about how hazards affect the County as a whole, see **Section 5** of the base plan.



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### Infrastructure and Values at Risk:

The following data was provided by the emergency manager. This data should only be used as a guideline to determine overall values as the information has some limitations. Generally, the land itself is not a loss. **Table H-2** shows the 2016 inventory for the Tribe.

<b>Table H-2: Tule River Tribe Risk Assessment</b>			
<b>Address</b>	<b>Address</b>	<b>Value</b>	<b>Hazards</b>
Church on The Hill (Church of God)	190 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Elder Center	217 S. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Matter De La Rosa Church	350 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Tule River Alcoholism Program (TRAP)	1012 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Tule River Veterans Center / Amvets	356 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Tule River Tribe Recreation Department / Community Gymnasium	308 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Child Care Center	186 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Towanits Indian Education Center	310 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Tule River Study Center	568 W. Olive Avenue	Unknown	Earthquake, Freezing, Flood, Fire, Extreme Heat, Drought, Dam Flood, Fog
Tule River W.I.O.A. Workforce Investment Opportunity Act Training and Employment Program (center)	129 S. Reservation Road Suite 177	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Tule River Fire Station	299 S. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Tule River Justice Center	129 S. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought

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<b>Table H-2: Tule River Tribe Risk Assessment</b>			
<b>Address</b>	<b>Address</b>	<b>Value</b>	<b>Hazards</b>
Department of Public Safety	129 S. Reservation Road Suite 130	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Eagle Feather Trading Post	31071 Highway 190	Unknown	Earthquake, 100-Year Floodplain, Fog, Fire, Extreme heat, Drought
Tule River Economic Development Corporation TREDC	31071 Highway 190	Unknown	Earthquake, Freezing, Flood, Fire, Extreme Heat, Drought, Dam Flood, Fog
Eagle Mountain Casino	681 S. Tule Road	Unknown	Earthquake, Freezing, Fire
Eagle Mountain Casino Warehouse Facility	Latitude and Longitude	Unknown	Earthquake, Dam Flood, Fog
McCarthy Ranch	32657 Reservation Road	Unknown	Earthquake, Fire
Department of Environmental Protection	PO Box 589 Porterville	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Owens Valley Career Development Center / TANF	168 N. Reservation Road	Unknown	Earthquake, Freezing, Fire
Tule River Aero Industries	2011 Wildcat Way	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Tule River Economic Development Corporation	2780 W Yowlumne Avenue # A	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Tule River Housing Authority	324 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Tule River Maintenance Shop	298 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Tule River Natural Resources (Admin)	1010 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Tule River Public Works	487 S. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Tule River Telecommunications Shed	364 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Tule River Tribal Administration Building	340 N. Reservation Rd	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Yokuts Custom Woodworking	Latitude/Longitude	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Water Treatment Plant	168 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought

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<b>Table H-2: Tule River Tribe Risk Assessment</b>			
<b>Address</b>	<b>Address</b>	<b>Value</b>	<b>Hazards</b>
Tule River Health Center Fiscal Dept. Purchase Referred Care - PRC	400 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Tule River Indian Health Center	380 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Tule River Indian Health Center – Behavioral Health	380 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Tule River Yokuts Language Project Building	304 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Oak Pit Steak House Restaurant	615 N. Main Street Porterville	Unknown	Earthquake, Freezing, Flood, Fire, Extreme Heat, Drought, Dam Flood, Fog
Tule River Housing Rehabilitation Program	557 S. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Water Treatment Plant Office	168 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Tule River Telecommunications Central Office	364 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Tule River Natural Resources Range Shop	360 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Vacant Building	302 N. Reservation Road	Unknown	Earthquake, Freezing, Severe Winter Storm, Snow, Flood, Fire, Extreme Heat, Drought
Tule River USDA Food Distribution	2780 W. Yowlumne Ave Porterville Suite A	Unknown	Earthquake, Freezing, Flood, Fire, Extreme Heat, Drought, Dam Flood, Fog
Tule River Graphics	2780 W. Yowlumne Ave Porterville Suite B	Unknown	Earthquake, Freezing, Flood, Fire, Extreme Heat, Drought, Dam Flood, Fog
Eagle Mountain Casino Warehouse	2760 W. Yowlumne Ave Porterville Suite B	Unknown	Earthquake, Freezing, Flood, Fire, Extreme Heat, Drought, Dam Flood, Fog
Eagle Mountain Casino Warriors Cage	2760 W. Yowlumne Ave Porterville Suite A	Unknown	Earthquake, Freezing, Flood, Fire, Extreme Heat, Drought, Dam Flood, Fog

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**Critical Facilities:** The Tule River Tribe has identified the following infrastructure in **Table H-3** as critical facilities:

<b>Table H-3: Tule River Tribe Critical Facilities</b>		
<b>Facility</b>	<b>Address</b>	<b>Value</b>
Tule River Fire Station	299 S. Reservation Road	Unknown
Tule River Justice Center	129 S. Reservation Road	Unknown
Department of Public Safety	129 S. Reservation Road Suite 130	Unknown
Tule River Maintenance Shop	298 N. Reservation Road	Unknown
Tule River Natural Resources Forestry Office / Shop	300 N. Reservation Road	Unknown
Tule River Public Works	487 S. Reservation Road	Unknown
Tule River Telecommunications Shed	364 N. Reservation Road	Unknown
Tule River Tribal Administration Building	340 N. Reservation Rd	Unknown
Tule River Maintenance Shop	298 N. Reservation Road	Unknown
Tule River Natural Resources (Admin)	1010 N. Reservation Road	Unknown
Water Treatment Plant Office	168 N. Reservation Road	Unknown
Tule River Telecommunications Central Office	364 N. Reservation Road	Unknown

### **Vulnerabilities and Potential Losses:**

A risk assessment determines the vulnerability of assets within the Tribal lands by evaluating the inventory of existing property exposed to a hazard. The population and economy are considered as part of the overall County analysis. A quantitative vulnerability assessment is limited to the exposure buildings, and infrastructures to the identified hazards. This risk assessment includes those hazards that are natural and terrorism.

### **Populations at Risk**

The Tule River Tribe has a population of 997.

### **Economic Risks**

Economic risks are associated with damage or loss of the Tribes three major revenue producing enterprises. They are:

- Eagle Mountain Casino is the only full-service casino in Tulare County offering local residents gaming 24 hours a day
- Tule River Aero-Industries is a 20,000-square foot facility that is a major engine and airframe repair station equipped with a full line aircraft sales department
- Eagle Feather Trading Post is one of the largest convenience stores in Tulare County, located on Hwy 190 just above Lake Success. The store has a full line of groceries; cold beer, wine, fishing and bait supplies

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### Vulnerability and Potential Losses

FEMA requires that an estimation of loss be conducted for the identified hazards to include the number of potential structures impacted by the hazards and the total potential costs. The analysis of potential losses calculated in **Table H-4** used the best data currently available to produce an understanding of potential loss. These estimates may be used to understand relative risk from hazards and potential losses. There are uncertainties in any loss estimation method, resulting from lack of scientific study and the exact result of hazard effects on the built environment, and from the use of approximations that are necessary for a comprehensive analysis.

<b>Table H-4: Summary of Vulnerabilities and Potential Loss</b>	
<b>Hazard Type</b>	<b>Impacts/Costs</b>
Climate Change	<p><u>Impacts:</u> Climate change will cause multiple effects to infrastructure and community public health. Warmer weather associated with climate change will result in more heat related illness. Drier weather will place increasing demands on imported and well water, and may lead to long lasting draughts that result in water rationing.</p> <p><u>Costs:</u> Climate change costs are difficult to specify. They will occur and accrue over centuries. As temperatures rise, additional costs for climate control such as air conditioning will occur. Less precipitation may result in depletion of stored and ground water reserves with potential for increased water costs and rationing. Much of these costs will be borne by individuals and families. Increased costs will also affect businesses and government owned facilities. Researchers at UC Berkeley (Science, May 2017) concluded that for every 1-degree Fahrenheit increase in global temperatures, the U.S. economy stands to lose about 0.7 percent of its Gross Domestic Product, with each degree of warming costing more than the last.</p>
Drought	<p><u>Impacts:</u> Drought produces a variety of impacts that span many sectors of the economy. Reduced crops productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality; and rationing are a few examples of direct impacts. These problems can result in increased prices for food and lumber, unemployment, reduced tax revenues, increased crime, and foreclosures on bank loans to farmers and businesses, and migration. Populations that rely on or are affected by a lack of water or annual rainfall are most directly affected by droughts. The County is dependent on imported water for most of its needs. During prolonged draughts, water rationing is possible resulting in potentially higher water costs and loss of private and public landscaping.</p> <p><u>Costs:</u> Potential costs from draught to the County and its communities are difficult to quantify and are dependent upon draught duration and severity. In addition to increased costs for water, prolonged draught may result in reduced property values, loss of tax revenues and migration, all of which will cause economic losses.</p>
Extreme Heat	<p><u>Impacts:</u> Extreme heat events, present serious health risks to the County’s most vulnerable populations. The effects of extreme heat (over 84°F) on human health are well documented. Increased temperature or extended periods of elevated temperatures can increase heat-related mortality, cardiovascular-related mortality, respiratory mortality, and heart attacks, while increasing hospital admissions and emergency room visits. Extreme heat can also affect a person’s ability to thermo-regulate, causing heat stress and sometimes leading to death.</p>

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	<p><u>Costs:</u> Extreme heat results in increased electricity usage and additional health care costs. While additional power costs affect both commercial and residential properties, added health care costs impact individuals and families. Extreme heat may reduce economic activity if prolonged.</p>
Winter Storm	<p><u>Impacts:</u> Winter storms may result in road closures and damage to roadways and bridges.</p> <p><u>Costs:</u> Costs to the Tribe will include emergency response and repair of damaged facilities. Costs are likely to be less than \$10,000,000.</p>

Based upon previously occurring incidents and the risk assessment, the following hazards are most likely to affect Tulare:

- Climate Change
- Drought
- Extreme heat
- Wildland Fire
- Winter Storms

Wildland fire poses a critical threat to the Tule River Tribe due to its geography and remoteness. A list of recent wildland fire is detailed in **Table H-5** below

<b>Table H-5: Tule River Tribe Recent Wildland Fires</b>			
<b>Fire</b>	<b>Dates burned</b>	<b>Acres burned</b>	<b>Damage/Casualties</b>
Finger Fire	06/23/10 – 06/28/10	46	0/0
Station Fire	06/27/10 – 07/02/10	150	0/0
Garfield Fire	06/23/11 – 06/23/11	20	0/0
Chimney Fire	06/24/11 – 06/24/11	27	0/0
Eagle Fire	06/25/11 – 06/25/11	37	0/0
Juliet Fire	07/30/11 – 07/30/11	255	0/0
Hammer Fire	06/15/13 – 06/15/13	13	0/0
Cow 2	07/24/13 – 07/24/13	39	0/1: Injured smoke jumper
Windy	08/31/13 – 08/31/13	231	0/0

H.4 CAPABILITIES ASSESSMENT

**FEMA REGULATION CHECKLIST: CAPABILITY ASSESSMENT**

**Capability Assessment**

**44 CFR § 201.6(c)(3):** – The plan must include mitigation strategies based on the jurisdiction's “existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.”

**Elements**

**C1.** Does the plan document the jurisdiction’s existing authorities, policies, programs and resources, and its ability to expand on and improve these existing policies and programs? 44 CFR § 201.6(c)(3)

**C2.** Does the Plan address the jurisdiction’s participation in the NFIP and continued compliance with NFIP requirements, as appropriate? 44 CFR § 201.6(c)(3)(ii)

Source: FEMA, *Local Mitigation Plan Review Tool*, March 2013.

**Note:** For coverage of Elements C3 – C5, see Section 8, Mitigation Strategies. For coverage of Element C6, see Section 9, Plan Maintenance.

The reason for conducting a capability assessment is to identify the Tule River Tribe’s capacity to successfully implement mitigation activities. Understanding internal and external processes, resources and skills forms the basis of implementing a successful HMP. Understanding strengths and weaknesses also helps ensure that goals and objectives are realistic and attainable.

The planning team conducted an assessment of the Tribe’s capabilities that contribute to the reduction of long-term vulnerabilities to hazards. The capabilities include authorities and policies, such as legal and regulatory resources, staff, and fiscal resources. Staff resources include technical personnel such as planners/engineers with knowledge of development and land management practices and an understanding of natural or human-caused hazards. The planning team also considered ways to expand on and improve existing policies and programs with the goal of integrating hazard mitigation into the day-to-day activities and programs of the Tribe. In carrying out the capability assessment, several areas were examined:

- Planning and regulatory capabilities
- Administrative and technical resources
- Fiscal resources including grants, mutual aid agreements, operating funds and access to funds
- Technical and staff resources to assist in implementing/overseeing mitigation activities
- Previous and Ongoing Mitigation Activities

**Tables H-6 through H-9** provide a list of the Tribe’s capabilities.

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**Planning and Regulatory Capabilities:** These include local ordinances, policies and laws to manage growth and development. Examples include land use plans, capital improvement plans, transportation plans, emergency preparedness and response plans, building codes and zoning ordinances.

<b>Table H-6: Tule River Tribe Planning and Regulatory Capabilities</b>				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
Emergency Operations Plan (Draft)	<p>This plan identifies natural and man- made disasters, such as major fires, winter storms, earthquakes and floods; technological emergencies involving hazardous material releases; and other incidences requiring assistance under Emergency Planning and Community Right to Know Act (EPCRA) are included.</p> <p>The MJLHMP will be used as an essential tool to update the Tule River Tribe’s EOP. Cal OES requires that EOPs describe applicable hazards as part of the Plan. The latest MJLHMP hazards descriptions will be included. Mitigation actions that are preparedness and response in nature will be analyzed for applicability to include in the description of EOP processes and procedures.</p>	All		Planning
Integrated Resource Management Plan (Draft)	The purpose of the IRMP is to give guidance to Natural Resource Administrators to mitigate hazards related to Natural and Cultural Resources			Planning
Forest Management Plan (FMP)	<p>The purpose of the FMP is to give guidance to mitigate wildfires within the Forest of the TRIR.</p> <p>Descriptions of the wildfire hazard and hazard maps will be used to update the FMP.</p>	Fire		Planning
Wildland Fire Management Plan (Draft)	The purpose of the WFMP is to address hazards and mitigation measures related to wildland fires within the boundaries of the TRIR.	Fire		Planning



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<b>Table H-6: Tule River Tribe Planning and Regulatory Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
Fire Prevention Plan (Draft)	<p>The purpose of the FPP is to address hazards associated with wildfires, especially pyromaniac incidents and mitigation strategies.</p> <p>Descriptions of the wildfire hazard and hazard maps will be used to update the FMP.</p>	Fire		Planning

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**Administrative and Technical:** These capabilities include community (including public and private) staff and their skills and tools used for mitigation planning and implementation. They include engineers, planners, emergency managers, GIS analysts, building inspectors, grant writers, and floodplain managers.

<b>Table H-7: Tule River Tribe Administrative and Technical Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
Constitution and Bylaws of the Tule River Indian Tribe	This document explains the authorities granted to the Tribal Council. Specific to hazard mitigation, the Council's ability to address the following topics is discussed: administration of funds or property, the ability to levy taxes and license fees, declaration of ordinances for the purpose of safeguarding the peace and safety of residents and assignments of tribal land			Administrative
Tule River Tribal Council – Public Works	Maintains and operates a wide range of local equipment and facilities as well as providing assistance to members of the public. These include providing sufficient clean fresh water, reliable sewer services, street maintenance, storm drainage systems, street cleaning, street lights and traffic signals.			Technical
Tule River Tribal Council – Tule River Fire Department	Maintains and updates the Emergency Operations Plan for the local jurisdiction. In addition, coordinates local response and relief activities within the Emergency Operation Center, and works closely with County, State, and Federal partners to support planning and training and to provide information and coordinate assistance.			Technical
Tule River Tribal Council – Tribal Police/Tribal Security	Implements response and recovery efforts after the occurrence of human caused and natural hazards.			Technical
Tule River Tribal Council – Environmental Department	Oversees various resource activities to include but not limited to, safe drinking water, hazardous waste, and other environmental related activities.			Technical

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<b>Table H-7: Tule River Tribe Administrative and Technical Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
Tule River Tribal Council – Natural Resource Department	Manages natural resources within the Reservation.			Technical

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**Fiscal:** These capabilities include general funds, property sales, bonds, development impact fees, or other fees.

<b>Table H-8: Tule River Tribe Fiscal Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>		<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
Tribal General Fund	Program operations and specific projects	All		Fiscal
Bureau of Indian Affairs Aid to Tribal Governments	Support general Tribal government operations, maintain up-to-date Tribal enrollment, conduct Tribal elections, and develop appropriate Tribal policies, legislation, and regulations.	All		Fiscal
Federal Highway Administration Indian Reservation Roads Transportation Funding	Construct and improve roads, bridges, and transit facilities leading to, and within, Indian reservations or other Indian lands to provide safe access through hazard-prone areas.	All		Fiscal
U.S. Department of Housing and Urban Development Indian Community Development Block Grant Program	Provide critical housing and community development resources to aid disaster recovery.	All		Fiscal
Imminent Threat, Indian Community Development Block Grant Program	Alleviate or remove imminent threats to health or safety (e.g., drought).	All		Fiscal
Sierra Nevada Conservancy Proposition 84	Fund water quality projects, including all types of nonpoint source projects, watershed protection or restoration projects, estuary management projects, and more traditional municipal wastewater treatment projects.	All		Fiscal

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**Education and Outreach:** Programs in place such as fire safety programs, hazard awareness campaigns, public information or communications offices.

<b>Table H-9: Tule River Tribe Education and Outreach Capabilities</b>				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
Tulare County Association of Governments (TCAG)	TCAG is committed to improving the quality of life for residents and visitors throughout the County. They address traffic congestion, coordinate regional transit programs to make getting around easy and convenient, work to improve air quality and strive to continue to meet national standards. TCAG addresses current and future rail needs and possibilities and gathers data which is used by the census and the public to properly forecast housing and transit needs.	All		Education and Outreach
Tule River Tribe Website <a href="http://www.tulerivertribe-nsn.gov/">http://www.tulerivertribe-nsn.gov/</a> and other social media	Provides easily accessible conduit to information about planning and zoning, permits and applications and programs that address hazard mitigation such as clean energy efforts.  The updated MJLHMP will be posted to City media sites. As the planned is reviewed annually and new updates made, information on the planning process will be included on web sites and announced on social media.	All		Education and Outreach

## 2017 Tulare County MJLHMP - Annex H Tule River Tribe

### Previous and Ongoing Mitigation Activities

#### H.5 MITIGATION STRATEGY

**Table H-10** lists the Tule River Tribe’s specific mitigation actions from the 2011 Plan and provides their status.

<b>Table H-10 Tule River Tribe - Specific Mitigation Actions</b>						
No.	Selected (Y/N)	Description	Prioritization Criteria	Facility to be Mitigated (if known)	Department or Agency	Status
18	Y	Create a vegetation management program that provides vegetation management services to elderly, disabled, or low-income property owners who lack the resources to remove flammable vegetation from around their homes.	A, B, C, D, E	Unknown	Fire	Ongoing: Mitigation Action 1 in 2017 Plan.
19	Y	Develop a community wildfire mitigation plan that identifies and prioritizes areas for hazard fuel reduction treatments, and recommend the types of methods of treatments.	A, B, C, D, E	Unknown	Fire	Ongoing: Mitigation Action 2 in 2017 Plan.
21	Y	Reinforce Tribal bridges and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	A, B, C, D, E	Unknown	Public Works	Ongoing: Mitigation Action 3 in 2017 Plan.

#### **Prioritization Criteria**

- A local jurisdiction department or agency champion currently exists or can be identified
- The action can be implemented during the 5-year lifespan of the HMP
- The action may reduce expected future damages and losses (cost-benefit)
- The action mitigates a high-risk hazard
- The action mitigates multiple hazards

The Tule River Tribe’s mitigation strategy 2 from the 2011 HMP is still relevant to this update. **Table F-10** contains an updated set of potential mitigation strategies for new Plan. Mitigation actions were derived from numerous sources including the General Plan, Tribal Code, Capital Improvement Plan and input from the public and stakeholders.

2017 Tulare County MJLHMP - Annex H Tule River Tribe

<b>Table H-11: Tule River Tribe Potential Mitigation Strategies</b>			
<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
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.	All	Mit.
2	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.	All	Mit.
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.	All	Mit.
4	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).	All	Mit.
5	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.	FR	Mit.
6	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 very high fire hazard severity zones or state responsibility area by fire hazard zone designation. Identify plans and actions to improve substandard housing structures and neighborhoods.	FR	Mit.
7	Reinforce ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	FL	Mit.

## 2017 Tulare County MJLHMP - Annex H Tule River Tribe

8	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.	All	Prep.
9	Continue to promote awareness and education among residents regarding possible natural hazards, including soil conditions, earthquakes, flooding, fire hazards, and emergency procedures.	EQ, FL, FR	Mit.
10	Promote public safety programs, including neighborhood watch programs, child identification and fingerprinting, public awareness and prevention of fire hazards, and other public education efforts.	CT	Mit.
11	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.	All	Resp.
12	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.	All	Resp.
13	Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about severe valley fog and extreme heat conditions.	FG, EH	Resp.
14	Use Geographic Information Systems (GIS) technology to track fire and law enforcement response times and provide technical assistance to fire and law enforcement agencies.	FR, TR	Mit.
15	Require, where feasible, road networks (public and private) to provide for safe and ready access for emergency equipment and provide alternate routes for evacuation	All	Mit.

All of TCOE's mitigation strategies from the 2011 HMP are still relevant to this update. **Table H-12** contains an updated set of current and future TCOE-specific mitigation actions.



## 2017 Tulare County MJLHMP - Annex H Tule River Tribe

<b>Table H-12 Tule River Indian Tribe - Mitigation Actions</b>					
<b>Action Number</b>	<b>Mitigation Strategy</b>	<b>Department</b>	<b>Cost</b>	<b>Priority</b>	<b>Timeframe</b>
1	Create a vegetation management program that provides vegetation management services to elderly, disabled, or low-income property owners who lack the resources to remove flammable vegetation from around their homes.	Fire Department	Unknown	High	One year
2	Develop a community wildfire mitigation plan that identifies and prioritizes areas for hazard fuel reduction treatments, and recommend the types of methods of treatments.	Fire Department	Unknown	High	2-5 Years
3	Reinforce Tribal bridges and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	Public Works	Unknown	High	2-5 Years

Incorporation into other plans: FEMA requires the HMP be consistent with and incorporated into other planning documents and processes. For the Tule River Tribe, these other planning documents include the Emergency Operations Plan (Draft), Integrated Resource Management Plan (Draft), Forest Management Plan (FMP), Wildland Fire Management Plan (Draft) and Fire Prevention Plan (Draft). The term “consistency” in planning terms means that the general plan and the other plans have similar community goals and policies, that they advocate similar land use patterns, and they are consistent in their guidance of direction and rate of growth.

Many of the plans listed in the Capabilities Assessment mentioned in Section H.4 have not been updated since the 2011 MJLHMP was adopted. Recommended ways to use and incorporate the new Plan over the next five-year planning cycle, discussed by the Planning Team, included:

- Incorporation of the Tule River Tribe Annex into the EOP and Integrated Resource Management Plan
- Addition of defined mitigation actions to capital improvement programming
- Inclusion of Plan elements into development planning and practices

## 2017 Tulare County MJLHMP - Annex H Tule River Tribe

The Plan will continue to function as a standalone document subject to its own review and revision schedule presented in Sections 7.1 and 7.2. The Plan will also serve as a reference for other mitigation and land planning needs of the participating jurisdictions. Whenever possible, each jurisdiction will endeavor to incorporate the risk assessment results and mitigation actions and projects identified in the Plan, into existing and future planning mechanisms.

At a minimum, each of the responsible agencies/departments noted in **Table 6.3 and the Annexes of Appendix J** will review and reference the Plan and revise and/or update the legal and regulatory planning documents, manuals, codes, and ordinances as appropriate.



# 2017 Tulare County MJLHMP - Annex I City of Visalia

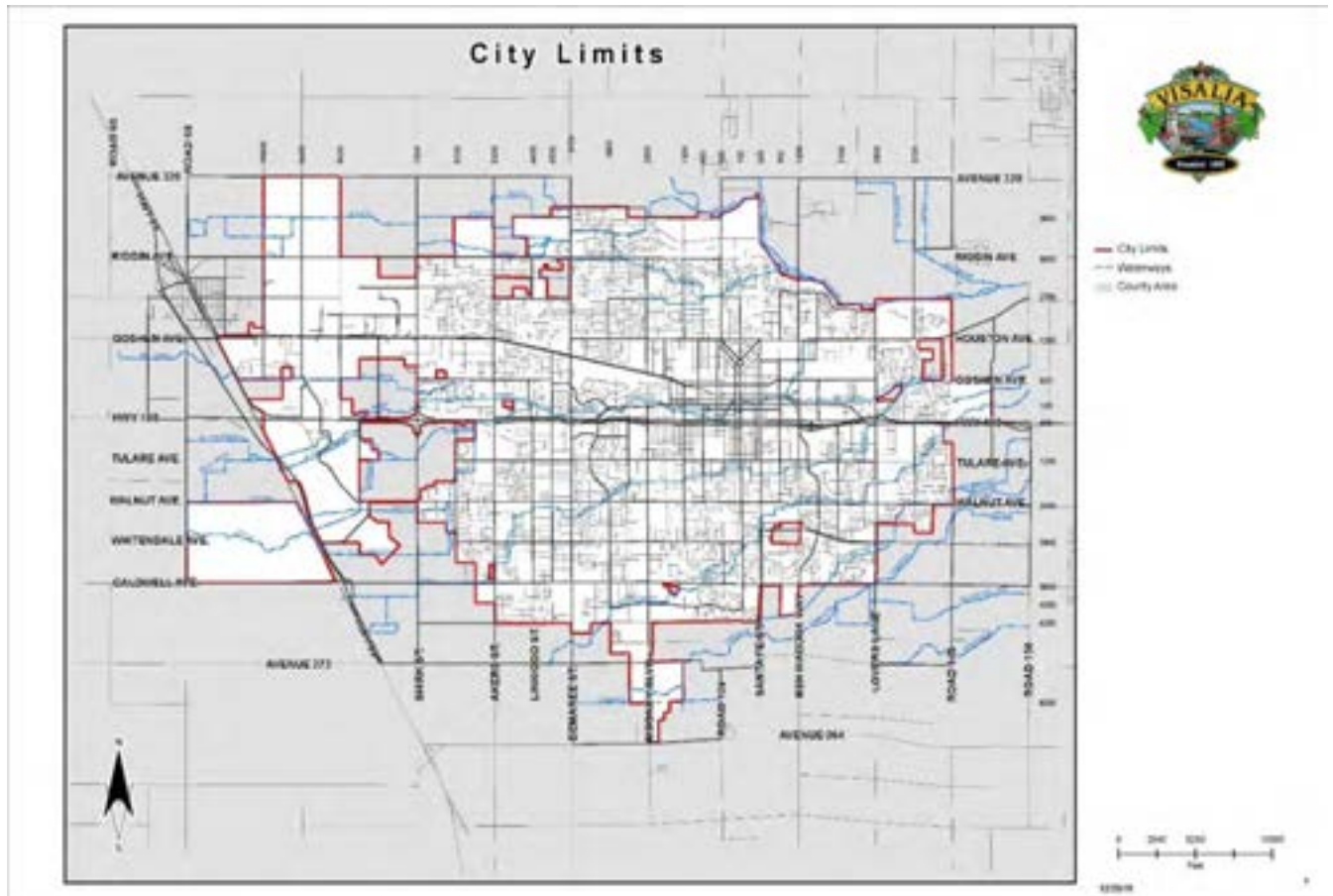
## Annex I City of Visalia

Visalia is situated in the southern San Joaquin Valley of California, approximately 230 miles southeast of San Francisco, 190 miles north of Los Angeles, 36 miles and west of Sequoia National Park. It is the County seat of Tulare County. The City provides the following services:

- Public safety (police, fire protection, and ambulance service)
- Transportation
- Domestic water (provided through California Water Service Company)
- Sanitary sewer treatment and disposal
- Solid waste collection
- Parks and recreation

Figure I-1 provides a map of Visalia.

Figure I-1: Visalia Map



Founded in 1852, Visalia drew its livelihood from the gold mines of the Sierra foothills and the fertile Kaweah River Delta. The town of 500 became the Tulare County seat in 1853 but was governed by the

## 2017 Tulare County MJLHMP - Annex I City of Visalia

Board of Supervisors until its incorporation in 1864. Through expansion in the farming, cattle ranching, transportation, and trade, Visalia's population continued to grow. By 1900, when Visalia became a main line stop on the Valley Railroad, it was home to over 3,000 residents. The Tulare County Farm Bureau formed in 1916, and in 1940 established the first stockyards of its kind in the region at its present location.

### I.1 COMMUNITY PROFILE

**Geography and Climate:** The City has an area of 36.25 square miles. The City is relatively flat with an elevation of approximately 330 feet above sea level. Visalia's climate can be described as dry Mediterranean. The summers are hot and dry, and winters are characterized by moderate temperatures and light precipitation. Temperatures and rainfall for Visalia are typical of that of the rest of the valley floor portion of the County.

**Government:** The City, founded in 1852 and incorporated in 1874, operates under the Council-Manager form of government. The City Council provides policy direction to the City Manager, who is responsible for administering City operations. Visalia voters, at large, elect a five-member Council to serve as the City's legislative and governing body. The members serve four year terms, and they select one member to serve as mayor and one to serve as vice-mayor. A general municipal election is held every two years in November, alternating, between two and three positions each cycle.

The Council is also responsible for establishing land use policies through the General Plan and zoning regulations. The City is a Charter City as opposed to a General Law City. The City Charter is a written document approved by the electorate and acts as a "constitution" for the City. Amendments, revisions and repeals of a charter are subject to the vote of the people.

**Population and demographics:** The population was 131,074 at the 2016 census update. The 2010 U.S. Census reported that Visalia had a population of 124,442. The population density was 3,589.17 people per square mile (1,280.2/km<sup>2</sup>). The racial makeup of Visalia was 80,203 (64.45%) White; 2,627 (2.11%) African American; 1,730 (1.39%) Native American; 6,768 (5.44%) Asian; 164 (0.13%) Pacific Islander; 27,249 (21.90%) from other races; and 5,701 (4.58%) from two or more races. Hispanic or Latino of any race were 57,222 persons (46 %).

There were 37,946 households, out of which 15,243 (40.2%) had children under the age of 18 living in them, 20,999 (55.3%) were married couples living together, 4,926 (13%) had a female householder with no husband present, 2,328 (6.1%) had a male householder with no wife present. 8,280 households (21.8%) were made up of individuals living alone and 2,892 households (7.6%) had someone who was 65 years of age or older. The average household size was 3.02. There were 28,253 families (74.5% of all households); the average family size was 3.56.

**Housing:** There were 44,705 housing units at an average density of 1233.2 per square mile (350.2/km<sup>2</sup>), of which 20,910 (54.52%) were owner-occupied and 14,956 (38.99%) were occupied by renters. The home vacancy rate was 6.49%.

## 2017 Tulare County MJLHMP - Annex I City of Visalia

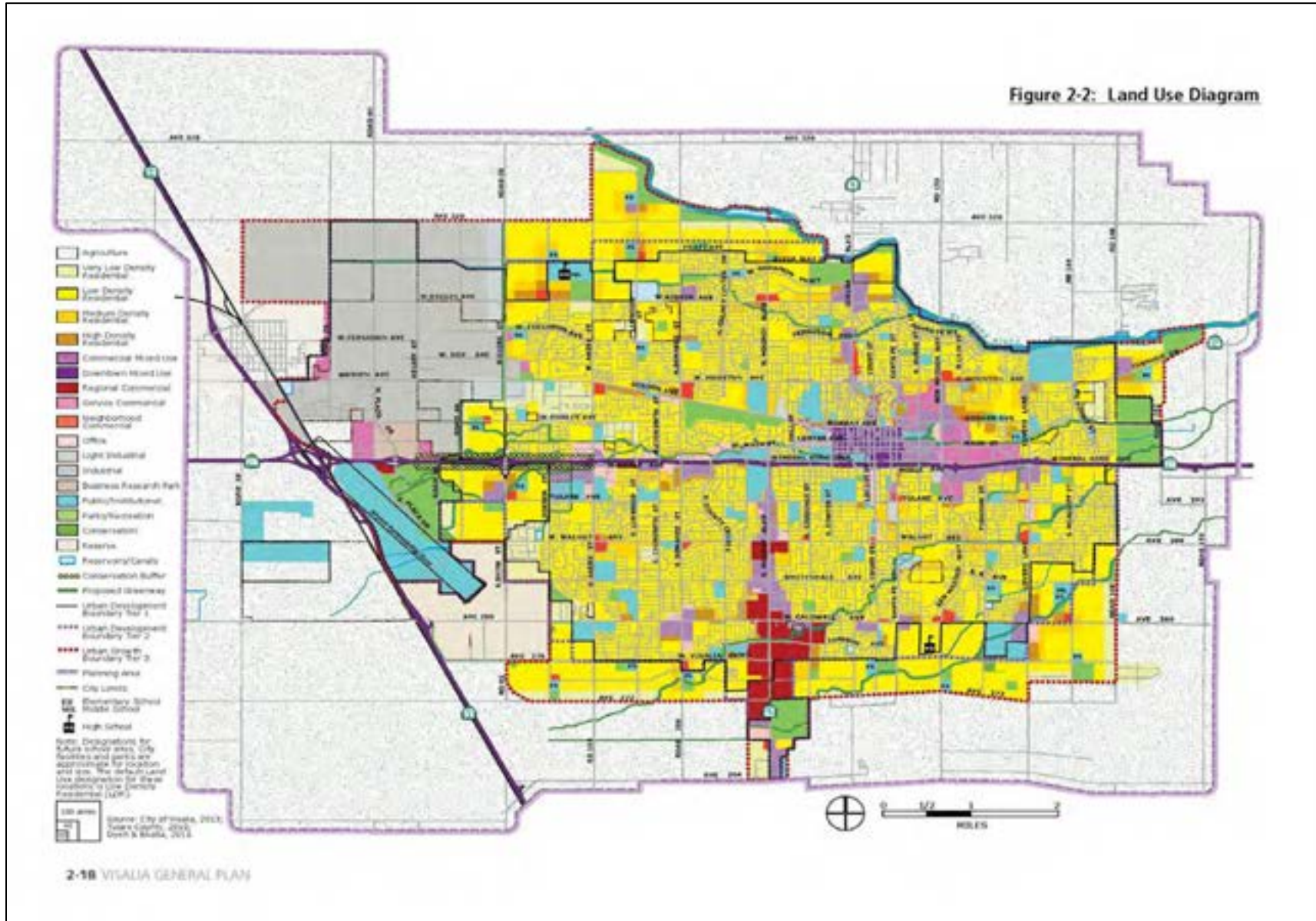
**Economy:** Visalia serves as the region's economic center. Its economy is based on agriculture, especially grapes, olives, cotton, citrus and nursery products. The area is regarded as one of the most productive agricultural regions in the nation. Livestock is also a significant element of the economy.

Visalia's economy is also powered by distribution and manufacturing facilities. Electronics and paper products are significant manufacturing sectors. In addition, Visalia is home to the region's largest convention center and meeting places. The primary areas of employment in Visalia are education, healthcare, government, agriculture, social assistance, manufacturing and accommodation, and food services. Management, professional and related occupations provide 32% of the jobs in Visalia. About 20% of the workforce is employed by the government. The City's largest employers include Tulare County, Kaweah Delta Healthcare, College of the Sequoias and CIGNA HealthCare.

**Land use:** Downtown Visalia remains the physical, cultural, and economic center of the City, hosting government offices, a major hospital, a convention center, and many unique shops and restaurants. Predominantly single family neighborhoods surround the core, with pockets of higher density housing dispersed throughout the City. Mooney Boulevard is a regional retail destination and also hosts the College of the Sequoias. Significant industrial development has occurred on large parcels in the northwest quadrant of the City. Visalia's waterways such as the St. Johns River along the city's northeast edge and the network of creeks and canals are also important form-giving elements. **Figure I-2** provides the City's current zoning.

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Figure I-2: Land use and zoning



## 2017 Tulare County MJLHMP - Annex I City of Visalia

**Development trends:** Historical population data and future projections have been obtained from the U.S. Census Bureau and the California Department of Finance. For analysis purposes, this data is compared to other source data relating to growth and population including the City's General Plan population projections. Historic and Projected Population Growth **Table I-1** provides historic and projected population growth.

<b>Table I-1: Visalia Historic and Projected Population Growth</b>			
<b>Year</b>	<b>Tulare County</b>	<b>Visalia</b>	<b>% of Total County Population</b>
1990	311,921	76,524	24.5%
2000	368,021	95,051	25.8%
2010	442,179	124,442	28.1%
2020	526,471	159,620	30.3%

Notes: 1) 1990 to 2010 population data based on U.S. Census Data  
2) 2020 population projection based in 1990 to 2010 average annual growth rate.

Based on current data, Visalia experienced an average annual growth rate of 2.52% between 1990 and 2010. The recession of the late 2000s caused a reduction in population growth with California losing population between 2007 and 2010. The Central Valley added population at just less than 1% per year, and Visalia at 2.1 percent per year, during this period. The most recent California Department of Finance data shows a 1.3 percent change in population from January 1, 2010 to January 1, 2011. Using an annual average growth rate of 2.52%, results in a year 2020 population of approximately 159,620 and a 2025 population of approximately 180,778 compared to the year 2020 General Plan Land Use Element estimate of 165,000. Based upon these comparisons, estimates of the City's population at General Plan build-out are projected to occur by year 2020. According to the General Plan Update, the City will add 65,500 new residents over the next 20 years, a respective increase of 46 percent and 39 percent above existing levels.

### **Development in hazard prone areas:**

Because population growth was less than two percent per year since approval of the 2011 MJLHMP, there has been no development in hazard prone areas that has affected overall vulnerability of the County. Development that did occur, was primarily infill in urban areas where vulnerabilities are well understood and described.

Updated dam inundation maps include a much larger area of the County. While little new development occurred in the expanded inundation zones, vulnerability to dam inundation increased substantially and now includes most of the most populace areas of the County. Updated dam inundation maps for the County and affected cities are included in **Appendix B**.

The new MJLHMP addresses the new hazard of climate change. This hazard impacts the entire City. Development in the City, the State and globally with increased carbon emissions will result in increasing overall vulnerabilities to its impacts.



# 2017 Tulare County MJLHMP - Annex I City of Visalia

## I.2 HAZARDS IDENTIFICATION AND ANALYSIS

**Hazards:** Visalia faces many of the hazards that are present in the County. **Table I-2** below provides a summary of hazards. There are no hazards that are unique to Visalia. Dam inundation is a particularly extensive hazard to the City. Both Terminus and Success Dams may inundate Visalia resulting in an overall potential inundation area of the entire City. Hazards in the City with unlikely frequency, limited extent, limited magnitude and low significance were not included. These include wild fire, earthquake liquefaction - subsidence, civil unrest and terrorism/cyber terrorism.

<b>Hazard</b>	<b>Frequency</b>	<b>Extent</b>	<b>Magnitude</b>	<b>Significance</b>	<b>Location</b>
Climate Change	Highly likely	Extensive	Catastrophic	High	Entire City
Dam Failure	Unlikely	Extensive	Catastrophic	High	Map B-6 depicts
Drought	Likely	Extensive	Catastrophic	High	Entire City
Earthquake: Shaking	Occasional	Extensive	Limited	Low	Entire City
Energy Emergency	Occasional	Extensive	Critical	Medium	Entire City
Extreme Heat	Highly Likely	Extensive	Critical	High	Entire City
Fire	Unlikely	Limited	Limited	Low	Entire City
Floods	Highly Likely	Limited	limited	Low	Map B-18 depicts
Fog	Likely	Extensive	Limited	Low	Entire City
Hazardous Materials	Likely	Limited	Limited	Low	Entire City
Pandemic/Vector Borne Disease	Likely	Extensive	Critical	Medium	Entire City
Severe Storms/High Winds	Highly Likely	Significant	Limited	Medium	Entire City

**Guidelines for Hazard Rankings**

**Frequency of Occurrence:**

- Highly Likely      Near 100% probability in next year
- Likely              Between 10 and 100% probability in next year or at least one chance in ten years
- Occasional        Between 1 and 10% probability in next year or at least one chance in next 100 years
- Unlikely            Less than 1% probability in next 100 years

**Spatial Extent:**

- Limited             Less than 10% of planning area
- Significant        10-50% of planning area
- Extensive          50-100% of planning area

**Potential Magnitude:**

- Catastrophic      More than 50% of area affected

**Significance (subjective):**

- low, medium, high

## 2017 Tulare County MJLHMP - Annex I City of Visalia

Critical	25 to 50% of area affected
Limited	10 to 25% of area affected
Negligible	Less than 10%

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### I.3 RISK ASSESSMENT

The intent of this section is to assess Visalia’s vulnerability separate from that of the Operational Area as a whole, which has already been assessed in **Section 5.3, Risk Assessment**, in the base plan. This risk assessment analyzes the population, property, and other assets vulnerable to the hazards ranked of medium or high significance that may vary from other parts of the planning area. For more information about how hazards affect the County as a whole, see **Section 5** of the base plan.

#### **Infrastructure and Values at Risk:**

The following data was provided by the City’s Fire Chief. This data should only be used as a guideline to determine overall values in the City as the information has some limitations. Generally, the land itself is not a loss. **Table I-3** shows the 2016 inventory for the City.

<b>Table I-3: Visalia 2016 Asset Inventory</b>			
Name	Address	Value (2016 values are included where provided)	Hazard Vulnerability
Airline Terminal	9502 W. Airport Drive		Earthquake, 500-Year Floodplain, Dam Flood, Fog
Anthony Community Center/Provident Skate Park	345 N. Jacob	\$2,194,681	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Blain Park	South Court and Parkview	\$371,913	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Cherry Meadow Park	Pinkham and Cherry Street	\$554,112	Earthquake, 100-Year Floodplain, Dam Flood, Fog
City Bridge #1	0.8 mi N of SR 216	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
City Bridge #10	RD 136 @ Walnut Avenue (288)	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
City Bridge #11	0.1 mi N of SR 198	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
City Bridge #12	0.15 mi N of K Rd	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
City Bridge #13	Green Oaks Avenue	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
City Bridge #14	0.1 mi NE SR 198	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
City Bridge #15	0.15 mi N of SR 198	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
City Bridge #16	0.08 mi N of SR 198	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
City Bridge #2	0.45 mi N of Avenue 288	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
City Bridge #3	0.3 mi N of Avenue 288	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
City Bridge #4	0.12 mi N of Avenue 280	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog

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City Bridge #5	1.1 mi W of Rd 140	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
City Bridge #6	0.4 mi SE of Avenue 304	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
City Bridge #7	0.25 mi N of SR 198	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
City Bridge #8	0.5 mi N of SR 216	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
City Bridge #9	0.5 mi E of 63	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
City Hall East	315 E. Acequia	\$364,102	Earthquake, 500-Year Floodplain, Dam Flood, Fog
City Transit Office	425 E. Oak Avenue	\$1,692,904	Earthquake, 100-Year Floodplain, Dam Flood, Fog
City Hall West/Fire Administration	707 W. Acequia Avenue.	\$626,618	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Combs Park	La Vida and Crenshaw	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Constitution Park	West Tulare and Crenshaw Ct.	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Convention Center	303 E. Acequia	\$22,547,179	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Creative Center	606 N. Bridge Street	\$21,176	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Crestwood Park	S.W. County Center Drive and Whitendale Avenue	\$5,657	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Fairview Community Center	2645 N. Conyer Street	\$240,000	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Fairview Park	Wren Drive and N. Highland St	\$584,290	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Fire Annex/Fire Station 51	309 S. Johnson	\$191,697	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Fire Station 52	2224 W. Monte Vista	\$786,993	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Airport Admin Building	9500 Airport Drive (Hangars Way)	\$734,016	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Fire Station 54	440 W. Ferguson St.	\$793,091	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Fire Station 55/Fire Training Facility /Primary EOC	6291 W. Ferguson St.	\$7,033,266	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Houk Park	S. Woodland & Dartmouth	\$48,694	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Ice House Theater	410 E. Race Avenue.	\$189,322	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Jefferson Park	S. Watson Street and W. Myrtle Avenue	\$87,554	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Kaweah Delta District Hospital	400 W. Mineral King Avenue		Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	3037 E. Noble	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog

## 2017 Tulare County MJLHMP - Annex I City of Visalia

Lift Station	Ben Maddox and St. John's	\$42,285	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Lift Station	Ben Maddox and Walnut	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Bradley and St. John's	\$42,285	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Lift Station	Buena Vista and St. John's	\$42,285	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Lift Station	Burke and Murray	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Caldwell and Jacob	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Chinowith and 198	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Chinowith and Caldwell	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Chinowith and Walnut	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Cotta and Tulare	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Court	\$62,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Crenshaw and COS Farm	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Damaree and 198	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Demaree and Victor	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Fairview Park and 63	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Ferguson and 63	\$42,285	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Lift Station	John Combs Park	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Julieann and Feemster	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Library	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Lindwood and Evans Ditch	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Mill Creek Park	\$42,285	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Lift Station	Mooney Boulevard and Modoc	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Mooney Boulevard and Packwood	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Pinkham and Tulare	\$42,285	Earthquake, 500-Year Flood, Dam Flood, Fog
Lift Station	Sowell and Feemster	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog

## 2017 Tulare County MJLHMP - Annex I City of Visalia

Lift Station	SR-198 and Road 76	\$42,285	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Lift Station	St. John's and Norman	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Tulare and Roeben	\$42,285	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Lift Station	Walnut and County Center	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lift Station	Walnut and Savannah	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Lincoln Oval Park/Oval Building	N. Court and N.W. 2 <sup>nd</sup>	\$272,042	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Lion's Park	6500 W. Ferguson Avenue	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Main Street Theater (Enchanted Playhouse)	301 E. Main Street	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Manuel Hernandez Community Center	247 W. Ferguson Avenue	\$610,636	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Mayors Park	N. Hall Avenue and W. Main Street	\$24,365	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Memorial Park	N. Hall Avenue and W. Main Street	\$17,430	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Mill Creek Garden	N. Lovers Lane and Millcreek Parkway	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Pinkham Park	S. Pinkham Street and E. Tulare Avenue.	\$47,040	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Plaza Park	700 S. Plaza Parkway	\$1,422,445	Earthquake, Dam Flood, Fog
Police - HQ /Fire Station #1	303 & 315 S. Johnson	\$937,145	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Police District One	204 NW 3 <sup>rd</sup> Avenue	\$4,407,799	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Police District Two	4100 S. County Center Drive	\$5,179,230	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Police Gun Range	7398 Avenue 328	\$91,160	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Rawhide Ballpark	300 N. Giddings St.	\$14,143,362	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Rec Center (PAL) & Former Caltrans Maintenance Yard	701 E. Race Avenue		Earthquake, 100-Year Floodplain, Dam Flood, Fog
Recreation Park	N. Jacob and W. Center	\$41,486	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Repeater Site	115 W. Murray	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Repeater Site	1717 N. McAuliff	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Repeater Site	9000 W. Airport	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Repeater Site	Giddings north of Mineral King	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
River Bend Park	N. Court Street & W. Wren Avenue	\$436,520	Earthquake, 100-Year Floodplain, Dam Flood, Fog

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Riverway Sports Park	3611 North Dinuba Blvd	\$15,589,715	Earthquake, Dam Flood, Fog
Rotary Park	S. Divisidero & Harvard	\$5,657	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Ruiz Park	639 E. Buena Vista Avenue	\$16,045	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Senior Center	310 N. Locust Street	\$390,919	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Seven Oaks Park	E. Tulare Avenue and S. Edison Street	\$529,669	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Sewer Lift Station	Airport Plaza	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Sewer Lift Station	Border Links and Ranch Road	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Sewer Lift Station	Demaree and Pryor	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Sewer Lift Station	Effie and Camp	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Sewer Lift Station	Evergreen and Linda Vista	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Sewer Lift Station	Golf Course	\$42,285	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Sewer Lift Station	Mary and County Center	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Sewer Lift Station	Mill Creek and Main	\$42,285	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Sewer Lift Station	Mooney Boulevard and 272	\$42,285	Earthquake, 500-Year Floodplain, Fog
Sewer Lift Station	Mooney Boulevard and Sunnyside	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Sewer Lift Station	Shirk and 198	\$42,285	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Sewer Lift Station	St. John's and Modoc	\$42,285	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Shannon 1 Park	N. Mendonca Street and W. Tyler Avenue	\$98,874	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Shannon 2 Park	W. Jerome Avenue and N. Carson Street	\$98,874	Earthquake, Dam Flood, Fog
Solid Waste – Admin, Wrehse, Shop, and Cain Building	309 N. Cain St.	\$141,579	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Soroptimist Park	Linwood and W. Prospect Avenue	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
SPCA	29016 Highway 99	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Stonebrook Park	W. Hemlock Avenue and Martin Street	\$154,985	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Summers Park	Summers Park N. and N. Court Street	\$46,108	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Sunset Park	W. Monte Verde Avenue and Lisendra Drive	\$36,754	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Transit Maintenance Facility	525 N Cain	\$10,176,794	Earthquake, 100-Year Floodplain, Dam Flood, Fog

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Valley Oak Golf Course	1800 S. Plaza Drive	Unknown	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Visalia Municipal Airport	9501 W. Airport Drive	\$5,941,613	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Wastewater Treatment Plant	7579 Avenue 288	\$55,057,784	Earthquake, 100-Year Floodplain, Dam Flood, Fog
West Main Park	Mill Creek Drive and W. Main Street	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Whitendale Park & Community Center	630 W. Beech Avenue	\$233,058	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Willow Glen Park	N Akes St. and Hurley Avenue	\$48,060	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Wittman Village Park	North Court & Pearl	Unknown	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Wittman Village Park & Community Center	317 Pearl St.	\$75,204	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Woodland Park	1701 N. Woodland	\$399,156	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Fire Station 53	5025 W. Walnut	\$3,000,000	Earthquake, 500-Year Floodplain, Dam Flood
City Hall North / City Admin	220 N. Santa Fe	Unknown	Earthquake, 500-Year Floodplain, Dam Flood
Police / Fire Dispatch Center (VECC)	Burke and School (under construction)	\$20,000,000	Earthquake, 500-Year Floodplain, Dam Flood

**Critical Facilities:** The City has identified the following infrastructure in **Table I-4** as critical facilities:

<b>Table I-4: Visalia Critical Facilities</b>		
<b>Facility</b>	<b>Address</b>	<b>Value</b>
Airline Terminal	9502 W. Airport Drive	Unknown
City Bridge #1	0.8 mi N of SR 216	Unknown
City Bridge #10	RD 136 @ Walnut Avenue (288)	Unknown
City Bridge #11	0.1 mi N of SR 198	Unknown
City Bridge #12	0.15 mi N of K Rd	Unknown
City Bridge #13	Green Oaks Avenue	Unknown
City Bridge #14	0.1 mi NE SR 198	Unknown
City Bridge #15	0.15 mi N of SR 198	Unknown
City Bridge #16	0.08 mi N of SR 198	Unknown
City Bridge #2	0.45 mi N of Avenue 288	Unknown
City Bridge #3	0.3 mi N of Avenue 288	Unknown
City Bridge #4	0.12 mi N of Avenue 280	Unknown
City Bridge #6	0.4 mi SE of Avenue 304	Unknown
City Bridge #7	0.25 mi N of SR 198	Unknown
City Bridge #8	0.5 mi N of SR 216	Unknown
City Bridge #9	0.5 mi E of 63	Unknown
City Hall East	315 E. Acequia	\$364,102
City Transit Office	425 E. Oak Avenue	\$1,692,904
City Hall West/Fire Administration	707 W. Acequia Avenue.	\$626,618
Convention Center	303 E. Acequia	\$22,547,179
Creative Center	606 N. Bridge Street	\$21,176



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<b>Table I-4: Visalia Critical Facilities</b>		
<b>Facility</b>	<b>Address</b>	<b>Value</b>
Crestwood Park	S.W. County Center Drive and Whitendale Avenue	\$5,657
Fairview Community Center	2645 N. Conyer Street	\$240,000
Fairview Park	Wren Drive and N. Highland St	\$584,290
Fire Annex/Fire Station 51	309 S. Johnson	\$191,697
Fire Station 52	2224 W. Monte Vista	\$786,993
Airport Admin Building	9500 Airport Drive (Hangars Way)	\$734,016
Fire Station 54	440 W. Ferguson St.	\$793,091
Fire Station 55/Fire Training Facility /Primary EOC	6291 W. Ferguson St.	\$7,033,266
Kaweah Delta District Hospital	400 W. Mineral King Avenue	Unknown
Lift Station	3037 E. Noble	\$42,285
Lift Station	Ben Maddox and St. John's	\$42,285
Lift Station	Ben Maddox and Walnut	\$42,285
Lift Station	Bradley and St. John's	\$42,285
Lift Station	Buena Vista and St. John's	\$42,285
Lift Station	Burke and Murray	\$42,285
Lift Station	Caldwell and Jacob	\$42,285
Lift Station	Chinowith and 198	\$42,285
Lift Station	Chinowith and Caldwell	\$42,285
Lift Station	Chinowith and Walnut	\$42,285
Lift Station	Cotta and Tulare	\$42,285
Lift Station	Court	\$62,285
Lift Station	Crenshaw and COS Farm	\$42,285
Lift Station	Damaree and 198	\$42,285
Lift Station	Demaree and Victor	\$42,285
Lift Station	Fairview Park and 63	\$42,285
Lift Station	Ferguson and 63	\$42,285
Lift Station	John Combs Park	\$42,285
Lift Station	Julieann and Feemster	\$42,285
Lift Station	Library	\$42,285
Lift Station	Lindwood and Evans Ditch	\$42,285
Lift Station	Mill Creek Park	\$42,285
Lift Station	Mooney Boulevard and Modoc	\$42,285
Lift Station	Mooney Boulevard and Packwood	\$42,285
Lift Station	Pinkham and Tulare	\$42,285
Lift Station	Sowell and Feemster	\$42,285
Lift Station	SR-198 and Road 76	\$42,285
Lift Station	St. John's and Norman	\$42,285
Lift Station	Tulare and Roeben	\$42,285
Lift Station	Walnut and County Center	\$42,285
Lift Station	Walnut and Savannah	\$42,285
Police - HQ /Fire Station #1	303 & 315 S. Johnson	\$937,145
Police District One	204 NW 3 <sup>rd</sup> Avenue	\$4,407,799
Police District Two	4100 S. County Center Drive	\$5,179,230
Police Gun Range	7398 Avenue 328	\$91,160
Rawhide Ballpark	300 N. Giddings St.	\$14,143,362

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<b>Table I-4: Visalia Critical Facilities</b>		
<b>Facility</b>	<b>Address</b>	<b>Value</b>
Rec Center (PAL) & Former Caltrans Maintenance Yard	701 E. Race Avenue	Unknown
Repeater Site	115 W. Murray	Unknown
Repeater Site	1717 N. McAuliff	Unknown
Repeater Site	9000 W. Airport	Unknown
Repeater Site	Giddings north of Mineral King	Unknown
Senior Center	310 N. Locust Street	\$390,919
Sewer Lift Station	Airport Plaza	\$42,285
Sewer Lift Station	Border Links and Ranch Road	\$42,285
Sewer Lift Station	Demaree and Pryor	\$42,285
Sewer Lift Station	Effie and Camp	\$42,285
Sewer Lift Station	Evergreen and Linda Vista	\$42,285
Sewer Lift Station	Golf Course	\$42,285
Sewer Lift Station	Mary and County Center	\$42,285
Sewer Lift Station	Mill Creek and Main	\$42,285
Sewer Lift Station	Mooney Boulevard and 272	\$42,285
Sewer Lift Station	Mooney Boulevard and Sunnyside	\$42,285
Sewer Lift Station	Shirk and 198	\$42,285
Sewer Lift Station	St. John's and Modoc	\$42,285
Solid Waste – Admin, Warehouse, Shop, and Cain Building	309 N. Cain St.	\$141,579
Transit Maintenance Facility	525 N Cain	\$10,176,794
Visalia Municipal Airport	9501 W. Airport Drive	\$5,941,613
Wastewater Treatment Plant	7579 Avenue 288	\$55,057,784
Fire Station 53	5025 W. Walnut	\$3,000,000
City Hall North / City Admin	220 N. Santa Fe	
Police / Fire Dispatch Center (VECC)	Burke and School (under construction)	\$20,000,000

### **Vulnerabilities and Potential Losses:**

A risk assessment determines the vulnerability of assets within the City by evaluating the inventory of City owned existing property and the population exposed to a hazard. A quantitative vulnerability assessment is limited to the exposure buildings, and infrastructures to the identified hazards. This risk assessment includes only those hazards that are natural.

### **Populations and Businesses at Risk**

Residential population data for the County was obtained from the State of California Department of Finance E-1 Population Estimates for Cities, Counties, and the State—January 1, 2016/2017. The population is estimated to be 131,074 in an area of square miles. The estimate is 44,705 residential units with a 2016 median value of \$163,100. The most common employment sectors for those who live in Visalia are government, agriculture, retail trade, and manufacturing.

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### Economic Risks

Visalia serves as the region's economic center. Its economy is based on agriculture, especially grapes, olives, cotton, citrus and nursery products. The area is regarded as one of the most productive agricultural regions in the nation. Livestock is also a significant element of the economy.

Visalia's economy is also powered by distribution and manufacturing facilities. Electronics and paper products are significant manufacturing sectors. In addition, Visalia is home to the region's largest convention center and meeting places. The primary areas of employment in Visalia are education, healthcare, government, agriculture, social assistance, manufacturing and accommodation, and food services. Management, professional and related occupations provide 32% of the jobs in Visalia. About 20% of the workforce is employed by the government.

According to the Visalia Economic Development Corporation, the top ten employers in the city are, in descending order, Tulare County, Kaweah Delta Medical Center, College of the Sequoias, Family Healthcare Network, the City of Visalia, VF, International Paper, Jostens, Cigna, and Visalia Medical Clinic.

### Vulnerability and Potential Losses

FEMA requires that an estimation of loss be conducted for the identified hazards to include the number of potential structures impacted by the hazards and the total potential costs. The analysis of potential losses calculated in **Table I-4** used the best data currently available to produce an understanding of potential loss. These estimates may be used to understand relative risk from hazards and potential losses. There are uncertainties in any loss estimation method, resulting from lack of scientific study and the exact result of hazard effects on the built environment, and from the use of approximations that are necessary for a comprehensive analysis.

<b>Table I-4: Summary of Vulnerabilities and Potential Loss</b>	
<b>Hazard Type</b>	<b>Impacts/Costs</b>
Climate Change	<p><u>Impacts:</u> Climate change will cause multiple effects to infrastructure and community public health. Warmer weather associated with climate change will result in more heat related illness. Drier weather will place increasing demands on imported and well water, and may lead to long lasting draughts that result in water rationing.</p> <p><u>Costs:</u> Climate change costs are difficult to specify. They will occur and accrue over centuries. As temperatures rise, additional costs for climate control such as air conditioning will occur. Less precipitation may result in depletion of stored and ground water reserves with potential for increased water costs and rationing. Much of these costs will be borne by individuals and families. Increased costs will also affect businesses and government owned facilities. Researchers at UC Berkeley (Science, May 2017) concluded that for every 1-degree Fahrenheit increase in global temperatures, the U.S. economy stands to lose about 0.7 percent of its Gross Domestic Product, with each degree of warming costing more than the last.</p>
Dam Inundation	<p><u>Impacts:</u> Dam inundation is a particularly extensive hazard to the City. Both Terminus and Success Dams may inundate Visalia resulting in an overall potential inundation area of the entire City.</p> <p><u>Costs:</u> A rapid failure of Success or Terminus Dam would result in catastrophic loss of life and injury, and property loss. Map B-6 depicts the potential footprint for dam inundation. Specifics of the inundation</p>

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	<p>curves are contained in the Dam Emergency Action Plans which are a limited distribution documents. The potential injury and death from a short notice dam failure could be in the 10,000s. Total losses within the Visalia jurisdiction could exceed \$2,000,000,000.</p>
Drought	<p><u>Impacts:</u> Drought produces a variety of impacts that span many sectors of the economy. Reduced crops productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality; and rationing are a few examples of direct impacts. These problems can result in increased prices for food and lumber, unemployment, reduced tax revenues, increased crime, and foreclosures on bank loans to farmers and businesses, and migration. Populations that rely on or are affected by a lack of water or annual rainfall are most directly affected by droughts. The City is dependent on imported water for most of its needs. During prolonged draughts, water rationing is possible resulting in potentially higher water costs and loss of private and public landscaping.</p> <p><u>Costs:</u> Potential costs from draught to the City and its communities are difficult to quantify and are dependent upon draught duration and severity. In addition to increased costs for water, prolonged draught may result in reduced property values, loss of tax revenues and migration, all of which will cause economic losses.</p>
Extreme Heat	<p><u>Impacts:</u> Extreme heat events, present serious health risks to the City’s most vulnerable populations. The effects of extreme heat (over 84°F) on human health are well documented. Increased temperature or extended periods of elevated temperatures can increase heat-related mortality, cardiovascular-related mortality, respiratory mortality, and heart attacks, while increasing hospital admissions and emergency room visits. Extreme heat can also affect a person’s ability to thermo-regulate, causing heat stress and sometimes leading to death.</p> <p><u>Costs:</u> Extreme heat results in increased electricity usage and additional health care costs. While additional power costs affect both commercial and residential properties, added health care costs impact individuals and families. Extreme heat may reduce economic activity if prolonged.</p>
Flood	<p><u>Impacts:</u> Flooding occurs in the City during periods of heavy rain due to inadequate drainage. The flat geography also contributes to ponding.</p> <p><u>Costs:</u> There are no accurate costs values associated with past flood events. Future flood incidents will likely result in structural damage and lost economic activity. Flood cost could be in excess of \$200,000,000.</p>

Based upon previously occurring incidents and the risk assessment, the following hazards are most likely to affect Visalia:

- Climate Change
- Dam Inundation
- Drought
- Extreme heat
- Flood

These hazards which may impact agriculture, the economic driver of the city, represent critical vulnerabilities. In addition, these are hazards that represent vulnerabilities to infrastructure.

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### I.4 CAPABILITIES ASSESSMENT

The reason for conducting a capability assessment is to identify Visalia's capacity to successfully implement mitigation activities. Understanding internal and external processes, resources and skills forms the basis of implementing a successful HMP. Understanding strengths and weaknesses also helps ensure that goals and objectives are realistic and attainable.

#### FEMA REGULATION CHECKLIST: CAPABILITY ASSESSMENT

##### Capability Assessment

**44 CFR § 201.6(c)(3):** – The plan must include mitigation strategies based on the jurisdiction's "existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools."

##### Elements

**C1.** Does the plan document the jurisdiction's existing authorities, policies, programs and resources, and its ability to expand on and improve these existing policies and programs? 44 CFR § 201.6(c)(3)

**C2.** Does the Plan address the jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? 44 CFR § 201.6(c)(3)(ii)

Source: FEMA, *Local Mitigation Plan Review Tool*, March 2013.

**Note:** For coverage of Elements C3 – C5, see Section 8, Mitigation Strategies. For coverage of Element C6, see Section 9, Plan Maintenance.

The planning team conducted an assessment of the City's capabilities that contribute to the reduction of long-term vulnerabilities to hazards. The capabilities include authorities and policies, such as legal and regulatory resources, staff, and fiscal resources. Staff resources include technical personnel such as planners/engineers with knowledge of development and land management practices and an understanding of natural or human-caused hazards. The planning team also considered ways to expand on and improve existing policies and programs with the goal of integrating hazard mitigation into the day-to-day activities and programs of the City. In carrying out the capability assessment, several areas were examined:

- Planning and regulatory capabilities
- Administrative and technical resources
- Fiscal resources including grants, mutual aid agreements, operating funds and access to funds
- Technical and staff resources to assist in implementing/overseeing mitigation activities
- Previous and Ongoing Mitigation Activities

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**Planning and Regulatory Capabilities:** These include local ordinances, policies and laws to manage growth and development. Examples include land use plans, capital improvement plans, transportation plans, emergency preparedness and response plans, building codes and zoning ordinances.

<b>Table I-5: Visalia Planning and Regulatory Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
General Plan	<p>The City’s General Plan provides a policy base to guide future growth within the City. It was created by planners, engineers and technical staff with knowledge of land development, land management practices, as well as human-caused and natural hazards. The General Plan:</p> <ul style="list-style-type: none"> <li>• Develops and maintains the General Plan, including the Safety Element.</li> <li>• Develops area plans based on the General Plan, to provide more specific guidance for the development of more specific areas.</li> <li>• Reviews private development projects and proposed capital improvements projects and other physical projects involving property for consistency and conformity with the General Plan.</li> <li>• Anticipates and acts on the need for new plans, policies, and Code changes.</li> <li>• Applies the approved plans, policies, code provisions, and other regulations to proposed land uses.</li> </ul> <p>The MJLHMP may be adopted as part of the Safety Element by the City Counsel. As the Safety Element is updated, revised hazard analysis from the MHLHMP will be incorporated. Safety Element actions will be aligned with MJLHMP mitigation measures.</p>	All	Yes 2014 – Health and Safety Element	Planning
California Building Code Enforcement	The California Building Standards Code, Title 24 serves as the basis for the design and construction of buildings in California including housing, public buildings and maintenance facilities. Improved	Earthquake, Fire, Floods, Severe		Regulatory

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	<p>safety, sustainability, maintaining consistency, new technology and construction methods, and reliability are paramount to the development of building codes during each Triennial and Intervening Code Adoption Cycle.</p> <p>California’s building codes are published in their entirety every three (3) years. Amendments to California’s building standards are subject to a lengthy and transparent public participation process throughout each code adoption cycle. The California Seismic Safety Commission provides access to an array of regulatory and advisory information at:  <a href="http://www.seismic.ca.gov/cog.html">http://www.seismic.ca.gov/cog.html</a></p>	winter storm/high winds		
Capital Improvement Program (CIP)	<p>The City’s CIP provides a foundation and planning tool to assist in the orderly acquisition of municipal facilities and to assure that service needs for the future are met. The CIP provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.</p> <p>The MJLHMP will be used to select potential projects for the CIP. As the CIP is updated, additional mitigation measures will be analyzed and included in the Visalia section of the MJLHMP. Funding for CIP projects identified in the MJLHMP will be reviewed for mitigation grant program eligibility.</p>	Dam Failure, Earthquake, Fire, Floods, Landslides, Levee failure, Severe winter storm/high winds		Planning
Municipal Service Review (MSR)	<p>MSRs are intended to provide a comprehensive analysis of service provision by each of the special districts and other service providers within the legislative authority of the (LAFCo) of a city. This analysis focuses on service providers within the City of Visalia and makes determinations in each area of evaluation. The MSR considers and makes recommendations based on the following information:</p> <ul style="list-style-type: none"> <li>• Present and planned land uses in the area.</li> <li>• Present and probable need for services in the area.</li> <li>• Present ability of each service provider to provide necessary services.</li> <li>• The fiscal, management, and structural health of each service provider.</li> </ul>	All		Planning

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	<ul style="list-style-type: none"> <li>The existence of any social or economic communities of interest in the area</li> </ul>			
Visalia Urban Water Management Plan	<p>The Urban Water Management Plan is required by California Water Code §10644(a) requires urban water suppliers to file with the Department of Water Resources (DWR), the California State Library, and any City or County within which the supplier provides water supplies, a copy of its Urban Water Management Plan. UWMP's are to be prepared every five years by urban water suppliers with 3,000 or more service connections or supplying 3,000 or more acre-feet of water per year.</p> <p>The purpose of this UWMP is to be a baseline document and source of information for DWR and to serve as:</p> <ul style="list-style-type: none"> <li>A short and long range planning document for water supply;</li> <li>Data source for the development of a regional water supply plan,</li> <li>A source document for the City of Visalia in preparing updated General Plans, and</li> <li>A key component of an Integrated Regional Water Management Plan</li> </ul>	Climate change, Drought	2012	Planning
Emergency Operations Plan (revised 2003)	<p>Describes what the local jurisdiction's actions will be during a response to an emergency. Includes annexes that describe in more detail the actions required of the local jurisdiction's departments/agencies. Further, this plan describes the role of the Emergency Operation Center (EOC) and the coordination that occurs between the EOC and the local jurisdiction's departments and other response agencies. Finally, this plan describes how the EOC serves as the focal point among local, state, and federal governments in times of disaster.</p> <p>The MJLHMP will be used as an essential tool to update the City EOP. Cal OES requires that EOPs describe applicable hazards as part of the Plan. The latest MJLHMP hazards descriptions will be included. Mitigation actions that are preparedness and response</p>	All		Regulatory



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	in nature will be analyzed for applicability to include in the description of EOP processes and procedures.			
Other City Code of Ordinances	<p>The purpose of this code is to establish the minimum requirements to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation and energy conservation, and safety to life and property from fire and other hazards attributed to the built environment; to regulate and control the demolition of all buildings and structures, and for related purposes.</p> <p>The MJLHMP will provide both hazard descriptions and mitigation actions that may address energy conservation, fire protection and development in hazard prone areas. The maps of Visalia related hazards will be used to augment other mapping products to protect public health and safety when updating City Code.</p>	Earthquake, Fire, Flooding,		Regulatory
Fire Department Master Plan	The purpose of this plan is to guide the City in regards to maintaining levels of service and account for the impact of future growth.	All		Planning

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**Administrative and Technical:** These capabilities include community (including public and private) staff and their skills and tools used for mitigation planning and implementation. They include engineers, planners, emergency managers, GIS analysts, building inspectors, grant writers, and floodplain managers.

<b>Table I-6: Visalia Administrative and Technical Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
City Public Works Department	Maintains and operates a wide range of local equipment and facilities as well as provides assistance to members of the public. Services include providing sufficient potable water, reliable waste water services, street maintenance, storm drainage systems, street cleaning, street lights and traffic signals.	All		Technical
Procurement Department	Provides a full range of municipal financial services, administers several licensing measures, and functions as the plan participant's Procurement Services Manager.	All		Technical
City Engineering Services Department	<ul style="list-style-type: none"> <li>• Develops and maintains the General Plan, including the Safety Element.</li> <li>• Develops area plans based on the General Plan, to provide more specific guidance for the development of more specific areas.</li> <li>• Reviews private development projects and proposed capital improvements projects and other physical projects involving property for consistency and conformity with the General Plan.</li> <li>• Anticipates and acts on the need for new plans, policies, and Code changes.</li> <li>• Applies the approved plans, policies, code provisions, and other regulations to proposed land uses.</li> </ul>	All		Technical
City Development Services Department	Provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.	All		Technical
City Fire Department	Maintains and updates the Emergency Operations Plan and coordinates local response and relief activities within the	All		Technical

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Table I-6: Visalia Administrative and Technical Capabilities				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
	Emergency Operation Center. Works closely with County, State, and Federal partners to support planning and training and to provide information and coordinate assistance.			

**Fiscal:** These capabilities include general funds, property sales, bonds, development impact fees, or other fees.

Table I-7: Visalia Fiscal Capabilities				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
Visalia General Fund	Program operations and specific projects.	All		Financial, Financial Services Department
Visalia General Obligation (GO) Bonds	GO Bonds are appropriately used for the construction and/or acquisition of improvements to real property broadly available to residents and visitors. Such facilities include, but are not limited to, libraries, hospitals, parks, public safety facilities, and cultural and educational facilities.	All		Financial, Financial Services Department
Lease Revenue Bonds	Lease revenue bonds are used to finance capital projects that (1) have an identified budgetary stream for repayment (e.g., specified fees, tax receipts, etc.), (2) generate project revenue but rely on a broader pledge of general fund revenues to reduce borrowing costs, or (3) finance the acquisition and installation of equipment for the local jurisdiction's general governmental purposes.	All		Financial, Financial Services Department

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**Education and Outreach:** Programs in place such as fire safety programs, hazard awareness campaigns, public information or communications offices.

<b>Table I-8: Visalia Education and Outreach Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
Tulare County Association of Governments (TCAG)	TCAG is committed to improving the quality of life for residents and visitors throughout the County. They address traffic congestion, coordinate regional transit programs to make getting around easy and convenient, work to improve air quality and strive to continue to meet national standards. TCAG addresses current and future rail needs and possibilities and gathers data which is used by the census and the public to properly forecast housing and transit needs.	All		Education and Outreach
Visalia Website <a href="http://www.ci.visalia.ca.us/">http://www.ci.visalia.ca.us/</a> and other social media	Provides easily accessible conduit to information about planning and zoning, permits and applications and programs that address hazard mitigation such as clean energy efforts.  The updated MJLHMP will be posted to City media sites. As the planned is reviewed annually and new updates made, information on the planning process will be included on web sites and announced on social media.	All		Education and Outreach



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### I.5 MITIGATION STRATEGY

**Table I-9** lists the Tule River Tribe’s specific mitigation actions from the 2011 Plan and provides their status.

<b>Table I-9 Visalia - Specific Mitigation Actions</b>						
No.	Selected (Y/N)	Description	Prioritization Criteria	Facility to be Mitigated (if known)	Department or Agency	Status
1	Y	Improve our GIS for use as a pre-application tool for new construction and major remodels of residential and/or non-residential structures located in special flood hazard areas.	A, B, C, D	Citywide	Community Development	Ongoing. New mitigation action 3.
2	Y	Integrate the Tulare County HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	A, B, C, D, E	Citywide	Community Development and Fire Department	Ongoing. New mitigation action 9.
3	Y	Develop a public outreach program that informs property owners located in the dam or levee inundation areas about voluntary flood insurance.	A, B, C, D	Citywide	Community Development	Deferred due to need to map and evaluate levees.
4	Y	Develop strategies and action plans to address any floodplain management issues that have arisen or will arise from FEMA and/or DWR regarding the countywide DFIRM update, Community Assessment Visits or other floodplain related activities.	A, B, C, D	Citywide	Community Development	Completed
5	Y	Increase participation in the NFIP by improving the Community Rating System classification level for the community through enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	A, B, C, D	Citywide	Community Development	Completed

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6	Y	Relocate the EOC from the basement of the Public Safety Building to Fire Station 55. Relocation will reduce flooding risk and improve operational functionality.	A, B, C, D, E	EOC	Fire Department	Completed
7	Y	Implement citywide drainage basin management program that includes an information database and on-site tools for use by staff in the management of drainage basins during rainfall events.	A, B, C, D	Drainage basins citywide	Community Development and Public Works	Ongoing. Included in mitigation action 4 in new Plan.
8	Y	Upgrade existing drainage basin pumps citywide to best utilize channel capacities and to increase basin capacities.	A, B, C, D	Drainage basins citywide	Community Development and Public Works	Cancelled. Not required.
9	Y	Increased capacity at the McDermott Basin to increase the level of protection for the west side sunken portion of SR-198. Additional excavation and overflow spillway anticipated.	A, B, C, D	McDermott Basin	Community Development	Not completed. Included in mitigation action 5 in new Plan,
10	Y	Increased capacity at the Goshen Ocean Basin to increase the level of protection. Additional property acquisition and excavation anticipated.	A, B, C, D	Goshen Ocean Basin	Community Development	Ongoing and included in mitigation action 6 in new Plan.
11	Y	Engineering study of the existing drainage systems in the Downtown and Oval Park areas to determine existing deficiencies and to develop capital projects to improve drainage and to reduce direct flows into Mill Creek.	A, B, C, D	Downtown and Oval Park area drainage system	Community Development and Public Works	Completed.
12	Y	Construct inflow and outflow structures at the Oaks Basin located on Mill Creek upstream of the city to provide functional operation of this upstream lay-off basin.	A, B, C, D	Citywide	Community Development	Ongoing. Mitigation action 7 in new Plan.
21	Y	Acquire land upstream and develop storm water layoff basins for Packwood Creek, Mill Creek, and Evans Ditch to reduce flooding from the 1% annual chance flood.	A, B, C, D	Citywide	Community Development	Ongoing. Included as mitigation action 1 in new Plan.

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### Prioritization Criteria

- A local jurisdiction department or agency champion currently exists or can be identified
- The action can be implemented during the 5-year lifespan of the HMP
- The action may reduce expected future damages and losses (cost-benefit)
- The action mitigates a high-risk hazard
- The action mitigates multiple hazards

Many of the City’s mitigation strategies from the 2011 HMP are still relevant to this update. **Table I-10** contains an updated set of potential mitigation strategies for new Plan. Mitigation actions were derived from numerous sources including the General Plan, City Code, Capital Improvement Plan and input from the public and stakeholders.

<b>Table I-10: Visalia Potential Mitigation Strategies</b>			
<b>Strategy Number</b>	<b>Mitigation Strategy</b>	<b>Applicable Hazards</b>	<b>Mitigation Type</b>
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.	All	Mit.
2	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.	All	Mit.
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.	All	Mit.
4	Designate areas with a potential for significant hazardous conditions for open space, agriculture, and other appropriate low intensity uses.	All	Mit.
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).	All	Mit.
6	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.	FR	Mit.



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7	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 very high fire hazard severity zones or State responsibility area by fire hazard zone designation. Identify plans and actions to improve substandard housing structures and neighborhoods.	FR	Mit.
8	Acquire, relocate, or elevate residential structures, in particular those that have been identified as Repetitive Loss (RL) properties that are located within the 100-year floodplain.	FL	Mit.
9	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	FL	Mit.
10	Reinforce County and local ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	FL	Mit.
11	Work with FEMA Region IX to address any floodplain management issues that may have arisen/arise from the countywide DFIRM, Community Assessment Visits, and/or the DWR.	FL	Mit.
12	Increase participation in the NFIP by entering the Community Rating System program which through enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	FL	Mit.
13	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.	All	Prep.
14	Continue to promote awareness and education among residents regarding possible natural hazards, including soil conditions, earthquakes, flooding, fire hazards, and emergency procedures.	EQ, FL, FR	Mit.
15	Develop a public outreach program that informs property owners located in the dam or levee inundation areas about voluntary flood insurance.	FL, DF, LF	Mit.
16	Promote public safety programs, including neighborhood watch programs, child identification and fingerprinting, public awareness and prevention of fire hazards, and other public education efforts.	CT	Mit.
17	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.	All	Resp.

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18	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.	All	Resp.
19	Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about severe valley fog and extreme heat conditions.	FG, EH	Resp.
20	Use Geographic Information Systems (GIS) technology to track fire and law enforcement response times and provide technical assistance to fire and law enforcement agencies.	FR, TR	Mit.
21	Require, where feasible, road networks (public and private) to provide for safe and ready access for emergency equipment and provide alternate routes for evacuation	All	Mit.
22	Acquire land upstream and develop storm water layoff basins for Packwood Creek, Mill Creek, and Evans Ditch to reduce flooding from the 1% annual chance flood.	FL	Mit.
23	Increase channel capacities for ditches and waterways that convey flood flows and City storm water flows into and through the City.	FL	Mit.
24	Improve our GIS for use as a preapplication tool for new construction and major remodels of residential and/or nonresidential structures located in special flood hazard areas.	FL	Mit.
25	Implement citywide drainage basin management program that includes an information database and on-site tools for use by staff in the management of drainage basins during rainfall events.	FL	Mit.
26	Increased capacity at the McDermott Basin to increase the level of protection for the west side sunken portion of SR-198. Additional excavation and overflow spillway anticipated.	FL	Mit.
27	Increased capacity at the Goshen Ocean Basin to increase the level of protection. Additional property acquisition and excavation anticipated.	FL	Mit.
28	Construct inflow and outflow structures at the Oaks Basin located on Mill Creek upstream of the city to provide functional operation of this upstream lay-off basin.	FL	Mit.

## 2017 Tulare County MJLHMP - Annex I City of Visalia

A list of mitigation actions was selected from the mitigation strategies. **Table I-11** provides the mitigation 2017 MJLHMP actions for the City. New priorities for mitigation actions are listed in the table.

<b>Table I-11 Tulare - Mitigation Actions</b>					
<b>Action Number</b>	<b>Mitigation Strategy</b>	<b>Department</b>	<b>Cost</b>	<b>Priority</b>	<b>Timeframe</b>
1	Acquire land upstream and develop storm water layoff basins for Packwood Creek, Mill Creek, and Evans Ditch to reduce flooding from the 1% annual chance flood.	Community Development	Unknown	High	One Year
2	Increase channel capacities for ditches and waterways that convey flood flows and City storm water flows into and through the City.	Community Development	Unknown	High	One Year
3	Improve our GIS for use as a preapplication tool for new construction and major remodels of residential and/or nonresidential structures located in special flood hazard areas.	Community Development	Unknown	High	One Year
4	Implement citywide drainage basin management program that includes an information database and on-site tools for use by staff in the management of drainage basins during rainfall events.	Community Development and Public Works	Unknown	High	One Year
5	Increased capacity at the McDermott Basin to increase the level of protection for the west side sunken portion of SR-198. Additional excavation and overflow spillway anticipated.	Community Development	Unknown	High	One year
6	Increased capacity at the Goshen Ocean Basin to increase the level of protection. Additional property acquisition and excavation anticipated.	Community Development	Unknown	High	One year
7	Construct inflow and outflow structures at the Oaks Basin located on Mill Creek upstream of the city to provide functional operation of this upstream lay-off basin.	Community Development	Unknown	High	One year
8	Replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or	Community Development	\$23.7m	High	One year

## 2017 Tulare County MJLHMP - Annex I City of Visalia

	emergency. The Visalia Emergency Communications Center building is under construction. This building is designed in accordance with the California Essential Services Buildings Seismic Safety Act. The building will contain the following five essential services relocated from other City offices: 1) 911 dispatch center; 2) emergency operations center; 3) fire department headquarters; 4) traffic management center and 5) information services center.				
9	Integrate the Tulare County HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	Community Development Fire	Unknown	Medium	One Year

Incorporation into other plans: FEMA requires the HMP be consistent with and incorporated into other planning documents and processes. In the City of Tulare, these other planning documents and process include the General Plan Update, the City Code zoning ordinances and various infrastructure master plans. The term incorporated in planning terms means that the HMP and the other plans have similar community goals and policies in that they advocate similar land use patterns, and they are consistent in their guidance of direction and rate of growth. As other plans are updated or created, the HMP should be used as guidance.

Some of the plans listed in the Capabilities Assessment mentioned in Section I.4 have not been updated since the 2011 MJLHMP was adopted. Recommended ways to use and incorporate the new Plan over the next five-year planning cycle, discussed by the Planning Team, included:

- Incorporation of the Visalia Annex into the Health and Safety Element of the City’s General Plan.
- Use of, or reference to, Plan elements in updates to general and comprehensive planning documents, codes, and ordinances
- Addition of defined mitigation actions to capital improvement programming
- Inclusion of Plan elements into development planning and practices
- Resource for developing and/or updating emergency operations plans, emergency response plans, etc.

The Plan will continue to function as a standalone document subject to its own review and revision schedule presented in Sections 7.1 and 7.2. The Plan will also serve as a reference for other mitigation and land planning needs of the participating jurisdictions. Whenever possible, each jurisdiction will endeavor

## 2017 Tulare County MJLHMP - Annex I City of Visalia

to incorporate the risk assessment results and mitigation actions and projects identified in the Plan, into existing and future planning mechanisms.

At a minimum, each of the responsible agencies/departments noted in **Table 6.3 and the Annexes of Appendix J** will review and reference the Plan and revise and/or update the legal and regulatory planning documents, manuals, codes, and ordinances as appropriate.

Although Visalia did not incorporate the Plan risk assessment elements into the natural resources and safety elements of the City's 2014 update to the General Plan, it should do so once the new Plan is complete. The City should also use the update Plan for development review processes, adding or revising building codes, adding or changing zoning and subdivision ordinances, and incorporating mitigation goals and strategies into general and/or comprehensive plans, will help to ensure hazard mitigated future development.

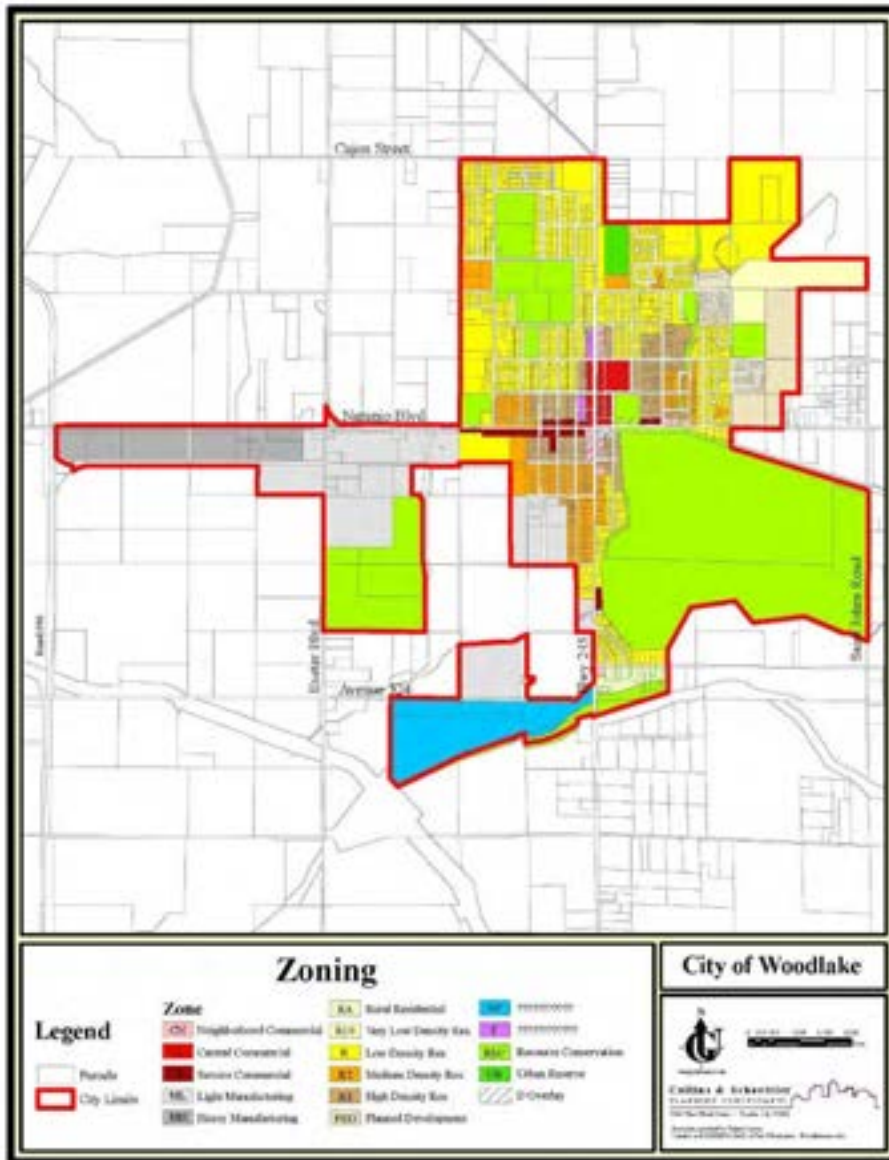
# 2017 Tulare County MJLHMP - Annex J City of Woodlake

## Annex J City of Woodlake

Woodlake is in the northwestern corner of the County, approximately 20 miles north of the City of Visalia (Visalia), the County seat. The City provides the -\*following services:

- Public safety (police and fire protection)
- Domestic water
- Wastewater collection, treatment & disposal
- Streets and traffic circulation

The City contracts with a private carrier to provide pickup of solid waste within the City limits. **Figure J-1** provides a zoning map of Woodlake.



## 2017 Tulare County MJLHMP - Annex J City of Woodlake

### Development in hazard prone areas:

#### J.1 COMMUNITY PROFILE

**Geography and Climate:** The 2010 U.S. Census indicated that the City of Woodlake had an incorporated area of 2.76 square miles. The City is relatively flat with an elevation of approximately 440 feet above sea level. Woodlake climate can be described as Mediterranean. The summers are hot and dry, and winters are characterized by moderate temperatures and light precipitation. Temperatures and rainfall for Woodlake are typical of that of the rest of the valley floor portion of the County.

**Government:** The community of Woodlake was founded in 1912 by Gilbert F. Stevenson, a wealthy land developer from southern California. In 1941, Woodlake became incorporated, becoming Tulare County's seventh city. The City operates under the Council-Manager form of government.

**Population and demographics:** The 2010 U.S. Census reported that Woodlake had a population of 7,279. Estimates for 2015 were 7,654. The population density was 2,633.5 people per square mile. The racial makeup of Woodlake was 3,691 (50.7%) White; 37 (0.5%) African American; 108 (1.5%) Native American; 52 (0.7%) Asian; 9 (0.1%) Pacific Islander; 3,072 (42.2%) from other races; and 310 (4.3%) from two or more races. Hispanic or Latino of any race were 6,381 persons (87.7%). The Census reported that 7,279 people (100% of the population) lived in households, no one (0%) lived in non-institutionalized group quarters, and no one (0%) was institutionalized.

There were 1,966 households, out of which 1,169 (59.5%) had children under the age of 18 living in them, 1,055 (53.7%) were opposite-sex married couples living together, 403 (20.5%) had a female householder with no husband present, 175 (8.9%) had a male householder with no wife present. There were 177 (9.0%) unmarried opposite-sex partnerships, and 9 (0.5%) same-sex married couples or partnerships. 271 households (13.8%) were made up of individuals and 127 (6.5%) had someone living alone who was 65 years of age or older. The average household size was 3.70. There were 1,633 families (83.1% of all households); the average family size was 4.03.

**Housing:** There were 5,868 housing units at an average density of 906.9 per square mile (350.2/km<sup>2</sup>), of which 3,176 (56.8%) were owner-occupied, and 2,417 (43.2%) were occupied by renters. The homeowner vacancy rate was 2.3%; the rental vacancy rate was 4.2%. 11,975 people (55.8% of the population) lived in owner-occupied housing units and 9,316 people (43.4%) lived in rental housing units.

**Economy:** The economy of Woodlake is largely based on agriculture and food production. The largest employer is Monrovia Nurseries.

**Land use:** Woodlake consists of a small business district surrounded by low and medium density residential property and agriculture land. A large part of the incorporated area of Woodlake is set aside for parks and resource conservation.

## 2017 Tulare County MJLHMP - Annex J City of Woodlake

**Development trends:** Woodlake experienced an average annual growth rate of 1.25% between 1990 and 2010. The growth rate between 1990 and 2000 was 1.60%. Even with the recession and weak housing market in recent years the annual growth rate remained fairly steady at 1.35% between 2010 and 2015. The Woodlake General Plan Update (Collins & Schoettler Planning Consultants, 2008), estimates a build-out population between 10,315 and 11,514, estimated to occur by year 2028. The plan's "low" population projection is based on Woodlake's average annual growth rate from 1990 to 2000 (1.59%), while its "high" population projection is based on the average annual growth rate from 1980 to 2000 (2.15%). The General Plan Update provides a residential land needs evaluation, projecting a need of between 90 to 179 acres of additional residential land by 2028.

Tulare County Association of Governments (TCAG) 2015 Sustainable Communities Strategy (SCS) forecasted population growth using the Department of Finance's (DOF) projections and historical trends. The SCS shows an estimated annual growth rate for Woodlake of 1.59%. The City plans for future growth through the implementation of policies and standards set forth in its General Plan. The General Plan is a long-term, comprehensive framework to guide physical, social and economic development within the community's planning area.

### **Development in hazard prone areas:**

Because population growth was less than two percent per year since approval of the 2011 MJLHMP, there has been no development in hazard prone areas that has affected overall vulnerability of the County. Development that did occur, was primarily infill in urban areas where vulnerabilities are well understood and described.

Updated dam inundation maps include a much larger area of the County. While little new development occurred in the expanded inundation zones, vulnerability to dam inundation increased substantially and now includes parts of the City. Updated dam inundation maps for the County and affected cities are included in **Appendix B**.

The new MJLHMP addresses the new hazard of climate change. This hazard impacts the entire City. Development in the City, the State and globally with increased carbon emissions will result in increasing overall vulnerabilities to its impacts.

## J.2 HAZARDS IDENTIFICATION AND ANALYSIS

**Hazards:** Woodlake faces many of the hazards that are present in the County. **Table J-1** below provides a summary of hazards. Visalia faces many of the hazards that are present in the County. There are no hazards that are unique to Woodlake. Dam inundation is a particularly extensive hazard to the City. Both Terminus and Success Dams may inundate Visalia resulting in an overall potential inundation area of the entire City. Hazards in the City with unlikely frequency, limited extent, limited magnitude and low significance were not included. These include earthquake liquefaction - subsidence, civil unrest and terrorism/cyber terrorism.



## 2017 Tulare County MJLHMP - Annex J City of Woodlake

<b>Table J-1: Woodlake Summary of Hazards</b>					
<b>Hazard</b>	<b>Frequency</b>	<b>Extent</b>	<b>Magnitude</b>	<b>Significance</b>	<b>Location</b>
Climate Change	Highly likely	Extensive	Catastrophic	High	Entire City
Dam Failure	Unlikely	Extensive	Catastrophic	Low	Map B-22 Depicts
Drought	Likely	Extensive	Catastrophic	High	Entire City
Earthquake: Shaking	Occasional	Extensive	Limited	Low	Entire City
Energy Emergency	Occasional	Extensive	Critical	Medium	Entire City
Extreme Heat	Highly Likely	Extensive	Critical	High	Entire City
Fire	Occasional	Limited	Limited	Medium	Entire City
Flood	Occasional	Limited	Limited	Medium	Map B-21 depicts
Fog	Likely	Extensive	Limited	Low	Entire City
Hazardous Materials	Likely	Limited	Limited	Low	Entire City
Levee Failure	Occasional	Extensive	Catastrophic	Low	Entire City
Pandemic and Vector Borne Disease	Likely	Extensive	Critical	Medium	Entire City
Severe Storms and High Winds	Highly Likely	Significant	Limited	Medium	Entire City
Wildfire	Unlikely	Limited	Limited	Low	Map B-20 depicts

### Guidelines for Hazard Rankings

#### Frequency of Occurrence:

Highly Likely	Near 100% probability in next year
Likely	Between 10 and 100% probability in next year or at least one chance in ten years
Occasional	Between 1 and 10% probability in next year or at least one chance in next 100 years
Unlikely	Less than 1% probability in next 100 years

#### Spatial Extent:

Limited	Less than 10% of planning area
Significant	10-50% of planning area
Extensive	50-100% of planning area

#### Potential Magnitude:

Catastrophic	More than 50% of area affected
Critical	25 to 50% of area affected
Limited	10 to 25% of area affected
Negligible	Less than 10%

#### Significance (subjective):

low, medium, high

### J.3 RISK ASSESSMENT

The intent of this section is to assess Woodlake’s vulnerability separate from that of the Operational Area as a whole, which has analyzed and described in **Section 5.3 Risk Assessment** in the base plan. This risk assessment analyzes the population, property, and other assets vulnerable to the hazards ranked of medium or high significance that may vary from other parts of the planning area. For more information about how hazards affect the County as a whole, see **Section 5** of the base plan.

## 2017 Tulare County MJLHMP - Annex J City of Woodlake

### Infrastructure and Values at Risk:

The following data was provided by the City Administrator. This data should only be used as a guideline to determine the overall values in the City as the information has some limitations. Generally, the land itself is not a loss. **Table J-2** shows the 2016 inventory for the City.

<b>Table J-2: Woodlake Risk Assessment</b>				
<b>Address</b>	<b>Address</b>	<b>Value</b>	<b>Type</b>	<b>Hazards</b>
Valencia House	248 N. Valencia Blvd		Built Environment and People (40)	Earthquake, Fog
Willow Court Park	E. Sierra Avenue and Willow Ct.		People, Built Environment and Natural Resources	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Woodlake City Park and Miller Brown Park	E. Antelope Avenue and N. Magnolia Street		People, Economy, Built Environment and Natural Resources	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Woodlake Fire Prot. District	216 E Naranjo Blvd	\$250,000	Built Environment	Earthquake, Dam Flood, Fog
Woodlake Police Department	350 N. Valencia Boulevard	\$500,000	Built Environment	Earthquake, Fog
Woodlake City Hall	350 N. Valencia Boulevard	\$500,000	People, Built Environment	Earthquake, Fog
Woodlake Water Tower	552 N. Castle Rock	\$1,600,000	Built Environment, Natural Resources	Earthquake, 500-Year Floodplain, Fog
Public Works Department/Wastewater Treatment Plan	595 S. Valencia Boulevard	\$400,000	Built Environment, Natural Resources	Earthquake, 500-Year Floodplain, Dam Flood, Fog
Woodlake Sewer Plant	811 S. Valencia	\$19,000,000	Built Environment, Natural Resources	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Woodlake Airport	895 S. Valencia Boulevard	\$800,000	Built Environment	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Woodlake Plaza	179 N. Magnolia St	\$2,000,000	People, Built Environment, Economy	Earthquake, 100-Year Floodplain, Dam Flood, Fog
Woodlake Transit Center	121 E. Lakeview	\$1,000,000	People, Built Environment, Economy	Earthquake, Fog

## 2017 Tulare County MJLHMP - Annex J City of Woodlake

**Critical Facilities:** The City has identified the following infrastructure in **Table J-3** as critical facilities:

<b>Table J-3: Woodlake Critical Facilities</b>		
<b>Facility</b>	<b>Address</b>	<b>Value</b>
Woodlake Fire Prot. District	216 E Naranjo Blvd	\$250,000
Woodlake Police Department	350 N. Valencia Boulevard	\$500,000
Woodlake City Hall	350 N. Valencia Boulevard	\$500,000
Woodlake Water Tower	552 N. Castle Rock	\$1,600,000
Public Works Department Wastewater Treatment Plant	595 S. Valencia Boulevard	\$400,000
Woodlake Sewer Plant	811 S. Valencia	\$19,000,000
Woodlake Airport	895 S. Valencia Boulevard	\$800,000
Woodlake Fire Prot. District	216 E Naranjo Blvd	\$250,000

### **Vulnerabilities and Potential Losses:**

A risk assessment determines the vulnerability of assets within the City by evaluating the inventory of City owned existing property and the population exposed to a hazard. A quantitative vulnerability assessment is limited to the exposure buildings, and infrastructures to the identified hazards. This risk assessment includes only those hazards that are natural.

### **Populations and Businesses at Risk**

Residential population data for the City was obtained from the State of California Department of Finance E-1 Population Estimates for Cities, Counties, and the State—January 1, 2016/2017. The population is estimated to be 7,525 in an area of 2.72 square miles. The estimate is 2,062 residential units with a 2016 median value of \$133,459. The most common employment sectors for those who live in Woodlake are agriculture and retail trade.

### **Economic Risks**

The economy of Woodlake is largely based on agriculture and food production. The City serves mostly as a commuter town with many residents having to travel to larger population centers to seek employment. Local commerce is composed of mostly small, family-owned businesses.

### **Vulnerability and Potential Losses**

FEMA requires that an estimation of loss be conducted for the identified hazards to include the number of potential structures impacted by the hazards and the total potential costs. The analysis of potential losses calculated in **Table J-4** used the best data currently available to produce an understanding of potential loss. These estimates may be used to understand relative risk from hazards and potential losses. There are uncertainties in any loss estimation method, resulting from lack of scientific study and the exact result of hazard effects on the built environment, and from the use of approximations that are necessary for a comprehensive analysis.

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<b>Table J-4: Summary of Vulnerabilities and Potential Loss</b>	
<b>Hazard Type</b>	<b>Impacts/Costs</b>
Climate Change	<p><u>Impacts:</u> Climate change will cause multiple effects to infrastructure and community public health. Warmer weather associated with climate change will result in more heat related illness. Drier weather will place increasing demands on imported and well water, and may lead to long lasting draughts that result in water rationing.</p> <p><u>Costs:</u> Climate change costs are difficult to specify. They will occur and accrue over centuries. As temperatures rise, additional costs for climate control such as air conditioning will occur. Less precipitation may result in depletion of stored and ground water reserves with potential for increased water costs and rationing. Much of these costs will be borne by individuals and families. Increased costs will also affect businesses and government owned facilities. Researchers at UC Berkeley (Science, May 2017) concluded that for every 1-degree Fahrenheit increase in global temperatures, the U.S. economy stands to lose about 0.7 percent of its Gross Domestic Product, with each degree of warming costing more than the last.</p>
Dam Inundation	<p><u>Impacts:</u> Dam inundation is a particularly extensive hazard to the City. Both Terminus and Success Dams may inundate Tulare resulting in an overall potential inundation area of the entire City.</p> <p><u>Costs:</u> A rapid failure of Success or Terminus Dam would result in catastrophic loss of life and injury, and property loss. Map B-6 depicts the potential footprint for dam inundation. Specifics of the inundation curves are contained in the Dam Emergency Action Plans which are a limited distribution documents. The potential injury and death from a short notice dam failure could be in the 100s. Total losses within the Visalia jurisdiction could exceed \$2,000,000.</p>
Drought	<p><u>Impacts:</u> Drought produces a variety of impacts that span many sectors of the economy. Reduced crops productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality; and rationing are a few examples of direct impacts. These problems can result in increased prices for food and lumber, unemployment, reduced tax revenues, increased crime, and foreclosures on bank loans to farmers and businesses, and migration. Populations that rely on or are affected by a lack of water or annual rainfall are most directly affected by droughts. The City is dependent on imported water for most of its needs. During prolonged draughts, water rationing is possible resulting in potentially higher water costs and loss of private and public landscaping.</p> <p><u>Costs:</u> Potential costs from draught to the City and its communities are difficult to quantify and are dependent upon draught duration and severity. In addition to increased costs for water, prolonged draught may result in reduced property values, loss of tax revenues and migration, all of which will cause economic losses.</p>
Extreme Heat	<p><u>Impacts:</u> Extreme heat events, present serious health risks to the City's most vulnerable populations. The effects of extreme heat (over 84°F) on human health are well documented. Increased temperature or extended periods of elevated temperatures can increase heat-related mortality, cardiovascular-related mortality, respiratory mortality, and heart attacks, while increasing hospital admissions and emergency room visits. Extreme heat can also affect a person's ability to thermo-regulate, causing heat stress and sometimes leading to death.</p>

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	<p><u>Costs:</u> Extreme heat results in increased electricity usage and additional health care costs. While additional power costs affect both commercial and residential properties, added health care costs impact individuals and families. Extreme heat may reduce economic activity if prolonged.</p>
Flood	<p><u>Impacts:</u> Flooding occurs in the City during periods of heavy rain due to inadequate drainage. The flat geography also contributes to ponding.</p> <p><u>Costs:</u> There are no accurate costs values associated with past flood events. Future flood incidents will likely result in structural damage and lost economic activity. Flood cost could be in excess of \$5,000,000.</p>
Wildland Fire	<p><u>Impacts:</u> Structures near the urban/wildland interface are susceptible to wildland fire. Impacts on low density communities are limited.</p> <p><u>Costs:</u> Costs to the City will include emergency response and damage to private property. Total costs are likely to be less than \$1,000,000.</p>

Based upon previously occurring incidents and the risk assessment, the following hazards are most likely to affect Visalia:

- Climate Change
- Dam Inundation
- Drought
- Extreme heat
- Fire
- Flood

These hazards which may impact agriculture, the economic driver of the city, represent critical vulnerabilities. In addition, these are hazards that represent vulnerabilities to infrastructure.

J.4 CAPABILITIES ASSESSMENT

**FEMA REGULATION CHECKLIST: CAPABILITY ASSESSMENT**

**Capability Assessment**

**44 CFR § 201.6(c)(3):** – The plan must include mitigation strategies based on the jurisdiction's “existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.”

**Elements**

**C1.** Does the plan document the jurisdiction’s existing authorities, policies, programs and resources, and its ability to expand on and improve these existing policies and programs? 44 CFR § 201.6(c)(3)

**C2.** Does the Plan address the jurisdiction’s participation in the NFIP and continued compliance with NFIP requirements, as appropriate? 44 CFR § 201.6(c)(3)(ii)

Source: FEMA, *Local Mitigation Plan Review Tool*, March 2013.

**Note:** For coverage of Elements C3 – C5, see Section 8, Mitigation Strategies. For coverage of Element C6, see Section 9, Plan Maintenance.

The reason for conducting a capability assessment is to identify Woodlake’s capacity to successfully implement mitigation activities. Understanding internal and external processes, resources and skills forms the basis of implementing a successful HMP. Understanding strengths and weaknesses also helps ensure that goals and objectives are realistic and attainable.

The planning team conducted an assessment of the City’s capabilities that contribute to the reduction of long-term vulnerabilities to hazards. The capabilities include authorities and policies, such as legal and regulatory resources, staff, and fiscal resources. Staff resources include technical personnel such as planners/engineers with knowledge of development and land management practices and an understanding of natural or human-caused hazards. The planning team also considered ways to expand on and improve existing policies and programs with the goal of integrating hazard mitigation into the day-to-day activities and programs of the City. In carrying out the capability assessment, several areas were examined:

- Planning and regulatory capabilities
- Administrative and technical resources
- Fiscal resources including grants, mutual aid agreements, operating funds and access to funds
- Technical and staff resources to assist in implementing/overseeing mitigation activities
- Previous and Ongoing Mitigation Activities

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**Planning and Regulatory Capabilities:** These include local ordinances, policies and laws to manage growth and development. Examples include land use plans, capital improvement plans, transportation plans, emergency preparedness and response plans, building codes and zoning ordinances.

<b>Table J-5: Woodlake Planning and Regulatory Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
General Plan	<p>The City’s General Plan provides a policy base to guide future growth within the City. It was created by planners, engineers and technical staff with knowledge of land development, land management practices, as well as human-caused and natural hazards. The General Plan:</p> <ul style="list-style-type: none"> <li>• Develops and maintains the General Plan, including the Safety Element.</li> <li>• Develops area plans based on the General Plan, to provide more specific guidance for the development of more specific areas.</li> <li>• Reviews private development projects and proposed capital improvements projects and other physical projects involving property for consistency and conformity with the General Plan.</li> <li>• Anticipates and acts on the need for new plans, policies, and Code changes.</li> <li>• Applies the approved plans, policies, code provisions, and other regulations to proposed land uses.</li> </ul> <p>The MJLHMP may be adopted as part of the Safety Element by the City Counsel. As the Safety Element is updated, revised hazard analysis from the MHLHMP will be incorporated. Safety Element actions will be aligned with MJLHMP mitigation measures.</p>	All		Planning
California Building Code Enforcement	The California Building Standards Code, Title 24 serves as the basis for the design and construction of buildings in California including housing, public buildings and maintenance facilities. Improved	Earthquake, Fire, Floods, Severe		Regulatory

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Table J-5: Woodlake Planning and Regulatory Capabilities				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
	<p>safety, sustainability, maintaining consistency, new technology and construction methods, and reliability are paramount to the development of building codes during each Triennial and Intervening Code Adoption Cycle.</p> <p>California’s building codes are published in their entirety every three (3) years. Amendments to California’s building standards are subject to a lengthy and transparent public participation process throughout each code adoption cycle. The California Seismic Safety Commission provides access to an array of regulatory and advisory information at:  <a href="http://www.seismic.ca.gov/cog.html">http://www.seismic.ca.gov/cog.html</a></p>	winter storm/high winds		
Capital Improvement Program (CIP)	<p>The City’s CIP provides a foundation and planning tool to assist in the orderly acquisition of municipal facilities and to assure that service needs for the future are met. The CIP provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.</p> <p>The MJLHMP will be used to select potential projects for the CIP. As the CIP is updated, additional mitigation measures will be analyzed and included in the Woodlake section of the MJLHMP. Funding for CIP projects identified in the MJLHMP will be reviewed for mitigation grant program eligibility.</p>	Dam Failure, Earthquake, Fire, Floods, Landslides, Levee failure, Severe winter storm/high winds		Planning
City Code of Ordinances	<p>The purpose of this code is to establish the minimum requirements to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation and energy conservation, and safety to life and property from fire and other hazards attributed to the built environment; to regulate and control the demolition of all buildings and structures, and for related purposes.</p>	Earthquake, Fire, Flooding,		Regulatory



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<b>Table J-5: Woodlake Planning and Regulatory Capabilities</b>				
<b>Name</b>	<b>Description (Effect on Hazard Mitigation)</b>	<b>Hazards Addressed</b>	<b>Updated since 2010 (if yes, identify parts applicable to mitigation)</b>	<b>Capability Type (Regulatory, Administrative, Technical, or Financial) If known</b>
	The MJLHMP will provide both hazard descriptions and mitigation actions that may address energy conservation, fire protection and development in hazard prone areas. The maps of Visalia related hazards will be used to augment other mapping products to protect public health and safety when updating City Code.			

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**Administrative and Technical:** These capabilities include community (including public and private) staff and their skills and tools used for mitigation planning and implementation. They include engineers, planners, emergency managers, GIS analysts, building inspectors, grant writers, and floodplain managers.

<b>Table J-6: Woodlake Administrative and Technical Capabilities</b>				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
City Public Works Department	Maintains and operates a wide range of local equipment and facilities as well as provides assistance to members of the public. Services include providing sufficient potable water, reliable waste water services, street maintenance, storm drainage systems, street cleaning, street lights and traffic signals.	All		Technical
Procurement Department	Provides a full range of municipal financial services, administers several licensing measures, and functions as the plan participant's Procurement Services Manager.	All		Technical
City Fire Department	Maintains and updates the Emergency Operations Plan and coordinates local response and relief activities within the Emergency Operation Center. Works closely with County, State, and Federal partners to support planning and training and to provide information and coordinate assistance.	All		Technical

**Fiscal:** These capabilities include general funds, property sales, bonds, development impact fees, or other fees.

<b>Table J-7: Woodlake Fiscal Capabilities</b>				
Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
General Fund	Program operations and specific projects.	All		Financial, Financial Services Department

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**Education and Outreach:** Programs in place such as fire safety programs, hazard awareness campaigns, public information or communications offices.

**Table J-8: Woodlake Education and Outreach Capabilities**

Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Updated since 2010 (if yes, identify parts applicable to mitigation)	Capability Type (Regulatory, Administrative, Technical, or Financial) If known
Tulare County Association of Governments (TCAG)	TCAG is committed to improving the quality of life for residents and visitors throughout the County. They address traffic congestion, coordinate regional transit programs to make getting around easy and convenient, work to improve air quality and strive to continue to meet national standards. TCAG addresses current and future rail needs and possibilities and gathers data which is used by the census and the public to properly forecast housing and transit needs.	All		Education and Outreach
Woodlake Website <a href="http://www.cityofwoodlake.com/">http://www.cityofwoodlake.com/</a> and other social media	Provides easily accessible conduit to information about planning and zoning, permits and applications and programs that address hazard mitigation such as clean energy efforts.  The updated MJLHMP will be posted to City media sites. As the planned is reviewed annually and new updates made, information on the planning process will be included on web sites and announced on social media.	All		Education and Outreach

## J.5 MITIGATION STRATEGY

**Table J-9** lists the City specific mitigation actions from the 2011 Plan and provides their status.

Table J-9: Woodlake - Specific Mitigation Actions						
No.	Selected (Y/N)	Description	Prioritization Criteria	Facility to be Mitigated (if known)	Department or Agency	Status
1	Y	Construction of a new waste water treatment		WWTP	19 million	Completed 2012
2	Y	Integrate the Tulare County HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	A, B, C, D, E	Not Applicable	City of Dinuba Development Services Dept.	Ongoing – Mitigation Action 1 in 2017 MJLHMP
3	Y	Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency.	A, B, C	Unknown	City of Dinuba Development Services Dept.	Ongoing – Mitigation Action 2 in 2017 MJLHMP

### Prioritization Criteria

- A local jurisdiction department or agency champion currently exists or can be identified
- The action can be implemented during the 5-year lifespan of the HMP
- The action may reduce expected future damages and losses (cost-benefit)
- The action mitigates a high-risk hazard
- The action mitigates multiple hazards

Strategies 2 and 3 from the 2011 HMP are still relevant to this update. **Table J-10** contains an updated set of potential mitigation strategies for the new Plan. Mitigation actions were derived from numerous sources including the General Plan, City Code, Capital Improvement Plan and input from the public and stakeholders.

**Table J-10: Woodlake Specific Actions and Applicable Hazards**

Strategy Number	Mitigation Strategy	Applicable Hazards	Mitigation Type
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.	All	Mit.
2	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.	All	Mit.
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.	All	Mit.
4	Designate areas with a potential for significant hazardous conditions for open space, agriculture, and other appropriate low intensity uses.	All	Mit.
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).	All	Mit.
6	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.	FR	Mit.
7	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 very high fire hazard severity zones or state responsibility area by fire hazard zone designation. Identify plans and actions to improve substandard housing structures and neighborhoods.	FR	Mit.
8	Acquire, relocate, or elevate residential structures, in particular those that have been identified as Repetitive Loss (RL) properties that are located within the 100-year floodplain.	FL	Mit.
9	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	FL	Mit.

10	Reinforce County and local ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	FL	Mit.
11	Work with FEMA Region IX to address any floodplain management issues that may have arisen/arise from the countywide DFIRM, Community Assessment Visits, and/or the DWR.	FL	Mit.
12	Increase participation in the NFIP by entering the Community Rating System program which through enhanced floodplain management activities would allow property owners to receive a discount on their flood insurance.	FL	Mit.
13	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.	All	Prep.
14	Continue to promote awareness and education among residents regarding possible natural hazards, including soil conditions, earthquakes, flooding, fire hazards, and emergency procedures.	EQ, FL, FR	Mit.
15	Develop a public outreach program that informs property owners located in the dam or levee inundation areas about voluntary flood insurance.	FL, DF, LF	Mit.
16	Promote public safety programs, including neighborhood watch programs, child identification and fingerprinting, public awareness and prevention of fire hazards, and other public education efforts.	CT	Mit.
17	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.	All	Resp.
18	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.	All	Resp.
19	Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about severe valley fog and extreme heat conditions.	FG, EH	Resp.
20	Use Geographic Information Systems (GIS) technology to track fire and law enforcement response times and provide technical assistance to fire and law enforcement agencies.	FR, TR	Mit.

21	Require, where feasible, road networks (public and private) to provide for safe and ready access for emergency equipment and provide alternate routes for evacuation	All	Mit.
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An initial list of mitigation actions was selected from the mitigation strategies. Additional actions were added using the FEMA Mitigation Ideas. **Table J-11** provides the 2017 MJLHMP mitigation actions for the City. New priorities for mitigation actions are listed in the table.

<b>Table J-11 Woodlake - Mitigation Actions</b>					
<b>Action Number</b>	<b>Mitigation Strategy</b>	<b>Department</b>	<b>Cost</b>	<b>Priority</b>	<b>Timeframe</b>
1	Integrate the Tulare County HMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	All	Unknown	Medium	One year
2	Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency.	Public Works	Unknown	Low	5 or more years
3	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	Development	Unknown	High	5 or more years
4	Bravo Lake Lift Station – Construct a storm drain lift station project at Bravo Lake.	Public Works	\$2,000,000	High	2-5 years
5	Storm Water Master Plan - Update 2010 Storm Water Master Plan	Public Works	\$350,000	High	1 year
6	Culvert Expansion – Implement a City-wide culvert expansion program to enhance storm water flow.	Public Works	\$6,000,000	High	2-5 years
7	Recharge Basin Design and construct storm water recharge basins for storm water storage.	Public Works	\$3,000,000	High	2-5 years

8	Groundwater Monitoring - Monitor Drought Conditions by tracking well depth and rate of increase/decrease in groundwater levels.	Public Works	N/A	Med.	Ongoing
9	Groundwater Conservation - Enforce new ordinance restrictions on water usage within Woodlake City Limits	Public Works	N/A	Med.	Ongoing
10	Landscaping Design - Require all new development to reduce water usage through the incorporation of xeriscaping and removal of "landscaping strips".	Building	N/A	Med.	Ongoing
11	Water Education - Notify residents of potential water leaks within their homes by monitoring the water meter notifications for leaks.	Public Works	N/A	Med.	Ongoing
12	Building Code Adoption - Immediately adopt the newest versions of the California Building Code when they are made available.	Building	N/A	Med.	Ongoing
13	Building Assessment and Retrofit - Require a structural review of commercial and industrial structures prior to the issuance of a building permit. When necessary, require improvements to improve structural conditions of the building.	Building	N/A	Med.	Ongoing
14	Temperature Awareness for the Public and Assistance to Vulnerable Populations - Notify residents when extreme heat is forecasted and provide the City Hall as a location for heating and cooling.	Admin.	N/A	Med.	Ongoing
15	Sandbag Flood Prevention - Provide sandbags, free of charge, to residents that may have higher risks of minor flooding to their property.	Fire	Minimal	Med.	Ongoing
16	Improve Stormwater Capacity - Install new stormwater pipes to increase capacity in the southern part of the City, where flooding is most likely.	Public Works	Unknown	High	2-5 years
17	Waterway Maintenance - Remove debris and vegetation from waterways that divert stormwater to prevent flooding within the city.	Public Works	Unknown	High	Ongoing
18	Floodplain Development - Limit development in floodplains by encouraging the protection of open space areas.	Building	N/A	Med.	Ongoing



19	Disaster Response - Enforce the City's Emergency Response Ordinance to provide shelter after a disaster.				
20	On-Site Storm Basins - Require residential subdivisions to consider dual purpose storm retention (retention park) in new developments.				

Incorporation into other plans: FEMA requires the HMP be consistent with and incorporated into other planning documents and processes. In the City of Tulare, these other planning documents and process include the General Plan Update, the City Code zoning ordinances and various infrastructure master plans. The term incorporated in planning terms means that the HMP and the other plans have similar community goals and policies in that they advocate similar land use patterns, and they are consistent in their guidance of direction and rate of growth. As other plans are updated or created, the HMP should be used as guidance.

Many of the plans listed in the Capabilities Assessment mentioned in Section J.4 have not been updated since the 2011 MJLHMP was adopted. Recommended ways to use and incorporate the new Plan over the next five-year planning cycle, discussed by the Planning Team, included:

- Incorporation of the Woodlake Annex into the Health and Safety Element of the City's General Plan.
- Use of, or reference to, Plan elements in updates to general and comprehensive planning documents, codes, and ordinances
- Addition of defined mitigation actions to capital improvement programming
- Inclusion of Plan elements into development planning and practices
- Resource for developing and/or updating emergency operations plans, emergency response plans, etc.

The Plan will continue to function as a standalone document subject to its own review and revision schedule presented in Sections 7.1 and 7.2. The Plan will also serve as a reference for other mitigation and land planning needs of the participating jurisdictions. Whenever possible, each jurisdiction will endeavor to incorporate the risk assessment results and mitigation actions and projects identified in the Plan, into existing and future planning mechanisms.

At a minimum, each of the responsible agencies/departments noted in **Table 6.3 and the Annexes of Appendix J** will review and reference the Plan and revise and/or update the legal and regulatory planning documents, manuals, codes, and ordinances as appropriate. Specific incorporation of the Plan risk assessment elements into the natural resources and safety elements of each jurisdictions' General Plans (County comprehensive plan) and development review processes, adding or revising building codes, adding or changing zoning and subdivision ordinances, and incorporating mitigation goals and strategies into general and/or comprehensive plans, will help to ensure hazard mitigated future development.

**Appendix K: Plan Adoption Resolutions**

