Local Hazard Mitigation Plan

August 26, 2016

Developed by

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TABLE OF CONTENTS

SECTION 1 INTRODUCTION

This annex was prepared in 2015-2016 as part of an update to the 2011 Santa Barbara County Multi-Hazard Multi-Jurisdictional Hazard Mitigation Plan. The City of Lompoc (City) participated in the County wide Mitigation Advisory Committee (MAC) to review all portions of the previous Santa Barbara County multi-jurisdictional hazard mitigation plan and led the local planning team in its efforts to incorporate relevant material into this local hazard mitigation plan annex. This document contains updated capability assessment information, a new vulnerability assessment, and an updated/revised mitigation strategy. The methodology and process for developing this annex is explained throughout the following sections.

Across the United States, natural and manmade disasters have led to increasing levels of death, injury, property damage, and interruption of business and government services. The impact on families and individuals can be immense and damages to businesses can result in regional economic consequences. The City recognizes the consequences of disasters and the need to reduce the impacts of natural hazards. The elected and appointed officials of the City also know that with careful selection, mitigation actions in the form of projects and programs can become a long-term, cost effective means for reducing the impact of natural hazards.

The City's *Local Hazard Mitigation Plan* (Plan), was prepared and formulated with citizen participation, responsible officials, other stakeholders and support from the State of California Governor's Office of Emergency Services (Cal OES) and the Federal Emergency Management Agency (FEMA). The Plan guides the City toward greater disaster preparedness and resistance in harmony with the character and needs of the City.

Mitigation is commonly defined as action(s) taken to reduce or, where possible, eliminate risks to people and property from hazards and their effects. ***Hazard mitigation*** focuses attention and resources on actions that will reduce or eliminate long term risks to persons or property from natural hazards.

The impact of expected yet often unpredictable natural and human-caused events can be reduced through planning. History has demonstrated that it is less expensive to mitigate against disaster damage than to repeatedly repair damage in the aftermath. A mitigation plan states the aspirations and specific courses of action jurisdictions intend to follow to reduce vulnerability and exposure to future hazard events.

It is the City's hope that the Plan continues to be used as a tool for all stakeholders to increase public awareness of local hazards and risks, while at the same time providing information about options and resources available to reduce those risks. Informing and educating the public about potential hazards will help City residents and visitors protect themselves against their effects.

The emphasis of the Plan is on the assessment of identified risks, identifying mitigation measures for existing exposures, and ensuring critical infrastructure are capable of surviving a disaster. Hazard mitigation strategies help to eliminate losses by limiting new exposures in identified hazard areas, diverting the hazard by reducing the impact, and developing an awareness of hazard area location to avoid future development.

Federal legislation has historically provided funding for disaster preparedness, response, recovery, and mitigation. The Disaster Mitigation Act of 2000 (DMA 2000) is legislation designed to improve the delivery of mitigation programs through sound and viable planning. The legislation reinforces the importance of mitigation planning and emphasizes planning for disasters before they occur. As such, DMA 2000 establishes a

pre-disaster hazard mitigation program and outlines requirements for the post-disaster Hazard Mitigation Grant Program (HMGP).

Section 322 of DMA 2000 specifically addresses mitigation planning at the state and local levels. It identifies requirements that allow HMGP funds to be used for planning activities, and increases the amount of HMGP funds available to states that have developed a comprehensive, enhanced mitigation plan prior to a disaster. State, County, and/or local jurisdictions must have an approved mitigation plan in place prior to receiving mitigation disaster grant funds. Hazard mitigation plans must demonstrate that their proposed projects are based on a sound planning process that accounts for the risk to and the capabilities of the individual communities.

Local governments have certain responsibilities for implementing Section 322, including:

- Preparing and submitting a local mitigation plan;
- Reviewing and updating the Plan every five years; and
- Monitoring the Plan and Projects.

DMA 2000 is intended to facilitate cooperation between state and local authorities, prompting them to work together. It encourages and rewards local and state pre-disaster planning and promotes sustainability as a strategy for disaster resistance. This enhanced planning network is intended to enable local and state governments to articulate accurate needs for mitigation, resulting in faster allocation of funding and more effective risk reduction projects.

This Plan has been prepared to meet FEMA and Cal OES requirements thus continuing the City's eligibility for funding and technical assistance from state and federal hazard mitigation programs, such as the HMGP, Pre Disaster Mitigation, and Flood Mitigation Assistance programs.

SECTION 2 PURPOSE AND AUTHORITY

Authority to create this Plan is derived from the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288), as amended by the DMA 2000. The requirements and procedures for hazard mitigation plans are found in the Code of Federal Regulations (CFR) at Title 44, Chapter 1, Part 201 and the associated Interim Final Rule changes. The federal law and associated rule changes and regulations establish planning and funding criteria for states and local communities.

- *Enhance Public Awareness and Understanding* – to help residents of the City to better understand the natural hazards that threaten safety and welfare; economic vitality; and the operational capability of critical infrastructure;
- *Create a Decision Tool for Management* – to provide information that managers and leaders of local government, business and industry, community associations, and other key institutions and organizations need to take action to address vulnerabilities to future disasters;
- *Promote Compliance with State and Federal Program Requirements* – to ensure that the City can take full advantage of state and federal grant programs, policies, and regulations that encourage or mandate that local governments develop comprehensive hazard mitigation plans;
  Enhance Local Policies for Hazard Mitigation Capability – to provide the policy basis for mitigation actions that should be promulgated by the City to create a more disaster-resistant future; and

- Achieve Regulatory Compliance – To qualify for certain forms of federal aid for pre- and post-disaster funding, local jurisdictions must comply with the federal DMA 2000 and its implementing regulations (44 CFR Section 201.6). DMA 2000 intends for hazard mitigation plans to remain relevant and current. Therefore, Local plans are updated every five years. This means that the Hazard Mitigation Plan for the City uses a "five-year planning horizon". It is designed to carry the City through the next five years, after which its assumptions, goals, and objectives will be revisited and the Plan resubmitted for approval. Section 7 details specific goals and objectives with regard to implementing mitigation activities over the life of this Plan. In Section 8, the City has outlined an approach ensuring the Plan is implemented, evaluated, monitored and updated.

SECTION 3 PLANNING PROCESS

3.1 OVERVIEW

The planning process implemented for updating the City's *Plan* utilized two (2) different planning teams. The first team is the Santa Barbara County, Office of Emergency Management, Mitigation Advisory Committee (MAC) and the second is the City of Lompoc Local Planning Team (LPT).

The planning process followed the concepts and principles outlined in the Comprehensive Preparedness Guide (CPG) 101. Both the MAC and the Local Planning Team focused on these underling philosophies:

- *Focus on the mitigation strategy*
  The mitigation strategy is the plan's primary purpose. All other sections contribute to and inform the mitigation strategy and specific hazard mitigation actions.
- *Process is as important as the plan itself*
  In mitigation planning, as with most other planning efforts, the plan is only as good as the process and people involved in its development. The plan should also serve as the written record, or documentation, of the planning process.
- *This is the community's plan*
  To have value; the plan must represent the current needs and values of the community and be useful for local officials and stakeholders. Develop the mitigation plan in a way that best serves your community's purpose and people.
- *Intent is as important as Compliance*
  Plan reviews will focus on whether the mitigation plan meets the intent of the law and regulation; and ultimately that the plan will make the community safer from hazards.

The planning process for the City's Plan incorporated the following steps:

- *Plan Preparation*
  - Form/Validate planning team members
  - Establishing common project goals
  - Setting expectations and timelines
- *Plan Development*
  - Validate and revise the existing conditions/situation within planning area; the *Capabilities Assessment and Hazard Assessment Sections* in the Plan
  - Develop and review the risk to hazards (exposure and vulnerability) within the planning area; the *Vulnerability Assessment Section* in the Plan
  - Review and identify mitigation actions and projects within the planning area; the Mitigation Strategy in the Plan

- *Finalize the Plan*
  - Review and revise the Plan
  - Approve the Plan
  - Adopt and disseminate the Plan

Throughout this process, opportunities for public involvement was offered and encouraged. More details about public engagement are provided in Appendix B, Public Involvement and Section 3.4.

The MAC team was guided through the planning process; and as material was shared and decisions were made, it was the MAC team's responsibility to bring these findings back to their LPT. Below is a summary of the collaborative planning process of the LPT and MAC.

3.2 CITY OF LOMPOC PLANNING TEAM 2016

The City's LPT collaborated to identify critical facilities, provide relevant plans, report on progress of city mitigation actions and provide suggestions for new mitigation actions. Below is a list of the LPT members:

Table 3.1 Lompoc Planning Team Members

Name	Title
Patrick Wiemiller	City Manager
Kurt Latipow	Fire Chief
Mike Brown	Battalion Chief / Asst. Emergency Services
Kevin McCune	Public Works Director / City Engineer
Pat Walsh	Police Chief
Stacy Lawson	Senior Environmental Coordinator
Brad Wilke	Management Services
Teresa Gallavan	Economic Development/ACM
Larry Bean	Utility Department
Lucille Breese	Economic Development/Planning Division

The LPT is a standing committee that works together to discuss and provide input on a variety of Emergency Management and Preparedness issues. The LPT is led by the City Manager and the Fire Chief. The LPT has representation from all of City Departments.

The Lompoc LPT was utilized for the updating of the City's component of the Santa Barbara County Plan. To assist with this effort the City hired a consultant to support and assist with the development of the Plan. The City's Plan is contained as an annex in the Santa Barbara County's Plan.

3.2.1 Local Planning Team Process

Meetings were conducted to review the existing Plan, update the capabilities, vulnerabilities and hazard assessments, and discuss existing, recurring, or new mitigation strategies. This was developed as a city-wide hazard mitigation plan focusing on interdepartmental collaboration to implement mitigation strategies throughout the city.

Each of the following sections detail the methodologies for development and updates since the 2011 City Plan. As necessary, the discussions of local planning documents have been revised to reflect updates since 2011.

The *Hazard Assessment,* detailed in Section 5, presents the methodology in which the LPT reviewed the previously identified hazards and discussed revisions to their prioritization. A profile for each hazard is

included which summarizes the type of hazard, location and extent, history of past occurrences, and probability of future occurrences. The hazard identification and ranking documented in this section form the foundation for prioritizing mitigation actions.

The LPT reviewed the previous *Mitigation Strategies* and reported on progress made in implementing the listed actions. In addition, based on updates to the hazard identification, profiles, vulnerability assessments, and the capability assessment new mitigation actions were identified. The progress report and new mitigation actions are presented in the updated *Mitigation Strategy* (Section 7).

The LPT l held regular meetings and continually worked on the Plan. The LPT coordinated and consulted with other stakeholders to identify and delineate natural hazards within the City to assess the risks and vulnerable properties in identified hazard areas. From the start, every attempt was made to establish an open public process to provide an opportunity for all sectors of the overall community to be involved in the planning process. In some cases direct public input was successful and in others the residents were represented in the process by their jurisdictions staff, by necessity. Meeting documentation is included in Appendix B Public Involvement.

The LPT met regularly to review the 2011 City Plan and made recommendations for the 2016 City Plan. The LPT meeting summary is listed in the table below.

Table 3.2 Overview of Planning Team Meeting Summary

Meeting Dates	Summary of Discussions
December 17, 2012	**Meeting # 1:** Discussed sections 1-3 of the Plan. LPT agreed no modifications required.
April 15, 2013	**Meeting # 2:** Reviewed Section 4 of the Plan, Capability Assessment. Discussed Department roles in Hazard Mitigation.
December 16, 2013	**Meeting # 3:** Reviewed Sections] 5 of the Plan, Hazard Assessment. Discussed relevant hazards impacting Lompoc. Consider including Drought in the next LHMP.
April 21, 2014	**Meeting # 4:** Reviewed Section 5 of the Plan, Vulnerability Assessment. Discussed and agreed no modifications to Plan, at this time.
December 15, 2014	**Meeting # 5:** Reviewed Section 7 of the Plan, Mitigation Strategies. Mitigation action 2011-1 is complete. Actions 2011-2 and 2011.3 will be complete in 2015.
April 20, 2015	**Meeting # 6:** Reviewed Section 8 of the Plan, Plan Maintenance. City Manager and Fire Chief Emphasized the importance of staying current with Mitigation Actions and being aware of developing vulnerabilities.
December 21, 2015	**Meeting # 7:** Fire Chief notified the LPT of the upcoming revision process lead by Santa Barbara County Office of Emergency Management. 2011 Action 2011-2 and 2011-3 have been achieved
April 18, 2016	**Meeting # 8:** Reviewed 2011 LHMP. Agreed to include Drought and Water Shortage in upcoming Plan Revision.

3.3 Mitigation Advisory Committee (MAC)

3.3.1 MAC Team Members

The Mitigation Advisory Committee (MAC), formed in 2004, is a standing committee that works together throughout the year to discuss and provide input on a variety of activities. The MAC is led by Santa Barbara

County Office of Emergency Management and has representation from all of the local jurisdictions, as well as County Departments and Cal OES.

The MAC was utilized for the updating of the Santa Barbara County Plan. To assist with this effort Santa Barbara County Office of Emergency Management hired a consultant to support and assist each jurisdiction with their City Plan; contained as an annex in the County Plan. The table below (Table 3.3) lists the members of the MAC.

Table 3.3 Members of the Mitigation Advisory Committee 2016

Names	Section 1 Organization	Section 2 MAC Member Status
Michael Dyer	Santa Barbara County – Emergency Manager	New Member
Shannon McCrone	Santa Barbara County – Emergency Services Planner	New Member
Robert Troy	Santa Barbara County – Deputy Director Emergency Management	New Member
Tylor Headrick	Santa Barbara County- GIS/Emergency Services Planner	New Member
Steve Oaks	Santa Barbara County Fire – Battalion Chief	New Member
Rob Hazard	Santa Barbara County Fire – Captain	New Member
Rudy Martel	Santa Barbara County Agricultural Commissioner	New Member
Joyce Tromp	Santa Barbara County Flood Control	New Member
Jon Frye	Santa Barbara County Flood	New Member
Tom Fayram	Santa Barbara County Public Works Deputy Director	Returning Member
Matthew Schneider	Santa Barbara County Planning and Development Deputy Director-Long Range Planning	New Member
Marc Bierdzinski	City of Buellton – City Manager/Planning Director	Returning Member
Mimi Audelo	City of Carpinteria – Program Manager	New Member
Claudia Dato	City of Goleta – Senior Project Manager (Public Safety)	Returning Member
Gary Hoving	City of Guadalupe – Public Safety Director	New Member
Kurt Latipow	City of Lompoc – Fire Chief	New Member
Yolanda McGlinchey	City of Santa Barbara – Emergency Services Manager	Returning Member
Roy Dugger	City of Santa Maria – Emergency Preparedness Coordinator	Returning Member
Bridget Elliott	City of Solvang – Associate Engineer	New Member
Jim Caesar	UCSB – Emergency Manager	Returning Member
Lindsey Stanley	Cal OES – Emergency Services Coordinator	New Member
Andrew Petrow	Consultant	New Member

3.3.2 Overview of MAC Meetings

The MAC meetings were arranged and scheduled to follow the planning process steps outlined in Section 3.1. Each meeting was designed to walk the MAC members through sections of the Santa Barbara County *Multi-Jurisdictional Hazard Mitigation Plan*. In addition to reviewing and validating material, the intent was to also

educate MAC members on the planning process and purpose of each section. By taking this step, it helped ensure that each MAC member could bring this knowledge back to their LPT. The table below (Table 3.4) provides a list and the main purpose of each of the MAC meetings.

Table 3.4 Mitigation Advisory Committee (MAC) Meetings Summary

Date	Purpose
April 2015	**Kick Off (in person)** • Reviewed and discussed the hazards in the Plan; including initial ranking. • Each jurisdiction was asked to review their previous goals and objectives with a local planning team.
December 2015	**MAC Meeting (in person)** • Recap of previous MAC meeting • Goal of the project • Understanding of HMP update requirements • Validation of team members • Proposed Planning Process • Review of Capabilities Assessment Section
January 2016	**MAC Meeting (conference call)** • Recap of previous MAC meeting • Review of Capabilities Assessment Section • Discussion of public outreach efforts • Preparation for next MAC meeting
February 2016	**MAC Meeting (in person)** • Recap of previous MAC meeting • Review of Hazard Assessment Section • Presentation of Vulnerability Assessment results • Discussion of public outreach efforts • Preparation for next MAC meeting
March 2016	**MAC Meeting (conference call)** • Recap of previous MAC meeting • Review of Capabilities Assessment and Vulnerability Assessment Sections • Preparation for next MAC meeting
April 2016	**MAC Meeting (in person)** • Recap of previous MAC meeting • Initial discussion of mitigation projects and actions
May 2016	**MAC Meeting (conference call)** • Recap of previous MAC meeting • Discussion of mitigation actions and projects • Discussion of update process • Preparation for next MAC meeting
June 2016	**MAC Meeting (in person)** • Recap of previous MAC meeting • Discussion of mitigation actions and projects

Date	Purpose
	• Discussion of update process

See Appendix B for sign-in sheets and presentations, where applicable.

3.4 PUBLIC OUTREACH

There were two (2) different Public Outreach campaigns used during the City's Plan update process: the first informing the Community of City Plan Update, and the second educating the Community of Hazards. The second campaign (educating of the Community of Hazards) is an ongoing campaign.

3.4.1 Informing the Community of the City Plan Update process

On July 25 2016 the City issued a press release announcing the commencement of the hazard mitigation planning process. This announcement invited the public to notify the City of their interest to participate in the planning process or submit comments. A copy of this press release and local publications may be found in Appendix B.

Final drafts of the City's Plan were also made available to the public through the City website, and hard copies were available in select locations. Input from the public was presented to the LPT for consideration of incorporation into the City Plan.

3.4.2 Ongoing Public Outreach

The City utilizes several platforms to educate the public about hazards in the community, relevant programs to safeguard and protect themselves from disaster, and actions they can take to prepare themselves for events. The relevant programs are also identified in Section 4.2.4. Below is a list of the different platforms used and a brief summary of some of the programs:

- Be Aware and Prepare
- Disaster Preparedness
- Emergency Management
- Wildfire Action Plans
- Ready-Set-Go
- Disaster Preparedness for Pets
- Earthquake
- Smoke Alarm Facts
- Hot Weather Safety
- LISTOS
- Social Media
- Public Events
- Public Service Announcements (Radio and Television)Drought Education
- Flood emergency awareness
- American Red Cross,
- Amateur Radio Emergency Services (ARES)
- Equine Evacuation, CERT, LISTOS,
- Voluntary Organizations Active in Disasters (VOAD)
- Faith Based Organizations.

3.5 Public Review Period

On July 25, 2016 the City issued a press release regarding the preparation of the City Plan. The press release, was sent to the Lompoc Register, local Media, and was posted on the city's website which included a telephone number and email address for comments during the drafting state.

The city posted a copy of the City Draft Plan for public review on its web site during the public comment period from 7/25/2016 through 8/16/2016. Additionally the city provided an email address as well as telephone number for comment. There were no public comments received.

A Public Meeting was to be held on 8/3/2016, at the City of Lompoc City Hall Chambers from 6:30 P.M. to no citizens attended the Public Meeting. It should be noted the MAC conducted 2 public meetings, one meeting in northern Santa Barbara County and one meeting in southern Santa Barbara County during the LHMP development process.

SECTION 4 CAPABILITY ASSESSMENT

4.1 City of Lompoc – Introduction

The first settlers in the Lompoc Valley were the Chumash Indians. The Chumash and their predecessors lived in the Lompoc Valley for nearly 10,000 years prior to European contact. The establishment of La Purisima Mission in 1787 marked the earliest European settlement in the Lompoc Valley. The original mission, located at what is now the foot of F Street in downtown Lompoc, was destroyed by an earthquake in 1812. Remnants of the mission can be seen at this site which has been preserved as a State Historical Landmark. The mission was rebuilt over several years beginning in 1813 at its current location on the north side of the Valley. The Mission, the most authentically restored in the mission system, is now a State park.

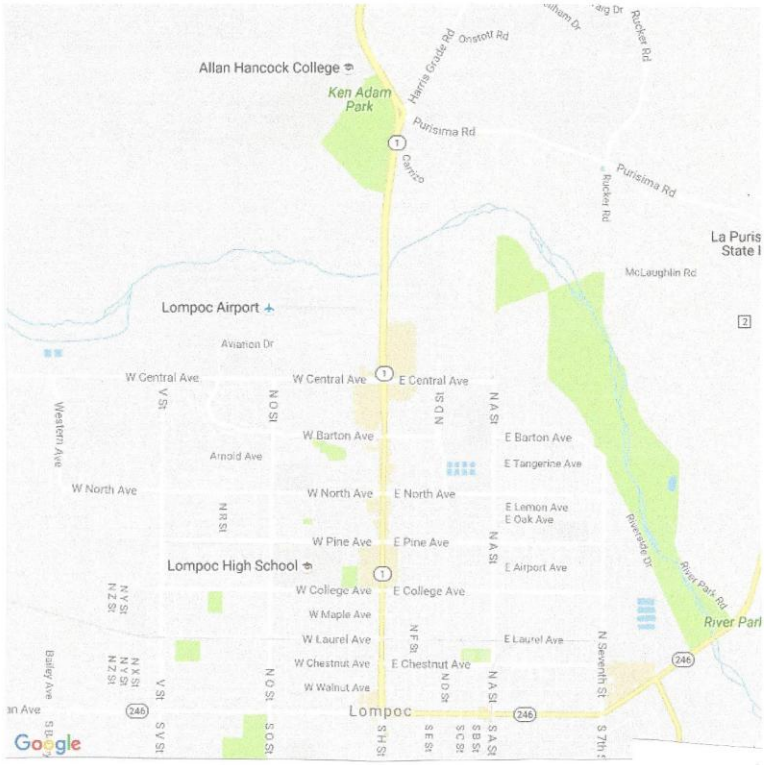
The Lompoc Land Company was formed and incorporated in August of 1874 for the purpose of purchasing almost 43,000 acres to establish a temperance colony. The City of Lompoc was incorporated on August 13, 1888. A number of wharves were constructed during this period serving as shipping points for incoming supplies and outgoing agricultural produce until the turn of the century when the railroad replaced shipping as the primary means of commercial transportation.

The completion of the coastal railroad between San Francisco and Los Angeles in 1901, and the subsequent extension of a spur into Lompoc, provided the impetus for growth in the Valley. Fields were cleared and leveled for agricultural production of specialized crops including flower seeds. The flower seed industry so dominated agricultural production that the area was dubbed the "Valley of Flowers." The Johns-Manville Corporation and others began the mining of diatomaceous earth in the southern hills. The mining industry continues to be a major employer.

In 1941, Camp Cooke was established as an Army training base which was renamed Vandenberg Air Force Base (VAFB) in 1958. VAFB was the first missile base of the United States Air Force. The Space Shuttle program was slated to begin launches in the late 1980's. However, when the Challenger exploded during take-off in 1986, the West Coast Shuttle Program was terminated, leaving Lompoc in a severe recession.

The Lompoc Valley responded to the Shuttle disaster by focusing on tourism as a means of fighting its way through the recession. By focusing on the natural beauty of the Valley, its flower industry, the pristine Central Coast, and by developing a successful downtown mural program, the City has built an excellent tourism

industry that is to this day a primary component of the Lompoc economy. Today, the City is dubbed "The City of Arts and Flowers."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4.1.1 Economy and Employment

Lompoc Valley enjoys a healthy and diversified economy. Home to Vandenberg Air Force Base, which contributes $1.7 billion to the regional economy and is the largest employer in Lompoc and is the powerhouse driving the county's economy.

The study evaluated the impact of Vandenberg in terms of population, output, jobs, labor income and taxes generated using data from fiscal year 2004. The report accounted for both direct impacts created by the base and additional impacts that occurred in relation to base activity with a multiplier effect of 1.92, which means every dollar spent by Vandenberg generates another 92 cents in business.

Located on nearly 100,000 acres outside of Lompoc, Vandenberg's impact is stable due to its role as a classified military installation for rocket and missile launches. As of December 2007, Vandenberg had 2,919 military members, 941 civilian and 2,835 contract employees. Col. Steve Tanous, then Commander 30th Space Wing, affirmed that the base was scheduled to get 272 more military positions, 43 civilian jobs and 160 reservists through relocation of units, along with the growth of other programs. Construction activities on base include a $40 million Astrotech Space Operations payload processing facility, a $16.8 million fitness center, and a $13 million new home for the Joint Space Operations Center.

The Allan Hancock College fire, police and emergency services training academies have relocated to Lompoc. The $46 million Public Safety Training Center project includes a City donation of 39 acres of land adjacent to the college for a total of almost 100 acres that will be dedicated to the academies, a high speed driving course and further expansion. It should be noted Allan Hancock College is the alternate seat of government and alternate EOC for the City in the event City Hall and the EOC are unable to be used.

Major employers in Lompoc Valley include:

- Vandenberg AFB
- Lompoc Unified School District
- Lockheed Martin Corporation
  U.S. Department of Justice (Lompoc Federal Correctional Complex)
- City of Lompoc
- Lompoc Valley Medical Center
- Boeing
- World Minerals
- Retail operators: Wal-Mart, Vons, Home Depot, etc.
- Entrepreneurs, especially boutique winemakers

Lompoc Valley's agricultural roots have shifted to value-added products such as flower seed research and development and wine production. Over the past decade, Lompoc's affectionately termed "Wine Ghetto" has become a production center for some of the finest wines in the country. In less than five years, the number of Lompoc's premium artisanal wines grew from five to 30 labels. There are now 34 labels produced in 15 wineries across town. Local winemaker camaraderie continues to spawn innovation and de facto winery incubators continue to launch new wine labels.

As Lompoc's boutique wineries grow, they move into larger facilities and hire more employees. A few years ago, Brewer-Clifton moved into a new 12,000 square foot production facility. Loring Winery and Pali Winery constructed a 30,000 square foot wine facility for processing, operational offices, case good storage, barrel

rooms and fermentation rooms. More recently, Flying Goat Cellars purchased a 3,600 square foot industrial condo for wine production at JM Development's new industrial condos on West Laurel. Several other wine facilities in the works will create more growth opportunities with more available production space.

Other targeted industries for the city include Internet, entertainment technology and multimedia. Citywide broadband service has positioned Lompoc to develop as a media and communications center with at least three competitors offering service. The city seeks to attract production talent, digital production companies and pre-and post-production operations.

On the local level, Allan Hancock College Film & Video Production Program, with a 30+ year history, and the City's state-of-the-art TAP TV media studio provide training grounds for an emerging technology workforce. City sponsorship of the Santa Barbara International Film Festival also enhances student opportunities through the festival screenwriting and filmmaking contests and field trips to the movies.

The City partners with the Santa Barbara County Film Commission to promote the area for film locations. The production of commercials and films such as "Sideways" contribute to the community's economic vitality. Film location managers increasingly take an interest in business-friendly Lompoc and the surrounding area. Most recently, "There Will Be Blood" and "Grindhouse" were filmed on Jalama Road and used Lompoc facilities.

On the manufacturing side, Goleta-based Far West Technology recently expanded into Lompoc and created six new full time jobs for packaging of dosimetry products. Raytheon Vision Systems opened a manufacturing division in Lompoc rather than expand its Goleta headquarters. The 55,600 square foot facility in Lompoc employs 30 workers who develop and manufacture infrared sensors for scientific, commercial and government applications. Expansion of the Raytheon facility in Lompoc is now underway.

In 2013, DenMat, a leading manufacturer of high-quality dental products, moved its world headquarters from Santa Maria into an 81,000 square foot building near the Lompoc airport. A privately held company, DenMat supplies dental products and equipment to dental professionals across the nation and in more than 60 countries around the world. They also offer a full-service Dental Laboratory featuring the popular Lumineers and Snap-On Smile brands. As an accredited continuing education provider, DenMat offers educational courses for dentists and their staff in locations nationwide. DenMat has a workforce of 400 employees.

The population of Lompoc Valley is about 65,000, much of which is young and Hispanic. The recent housing boom attracted many young professionals from Los Angeles and Santa Barbara. Non-residential investment is now paving the way for job opportunities with industrial, commercial and public infrastructure growth. Lompoc's comparative advantage in housing prices, information technology and overall quality of life will continue to attract a young, edgy technology workforce. Additionally, the city continues to develop a wide spectrum of workforce training opportunities in the valley.

4.2 Development and Population Growth

4.2.1 Current Population Information

The current city population (2016) is 42,434, a decrease of 420 since 2012. Of that total, 3,649 are attributed to the federal prison. The total non-prison population is 38,694. Community growth is expected to be very modest.

A population forecast for the City was published by the Santa Barbara County Association of Governments in 2002. Its projections have not matched real population growth. The California Department of Finance,

Demographic Research Unit (DRU), released its population forecast, by county, on January 31, 2013. For the purpose of this report the City population is projected to increase at the same rate as DRU projects for all of Santa Barbara County. Using this methodology, the City population should reach 44,331 by the year 2035.

4.2.2 Future Geographic Growth Potential

Annexation of unincorporated territory into the city limits occurs on occasion, usually when a property owner wishes to develop land in a manner that requires urban services. One area already in the process of annexation is the Summit View area in the city's northeast corner. Another area being considered for annexation is to the city's west out to Bailey Ave. In addition, the city park area along the river to the city's east is proposed for annexation. There have been no annexations since the 2011 Plan.

4.3 Climate

4.1 Average Temperatures & Rainfall

Period	Minimum Fahrenheit	Average Fahrenheit	Maximum Fahrenheit	Average Rainfall
January	39.5	52	64.2	2.90
April	44.2	55	66.4	.03
July	52.2	61	70.9	.01
October	47.8	61	73.8	.39
Yearly	46.0	57	68.7	13.88

4. 3.1 Physical Features

Lompoc is part of California's Central Coast. Rolling hills surround the Valley on the north, south and east. The Valley is open at its western end to the Pacific Ocean on the undeveloped Gaviota Coast. The Pacific Ocean is 8 miles from downtown Lompoc. The Santa Ynez River runs east to west through the Valley while Burton Mesa, a chaparral forest with sandy soil, lies to the north. The hills to the south are mined for diatomaceous (fossil) earth.

Lompoc is 98 feet above mean sea level and has a mild climate. A northwest breeze is common (average hourly wind speed: (61 m.p.h.). There is moderate rainfall, daily fog and no snow.

Lompoc is located in the mid-western portion of the county, adjacent to VAFB, and is separated from the rest of the county by the Purisima, Santa Rita, Santa Rosa, and White hills. The Santa Ynez River also traverses the Lompoc Valley in a westerly direction and eventually drains into the Pacific Ocean. This area includes the City of Lompoc and the communities of Vandenberg Village and Mission Hills. Vandenberg Village is located in the Lompoc Valley at the westerly end of the Santa Ynez River Basin, and is bordered by VAFB to the west and the City of Lompoc to the south. Vandenberg Village has a population of approximately 6,497 and is 5.2 square miles. The low to medium density residential core is surrounded primarily by agriculture and open space.

4. 4 Infrastructure

The infrastructure of City of Lompoc supports the industries and the residents of the City. The Public Works

Department maintains major roads and local streets. City's Airport is a General Aviation airport located within the city limits. Groundwater is the primary source of potable water for City residents. The City has experienced excessive drought conditions over the last 5 years, and is severely taxing its water resources. The City distributes electricity to the citizen and industries in the City.

4.5 Administrative and Technical Capacity

The administrative and technical capabilities of Lompoc provide an identification of the staff, personnel, and department resources available to implement the actions identified in the mitigation section of the Plan. Specific resources reviewed include those involving technical personnel such as planners/engineers with knowledge of land development and land management practices, engineers trained in construction practices related to building and infrastructure, planners and engineers with an understanding of natural or manmade hazards, floodplain managers, surveyors, personnel with GIS skills and scientists familiar with hazards in the community.

4.5.1 The Roles of City Departments in Hazard Mitigation

The following is a summary of the cities departments and their responsibilities related to hazard mitigation planning and implementation; as well as existing planning documents and regulations related to mitigation efforts within the community. Specific resources include those involving technical personnel such as planners/engineers with knowledge of land development and land management practices, engineers trained in construction practices related to building and infrastructure, planners and engineers with an understanding of natural or manmade hazards, floodplain managers, personnel with GIS skills all familiar with hazards in the community.

Many of the programs and plans of these departments have a direct relationship to loss reduction, community resiliency and Hazard Mitigation.

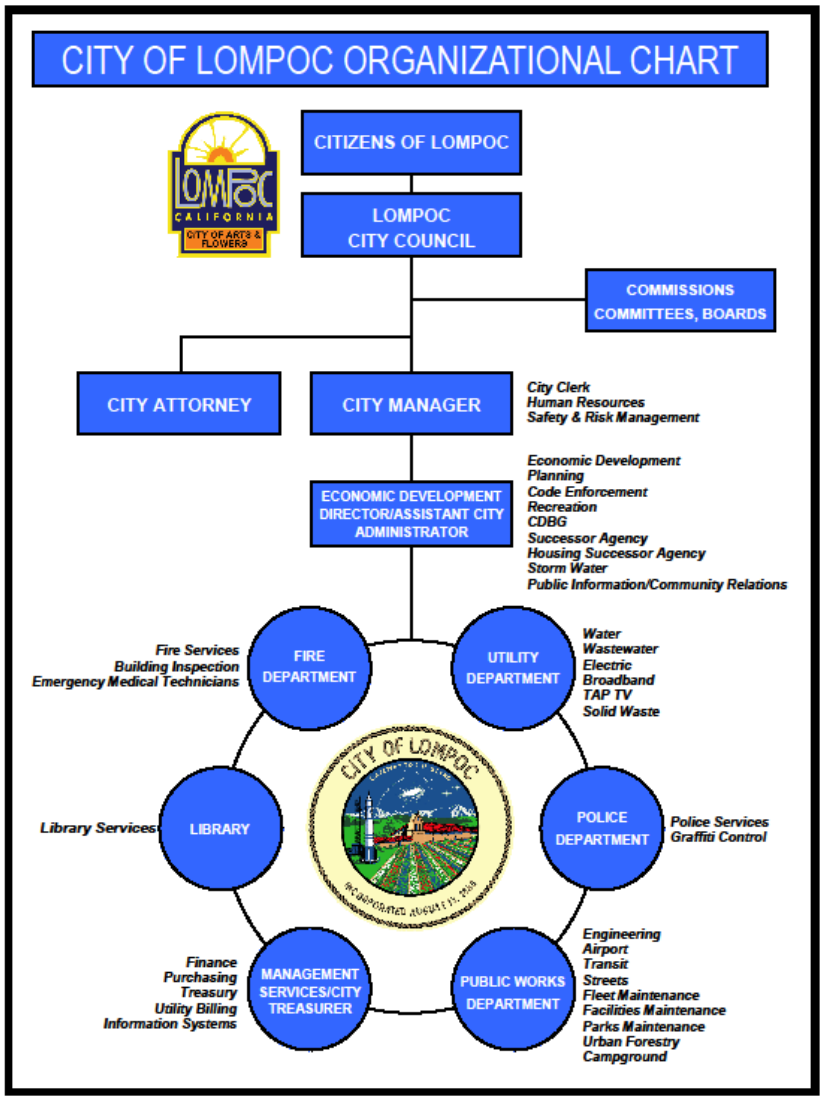
4.5.2 GIS, Computer and Communication Technology

Lompoc has a comprehensive GIS system maintained by the Information Systems Department. Currently, parcels, zoning and flood hazards have been mapped, including water, sewer, and storm drain. Hazard layers created for this plan will be incorporated into that system for future planning and updates. The City's GIS system is fully functional and can be used to provide the Cal OES with preliminary damage assessments.

Through the Lompoc Police Department, the City has a fully functional 911 emergency telephone system, dispatch capabilities, and a reverse 911 system (Installed in April 2005) to issue warnings in advance of disasters.

4.6 JURISDICTION DESCRIPTION

4.2 Organizational Chart


CITY OF LOMPOC ORGANIZATIONAL CHART
CITIZENS OF LOMPOC
LOMPOC CITY COUNCIL
COMMISSIONS COMMITTEES, BOARDS
CITY ATTORNEY
CITY MANAGER
City Clerk
Human Resources
Safety & Risk Management
ECONOMIC DEVELOPMENT DIRECTOR/ASSISTANT CITY ADMINISTRATOR
Economic Development
Planning
Code Enforcement
Recreation
CDBG
Successor Agency
Housing Successor Agency
Storm Water
Public Information/Community Relations
Fire Services
Building Inspection
Emergency Medical Technicians
FIRE DEPARTMENT
UTILITY DEPARTMENT
Water
Wastewater
Electric
Broadband
TAP TV
Solid Waste
Library Services
LIBRARY
POLICE DEPARTMENT
Police Services
Graffiti Control
Finance
Purchasing
Treasury
Utility Billing
Information Systems
MANAGEMENT SERVICES/CITY TREASURER
PUBLIC WORKS DEPARTMENT
Engineering
Airport
Transit
Streets
Fleet Maintenance
Facilities Maintenance
Parks Maintenance
Urban Forestry
Campground

4.6.1 Key Departments

The City utilizes the Council-Manager form of local governance, which includes an elected Mayor and four Council Members, and an appointed City Manager. The Mayor is elected every two years and the four council members are elected every four years.

4.6.2 City of Lompoc Fire Department

FIRE, EMS, BUILDING AND OTHER SERVICES COORDINATED AND OR PROVIDED BY THE FIRE DEPARTMENT

- Administers automatic aid agreements, mutual aid agreements, and contracts.
- Life Safety Division: oversees the Building and Safety Services and Prevention, Community Risk Reduction sections, coordinate adoption of codes and ordinances, review site and building plans to confirm compliance with fire, building and other related codes, develop and present public education programs and manage the City's weed abatement program.
- The Training Division's mission is to ensure that all department personnel maintain all knowledge, skills, and abilities essential to fulfilling our duty to the community. In accordance with our Training and Succession Plans, the department funds attendance to training classes, seminars, conferences, and other avenues that meet or exceed training mandates, continuing education requirements, in-service skill competency, and that provide opportunities to develop new, innovative skills sets needed to meet our evolving service demands. Personnel are encouraged to engage in training that enhances their capabilities, prepares them for promotion, and which ensures that every service we provide is carried out with skill and excellence.
- Emergency Medical Services: Manage the department's EMT program, respond to medical emergencies and other calls for service, and participate with other community and regional health care providers to reduce public illness and injury.
- Operations Division: Maintain the department's personnel, apparatus, equipment, and fire stations in a state of readiness to respond to the community's needs, develop and implement standard operating procedures for various types of emergency responses, respond to all types of emergencies, and train and interact with neighboring jurisdictions and regional agencies.
- Emergency Management: Coordinate the City's Disaster Preparedness Program, liaison with all City departments and divisions, as well as other public and private organizations, develop, coordinate and implement hazard specific response plans, and maintain the operational readiness of the City's Emergency Management Team, the Emergency Operations Center, and other key elements.

4.6.3 City of Lompoc Police Department

- Responds to safety concerns involving threats and/or damage to life or property. Acts as the

enforcement entity for violations of State and local laws and ordinances.

- Primary emergency responders to acts of civil disobedience and public disorders. Support personnel for emergency rescue and management.
- Investigative services for criminal acts that result in personal injury/death and the destruction of property.
- Develops and implements emergency response plans and policies, focusing on evacuation procedures and traffic control.
- Primary responders to acts of terrorism, focusing on suspect intervention and facility and staff protection.
- Provides public safety communications center for both police and fire.
- Provides EOC facility.

4.6.4 City of Lompoc Economic Development/Planning Division

- Develop and maintain City's general plan, zoning ordinances, and development standards.
- Oversight of City development process assuring compliance with zoning and
- General plan, and including environmental impact reports, design review, historic preservation, landscape review, habitat conservation, floodway prohibitions, and floodplain development standards.

The Planning and Economic Development Department plays an instrumental role in the Mitigation Advisory Committee ensuring this Local Hazard Mitigation Plan is consistent with other long term and comprehensive planning efforts throughout the County. The Planning and Economic Development Department identifies development policies already in place which help reduce future damage to structures from natural hazards and would play a crucial role in creating new development policies as necessary to implement the identified mitigation strategies.

The Economic Development/Planning wants to ensure the development it promotes is safely constructed and well sited with regard to risk of the identified natural hazards.

4. 6.5 City of Lompoc Public Works Department
The Public Works Department is comprised of five (5) divisions and each division performs functions that are directly related to hazard mitigation.

4.6.5.1 Public Works Department

- City Department organized into the following divisions: Aviation, Engineering, Facilities Maintenance, Fleet Maintenance, Park Maintenance, Streets, Transit, Urban Forestry, and Campground.
- Maintains certain City infrastructure and facilities (assets) including general aviation airport, streets, buildings, parks, and vehicle fleet but excluding city utility infrastructure and treatment plants. City utility infrastructure and treatment plants are maintained by the Utility Department.
- Responds to City emergencies, includes EOC response in disasters. Assists Solid Waste, Police and Fire Departments with hazardous materials response. Implements traffic and perimeter control efforts through street department. Deploys heavy equipment assets for debris removal. Provides buses and drivers during evacuations

4.6.5.2 Engineering Division

- City Division organized under the Public Works Department.

- Reviews design and construction for all City facilities within the public right of way including public grading, floodways, retention basins, storm drains, sewer line, water line, streets and bridges to assure compliance with Federal, State, and local ordinances on seismic and structural stability.
- Develops engineering ordinances and policies that help protect and preserve City infrastructure.
- Develops and implements mitigation strategies to avoid further damage to critical facilities or to reduce/avoid damage during future hazard events.
- Evaluates all circulation elements for projected traffic impacts and determines needed street infrastructure improvements.
- Provides response personnel for evaluation of damaged infrastructure
- Responds as part of the City's EOC Team.
- Coordinates other response agencies assisting with damage assessment.

4.6.5.3 Aviation

- Maintains the Airport is a state of readiness in the event the Airport is required to receive materials and supplies to mitigation the disaster.
- Develops strategies to for use of the Airport for evacuation if required

4.6.5.4 Public Transit

- Ensures Public Transit Fleet is available for evacuation if needed during a disaster.

4.6.5.5 Streets

- Maintains streets to ensure they are open and passable to citizens during and in the aftermath of a disaster.

4.6.5.6 Fleet Maintenance

- Maintains and ensures the Fleet of city vehicles and equipment is operational in the event of a need during and after a disaster.

4.6.5.7 Facilities Maintenance

- Maintains all city facilities should they be required for evacuation or other purpose during and after a disaster.

4.6.5.8 Parks Maintenance

- Maintain Parks for the use of a gathering and potential living space for residents in the event of a disaster.

4.6.5.9 Urban Forestry

- Forestry maintenance in the city to minimize damage in the event of a disaster.

4.6.6.0 Campground

- Ensures Campgrounds and maintained to receive evacuees in the event of a disaster.

The Public Works Department and its various divisions within are responsible for the construction/physical aspects of implementing structural mitigation projects throughout the City. Mitigation measures minimize the damage to the infrastructure in the event of a natural or man-made disaster.

4. 6.6.1 City of Lompoc Utilities Department

- Maintains City's Water, Wastewater, and Electrical supply and distribution.
- Responds as part of the City's EOC Team.

4.7 Management Services-Financial Resources

The General Fund's fund balance is an important element that can show the City's financial strengths or weaknesses. The City operates under a biennial budget as is the customer for many Central Coast municipalities. For the 2015-2017 biennial budgets, the City of Lompoc's General Fund operating appropriations have been approved at $66,817,370. The revenue estimates in the City's biennial budget contains numerous line items representing different sources, each governed by a distinct set of conditions particular to that revenue source. The largest revenue factor and the core of the resource base that enables the City's provision of community services is the local revenue portion of Lompoc's General Fund. The City's revenue base is determined by different community conditions such as the current population, employment and income, economic activity within the City, and the growth of invested value from residential and commercial construction, business investment in plant and equipment, and demand for local real property. National, State, and regional economic conditions can also affect the City's revenue base by creating demand for community goods and services produced within Lompoc. The chart below is a summary of expected General Fund revenues from the City's approved budget. The largest revenue categories are from service charges and property tax.

4.3 General Fund Financial Sources

General Fund Financial Sources			
FINANCIAL SOURCES	Adopted 15-17		Percentage of Total
Taxes and Franchises			
Property Taxes	$ 14,951,809		22%
Sales Taxes	9,719,839		15%
Transient Occupancy Taxes	3,631,870		5%
Other Taxes and Franchies	1,779,927		3%
Total Taxes and Franchise Revenues		$ 30,083,445	45%
Licenses, Permits, and Service Charges		1,029,123	2%
Fines, Forfeits, and Penalties		69,899	0%
Investments and Property Revenues		348,581	1%
Revenues From Other Agencies		1,120,646	2%
Current Service Charges		2,830,811	4%
Charges / Internal Services		16,621,735	25%
Other Revenues		1,465,172	2%
Transfers		13,455,081	20%
Total Financial Sources		$ 67,024,493	100%

Over the last few years, California's budget has diminished rapidly due to decreased tax revenues from an economic recession. The overall health of California's economy has a significant influence on local cities and counties, as local government appropriations are usually the first to have their appropriations diminished due to downturns in the economy.

The City's major economic drivers for its revenue base are from service charges, sales tax, transient

occupancy tax, population growth, employment, construction, property values, and commercial activities.

Lompoc's long-term financial and programmatic policies demonstrate the City's commitment to provide for the protection of the community from unreasonable risks.

Overall, the City has indirectly referenced mitigation and hazard reduction principles throughout many of the City's aforementioned documents, plans, and policies. Integrating more direct language referencing mitigation and hazard reduction will help to reinforce the City's commitment to these principles. The indirect references can also indicate that the responsibility for hazard reduction is shared among numerous departments within the City, making it a challenge to identify a particular department to take the lead in these efforts. To address this potential issue and increase community capabilities globally, the establishment of a formalized Mitigation Advisory Committee is recommended. The Committee should receive official recognition as a working group as soon as it is feasible to begin sharing the responsibilities required to implement the City's mitigation program.

4. 7.1 Fiscal Impact

The City has various financial and budgetary tools available to Lompoc such as community development block grants; capital improvements project funding; authority to levy taxes for general and specific purposes; service charges for water, electric, solid waste, and wastewater (sewer) services; development impact fees for a variety of community services mitigating the effect of new development; ability to incur debt through general obligations bond; and withholding spending in hazard-prone areas.

4.7.2.Fiscal Capability

Financial tools	Fiscal Availability
Community Development Block Grants (CDBG)	Y
Capital improvements project funding	Y
Authority to levy taxes for general and specific purposes	Y – Vote Required
Service charges for water, solid waste, and wastewater services	Y – Prop 218 Requirements
Service charges for electric services	Y
Development impact fees to mitigate effects of new development	Y – AB1600 Requirements
Incur debt through general obligation bonds	Y – Vote Required
Incur debt through special tax and revenue bonds	Y – Vote Required
Incur debt through private activity bonds	N
Withhold spending in hazard-prone areas	N
Other – Other Grants	Y/N – Grant dependent

4.8 Relevant Governance

There are many plans, programs, codes, and policies that help govern the City of Lompoc. The purpose of this section is to present pertinent plans, programs, codes, and policies which support risk education and reduction and/or help to implement mitigation measures. It is important to note that these plans, programs, codes, and policies were not only used to update the City of Lompoc Local Hazard Mitigation Plan but they were also evaluated to determine their effectiveness in risk education and reduction efforts. Additionally, information gleaned through the City of Lompoc Hazard Mitigation Plan update process will be used in the plans; programs, codes, and policies update process. The plans, programs, codes, and policies will continue to

provide the foundation and in some cases be a vehicle for the implementation of mitigation strategies. Below is a summary of the more significant relevant plans, programs, codes, and policies:

4.8.1 Relevant Plans, Policies, and Ordinances

The City has a range of guidance documents and plans for each of its departments. These include a General Plan, with a Housing Element, Public Works and Public Utilities Plans, Public Facilities Master Plan, Capital Improvement Plans, Storm Water Management Program, Parks & Recreation Master Plan, Redevelopment Project Guidelines, and Standardized Emergency Management Plan. The City uses building codes, zoning ordinances, subdivision ordinances, and various planning strategies to address how and where development occurs. One of the essential ways the City guides its future is through policies laid out in the General Plan.

4.8.2 Plans

Capital Improvement Plan

The City systematically plans, schedules, and finances capital projects to ensure cost- effectiveness and conformance with established policies and longer-term plans through a Capital Improvement Plan (CIP). The City is in the process of replacing the existing 2002-03 to 2016-17 CIP (2002-17 CIP) by incorporating the CIP and the CIP process into the City's biennial budget preparation process. The currently approved CIP was presented to the City Council on December 17, 2002 by the then City Administrator, Gary P. Keefe. The document outlines the approved fifteen year CIP for the fiscal periods 2002-03 through 2016-17. It is separated by departments/divisions and gives a description of the respective projects, costs, and fiscal year (FY) projected for initiation of the projects. The CIP documents the long-term projects that are important to the City in order to appropriately plan, organize and finance the projects that are needed in the community. The total projected capital expenditures for the 2002-17 CIP were projected to be $150.9 million in 2004 dollars. The City anticipates the 2016-17 to 2031-32 CIP to be available for council approval in the fall of 2016.

The 2002-17 CIP, depicting costs per department, it is expected that the Fire, Wastewater and Engineering (Bikeways) categories will require the largest cumulative expenditures between FY 07-12; this is compared to FY 12-17 where the Engineering (traffic), Wastewater, and Electric departments are the top expenditure projections during the final 5 years of the 2002-17 CIP. Below is a summary of the approved allocations of the existing 2002-17 CIP.

General Plan

The General Plan dated September 23, 2014, is a comprehensive statement of goals and policies relating to the development of the community, the management of potential hazards, and the protection of natural and cultural resources within its study area. The General Plan directs Lompoc's future by expressing community desires and by providing the basis for regulations to protect and enhance the community's quality of life for future generations. The summary below will document the portions of Lompoc's General Plan that are applicable to hazard mitigation.

Land Use Element

Urban growth in Lompoc is restricted by the Sphere of Influence and Urban Limit Line, which delineates the City's future boundaries and service area. Growth is important to the future of Lompoc. The City encourages the development of undeveloped and vacant land within City boundaries. The City has also moved its Urban Limit Line in the 2030 General Plan indicating intent for modest growth. Additionally, in 2016 LAFCO approved annexation of 10 acres to the North of the City. In order to ensure that residents of Lompoc have access to basic needs, the City will only allow development in areas where adequate public facilities and services, such as water, utilities, and fire/police protection, are available at the time of development. To maintain an adequate supply of clean water, the City will designate groundwater recharge areas as Open Space and

protect those areas from incompatible uses. Other areas may be maintained as Open Space if they are used to protect public health and safety and against natural and man-made hazards. Such areas may include regions in which topographic, geologic, or soil conditions indicate a significant danger to future occupants.

Circulation Element
Policy 2.2 of the City's 2030 General Plan encourages regulatory agencies to designate routes away from urban and environmentally-sensitive areas for the transportation of hazardous and explosive materials. Such a policy would help mitigate the negative effects to Lompoc's residents from future hazardous materials incidents.

Housing Element
Dilapidated residences and those that do not comply with the City's Uniform Building Code requirements are more likely to be negatively affected by natural hazards. Therefore, the City will provide funding for housing rehabilitation programs which encourage private and public capital participation, preserve the existing housing stock, and provide more housing opportunities within the City. The City has also funded a comprehensive Code Enforcement program with a full-time Code Enforcement Officer. Through this program, the City has compelled owners of dilapidated housing to improve its condition. When evaluating sites for housing, the City avoids environmental hazard or sensitive resource areas. The Housing Element for the 2014 – 2022 planning cycle was updated and adopted by the City Council on December 15, 2015. The California State Department of Housing and Community Development found the Housing Element in full compliance on December, 29, 2015.

Public Services Element
In an effort to avoid a power outage in Lompoc, the City requires the undergrounding of existing overhead utility distribution lines in association with new development projects. To ensure that residents have access to basic needs, the City will only allow development in areas where adequate public facilities and services, such as water, utilities, and fire/police protection, are available at the time of development.

To minimize street flooding, the City will ensure that the storm drain system has the adequate capacity to handle runoff from a design standard storm and, where feasible, will expand the capacity of the system to control storm flows. New development will be required to minimize the amount of off-site drainage by retaining storm waters for on-site percolation, provide adequate drainage facilities for remaining off-site flows, maintain natural drainage channels, and avoid alteration of off-site drainage courses.

The City of Lompoc participates in an automatic aid agreement with Santa Barbara County Fire Department and in mutual aid agreements with VAFB, and the State of California. The City is concerned with promoting fire mitigation through its encouragement of public education regarding fire prevention, as well as safety and first aid medical procedure exercises. Fire mitigation is also performed by the City in that it amended the City Code to require the installation of automatic fire protection systems in all new buildings that exceed fire protection and on scene response capabilities of the fire department. The fire department is responsible for reviewing all development projects to determine if they adhere to fire safety requirements.

Safety Element
Lompoc is aware of the hazards that can affect the City. These hazards include: flooding, liquefaction, steep slopes, seismic hazards, wildland fires, and hazardous material incidents. In an effort to mitigate the damages caused by these hazards, the City aims to avoid placing critical facilities in hazardous areas. Several hazard maps included in this Plan detail where these hazardous areas are located within the City. The City's Zoning Ordinance will incorporate specific standards for location, designing, and reviewing critical facilities. The City will also amend the Zoning Ordinance to require all publicly-owned critical facilities to provide and maintain emergency electrical generating capability. An emergency warning system will be implemented in the City and,

for event-specific risks brought to the City's attention, the City shall develop event-specific plans, procedures, or programs to manage the risk and maximize public safety.

FLOOD

To mitigate damage that can result from floods, the City will designate the land within floodways for open space land uses. Development may be permitted on boundaries of the floodway provided that building setback requirements from the Santa Ynez River and other streams are met and finished floor elevations are at least two feet above the 100-year flood elevations. Any development that impairs the ability of the floodway to convey floods or compounds potential flooding will be prohibited. The City will also amend the Floodplain Management Ordinance to maintain consistency with Federal and State requirements, to establish a regulatory floodway, to regulate grading and filling activities that diminish the carrying capacity of the floodway, and to establish building setbacks from the Santa Ynez River and other water bodies. Lompoc will coordinate with the Santa Barbara County Flood Control and Water Conservation District in mitigating flood impacts from new construction, and also with FEMA and the USDA Soil Conservation Service in flood protection activities. The City will create public awareness programs to educate residents on flood hazards and procedures to minimize injury and property damage before, during, and after a flooding event.

WILDFIRE

To help reduce the damage caused to development from wildfires, the City will determine the suitability and design of development in wildland fire hazard areas. Uses which increase the danger of wildland fires will be restricted. Implementation Measure 14 requires the Zoning Ordinance to be amended to establish the minimum distance between buildings and wildland fire risk areas to be no less than 60 feet, unless the following conditions are met: properly built access roads; available water supply; construction with materials that are more fire resistant than standard requirements; and construction and maintenance of fuel breaks. Implementation Measure 17 requires the Fire Protection Ordinance should also be amended to allow the Fire Chief to require that developments located in areas beyond the four (4) minute response time meet more stringent construction code requirements to provide necessary fire protection. The City will also require and review landscape plans for all development projects in wildland fire hazard areas for consistency with fire-resistant and drought-tolerant landscaping concepts. Implementation Measure 21 requires the fire department and/or Urban Forester will provide public information brochures on fire-resistant landscaping to the public.

Many of these policies and development standards are designed to reduce the risk to wildfire damage. They provide a foundation for implementing the identified wildfire mitigation strategies within this Local Hazard Mitigation Plan. Through participation in the Lompoc Planning Team, the Lompoc Fire Department will use this foundation to help implement the identified wildfire mitigation strategies as resources are available.

SEISMIC

The City regards seismic retrofitting as a way to mitigate the damages caused by earthquakes. All seismically vulnerable buildings, including critical facilities and City owned properties, will continue to be identified by the City and those buildings will be required to be reinforced to minimize the risk of personal injury during an earthquake. For City-owned facilities, the City can apply for funding under the Earthquake Safety and Public Buildings Rehabilitation Bond Act of 1990. All new buildings should be constructed in accordance with current seismic safety design standards. Another earthquake mitigation action that the City promotes is public awareness programs, designed to create awareness of seismic hazards and procedures to minimize injury and property damage before, during, and after an

earthquake.

Steep slopes are also a concern in Lompoc because development built on steep grades can be more susceptible to being impacted by an earthquake, landslides, and liquefaction. Therefore, the City may permit development on hillsides only where it can be demonstrated that geologic conditions are sound for construction purposes. Before development is allowed to be constructed on slopes, a Certified Engineering Geologist must prepare a report which includes recommendations for remedial measures to ensure the stability of natural and manufactured slopes within the area affected by the development. For areas with 20 percent slopes or greater, the stability of the slopes must be addressed by a Registered Soils Engineer. Liquefaction potential must also be evaluated by a Registered Soils Engineer for development in liquefaction hazard areas. The Zoning Ordinance will be amended to require developers proposing structures on or adjacent to steep slopes to develop and implement hillside drainage plans to reduce the risk of further movement by existing landslides, to site new structures away from steep hillsides and the toes of existing landslide surfaces, and to perform site specific slope stability investigations and analyses by a Registered Geotechnical Engineer. Critical facilities will not be permitted within areas prone to slope instability or liquefaction during an earthquake.

HAZARDOUS MATERIALS

To prevent hazardous material transportation incidents from affecting residential areas, open space buffers will be created between hazardous materials routes and residential neighborhoods. Also, residents within a quarter mile of new hazardous materials handling facilities will be notified immediately by the City emergency response organizations of any accidental occurrences such as spills, leaks, or eruptions that may affect the health, safety, and welfare of the public. The City will ensure that businesses and industries that use, store, and handle hazardous materials do so in compliance with applicable City policies as well as State and local laws, guidelines, and regulations.

4.8.3 Codes and Ordinances

STORM WATER MANAGEMENT PROGRAM

The City maintains an approved Storm Water Management Program (SWMP), pursuant to the National Pollutant Discharge Elimination System (NPDES) Phase II Small Municipal Separate Storm Sewer System (MS4) program. The City's SWMP was approved on October 17, 2008 by the Central Coast Regional Water Quality Control Board.

The SWMP can be found on the City's website and addresses the six minimum control measures: Public Involvement / Participation; Public Education and Outreach; Illicit Connection and Discharge Detection and Elimination; Municipal Operations Control; Construction Site Control; and New Development / Redevelopment Control. The SWMP and its related Storm Water Management Ordinance apply to all property within the City limits and to property owned by the City, wherever it is located.

ZONING AND SUBDIVISION ORDINANCES

The State of California has empowered all cities and counties to adopt zoning ordinances. The City's original Zoning Ordinance was adopted in 1974. The City has a five member Planning Commission, which is an advisory body to the City Council. The Commission was established under State law to provide relief in special cases where the exact application of the terms of the ordinance would be unduly restrictive and cause a hardship, in addition to generally reviewing zoning and subdivision proposals. The Planning Commission hears and decides upon the interpretation and the application of

the provisions of the Zoning and Subdivision Ordinances. Although the Commission has certain discretionary powers in making its decisions, the Commission must always abide by and comply with the powers granted to it by the local Zoning and Subdivision Ordinances and the State's enabling acts. Additionally, the Planning Commission may recommend actions to the City Council and the Planning Commission's actions may be appealed to the City Council.

BUILDING CODES

The State of California has adopted the 2010 California Building Codes, which is enforced in the City. The California Uniform Statewide Building Code is based on the 2013 International Building Code with State amendments.

The City provides a full service Building and Safety Section, which is responsible for enforcing State, City, and County Codes for building residential and commercial structures, enforcing environmental codes and guidelines for maintaining existing structures. In 1999, the City received the highest rating for its building code effectiveness in residential and commercial construction from the Insurance Services Office (ISO).

The ISO is an insurer-supported organization that provides advisory insurance underwriting and rating information to insurers. The ISO uses a rating scale of 1 to 10 with 1 being the highest rating given. The City's evaluation can be used as a basis for providing rating credits to individual property insurance policies

FLOODPLAIN MANAGEMENT ORDINANCE

The City has an enforced Floodplain Ordinance requiring that all habitable floors must be built a minimum two feet above the 100-year floodplain and the special flood hazard areas. It is important to note, however, that many parts of the City flood due to storm water infrastructure – not because of their proximity to 100-year floodplain.

Floodplain districts identified in the Flood Insurance Rate Maps (FIRMs) include the following flood hazard zones and definitions:

- **Zone A** is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by approximate methods. Because detailed hydraulic analysis is not performed for such areas, no Base Flood Elevations or flood hazard factors are determined.
- **Zone AO** is the flood insurance rate zone that corresponds to areas of 100- year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
- **Zone A1-A30** is the flood insurance rate zone that corresponds to areas of 100-year flood; base flood elevations and flood hazard factors are determined.
- **Zone B** is the flood insurance rate zone that corresponds to areas between limits of the 100- year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood.
- **Zone C** is the flood insurance rate zone that corresponds to areas of minimal flooding.

All potential development projects located within floodplains must follow an established development review process. Developments involving drainage ditches or watercourses in floodplains must receive Federal, State and Local review and permits as required by the Floodplain Administrator and the Lompoc Municipal Code.

4.8.4 Programs

4.8.4.1 National Flood Insurance Program

The City of Lompoc is a community in good standing with the NFIP, the community number is 060334.

The City of Lompoc's Flood Insurance Rate Map (FIRM) numbers are 060334-720F, 736F, 737F, 738F, 739F, 743F. The FIRMs were revised in September 2005 and are used by both public and private sector to determine flood insurance requirements and rates and to administer the City's Flood Zone Management Ordinance.

SECTION 5 CITY OF LOMPOC HAZARD ASSESSMENT

OVERVIEW

The purpose of this section is to review, update and/or validate the identified and profiled hazards in 2011 City of Lompoc Plan. The intent is to confirm the list of hazards facing the City and determine if the information and material is current and accurate. The importance of this is to ensure that all hazards are being considered and that decisions are based on the most up-to-date information. Another purpose of this section is to screen the hazards; providing an understanding of the significance by ranking higher priority hazards in the community.

To assist with this effort two (2) groups were utilized: the MAC and the LPT. The MAC group assessed information at the county-level, while the LPT assessed information as it is related to Lompoc.

As part of the planning process the LPT leveraged the MAC planning efforts and utilized other documents, including the State of California Multi-Hazard Mitigation Plan, the Lompoc General Plan, Safety Element, Seismic, as well as the Lompoc 2011 Plan.

5.0 Hazard Identification

Based on the review of the Lompoc 2011 Plan and incorporating information from other documents (i.e., the California State Multi-Hazard Mitigation Plan) and local experience and knowledge, the LPT identified the following hazards as being relevant to Lompoc (**Table 5.1**).

Table 5.1 Relevant Hazards in Lompoc

Hazard Type and Rank
Flooding
Earthquake
Dam Failure
Wildfire
Drought and Water Shortage

5.1 Hazard Screening/Prioritization

The intent of screening hazards is to help prioritize which hazards create the greatest concern in the community. Because the original process used to rank hazards in the Lompoc 2011 LHMP is not being utilized, an alternative approach is being implemented. A summary of the process and the results of the revised hazard ranking for the 2016 LHMP Update are discussed below:

Ranking Tool Design

The ranking tool prioritizes hazards on two (2) separate factors:

- Probability of the hazard affecting the community
- Impact (*potential*) of the hazard on the community

To further assist with the process, the following definition of "High", "Medium", and "Low" probability and impacts were utilized:

Probability

High- Highly Likely/Likely
Medium- Possible
Low- Unlikely

Impact

High- Catastrophic/Critical: Major loss of function, downtime, and/or evacuations
Medium- Limited: Some loss of function, downtime and/or evacuations
Low- Negligible: Minimal loss of function, downtime and/or evacuations

Based on the revised list of hazards and utilizing the alternative ranking approach, the LPT screened the hazards. The results of the assessment are in **Table 5.2**. The shading of the matrix boxes indicates the priority level: RED = tier 1; GREEN = tier 2; and GRAY = tier 3.

Table 5.2 Hazard Screening and Ranking

Rank	High Impact	Medium Impact	Low Impact
High Probability		• Flooding • Wildfire • Drought and Water Shortage	
Medium Probability	• Earthquake		
Low Probability	• Dam Failure		

5.2 Hazard Profiles

The following material is intended to be a brief overview of the hazards; more information may be found in the State of California Multi-Hazard Mitigation Plan, the Lompoc General Plan, Safety Element, Seismic, and other documents.

5.3 Earthquake

5.3.1 Description of Hazard

An earthquake is caused by a release of strain, within or along the edge of the Earth's tectonic plates, which produces ground motion and shaking, surface fault rupture, and secondary hazards, such as ground failure. The severity of the motion increases with the amount of energy released, decreases with distance from the causative fault or epicenter, and is amplified by soft soils. After just a few seconds, earthquakes can cause massive damage and extensive casualties.

The effect of an earthquake on the Earth's surface is called the intensity. The intensity scale consists of a series of certain key responses such as people awakening, movement of furniture, damage to chimneys, and finally, total destruction. The scale currently used in the United States is the Modified Mercalli Intensity (MMI) Scale. It was developed in 1931 by the American seismologists Harry Wood and Frank Neumann. This scale, composed of 12 increasing levels of intensity that range from imperceptible shaking to catastrophic destruction, is designated by Roman numerals. It does not have a mathematical basis; instead it is an arbitrary ranking based on observed effects.

Most people are familiar with the Richter scale, a method of rating earthquakes based on strength using an indirect measure of released energy (**Table 5.3**). The Richter scale is logarithmic. Each one-point increase corresponds to a 10-fold increase in the amplitude of the seismic shock waves and a 32-fold increase in energy released. An earthquake registering 7.0 on the Richter scale releases over 1,000 times more energy than an earthquake registering 5.0.

Table 5.3 Richter Scale

Richter Magnitudes	Earthquake Effects
Less than 3.5	Generally not felt, but recorded.
3.5-5.4	Often felt, but rarely causes damage.
Under 6.0	Slight damage to well-designed buildings. Can cause major damage to poorly constructed buildings over small regions.
6.1-6.9	Can be destructive in areas up to about 100 kilometers across residential areas.
7.0-7.9	Can cause serious damage over larger areas.
8 or greater	Can cause serious damage in areas several hundred kilometers across.

Peak ground acceleration (PGA) is a measure of the strength of ground shaking. Larger peak ground accelerations result in greater damage to structures. PGA is used to depict the risk of damage from future earthquakes by showing earthquake ground motions that have a specified probability (10%, 5%, or 2%) of being exceeded in 50 years return period. These values are often used for reference in construction design, and in assessing relative hazards when making economic and safety decisions.

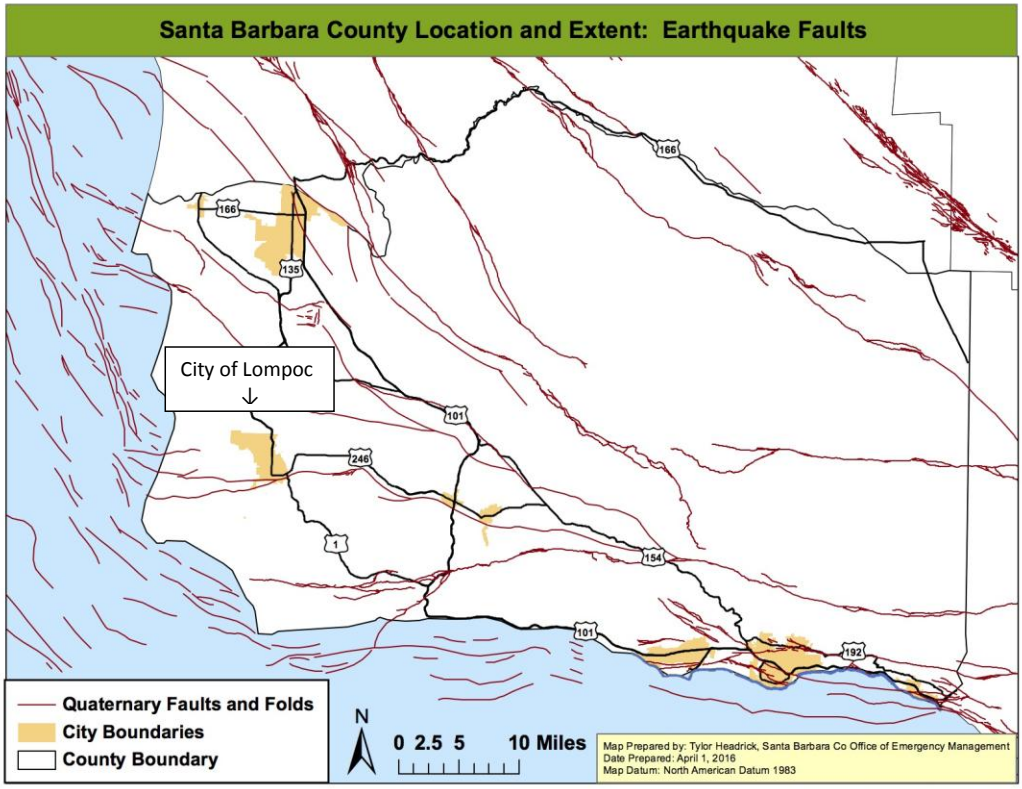
Liquefaction is the phenomenon that occurs when ground shaking causes loose, saturated soils to lose strength and act like viscous fluid. Liquefaction causes two types of ground failure: lateral spread and loss of

bearing strength. Lateral spreads develop on gentle slopes and entail the sidelong movement of large masses of soil as an underlying layer liquefies. Loss of bearing strength results when the soil supporting structures liquefies and causes structures to settle, resulting in damage and in some cases, collapse.

5.3.2 Location and Extent of Hazard in Lompoc

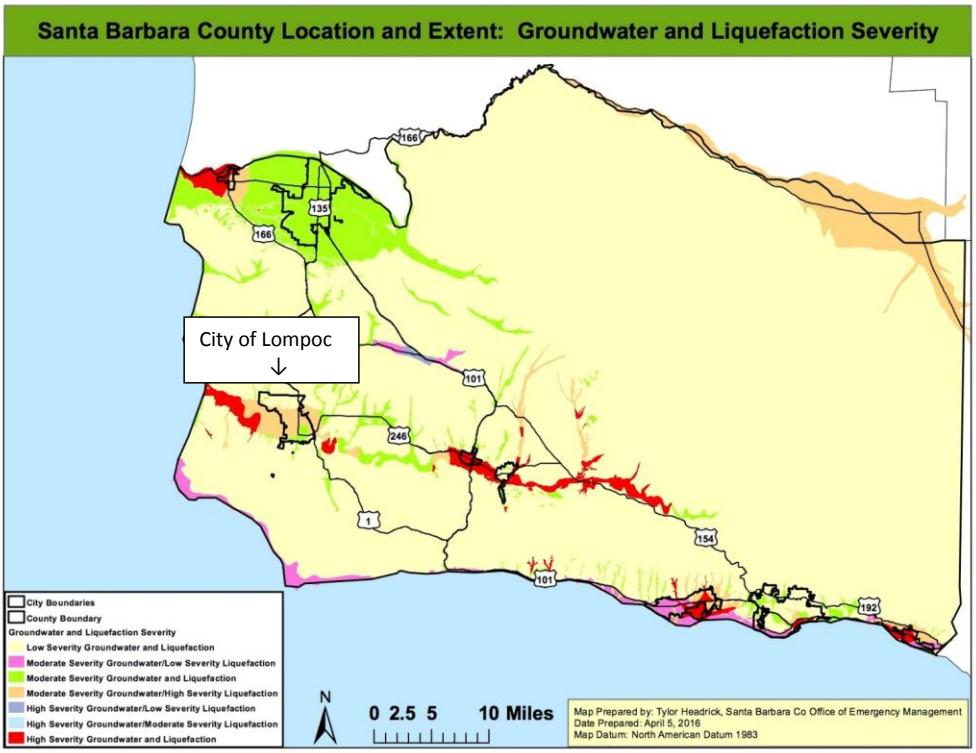
The City ranked the earthquake hazard as being a high impact, medium probability to the City. Lompoc is located in a high seismic activity zone. The City is located in the Transverse Range geologic province. Movement of continental plates manifest primarily along the San Andreas Fault system. The San Andreas fault is situated 7 miles northeast of Lompoc; active faults in the San Andreas Fault system that fall within Lompoc include the Nacimiento, Ozena, Suey, and Little Pine faults. Other active faults in the region include the Big Pine, Mesa, Santa Ynez, Graveyard-Turkey Trap, More Ranch, Pacifico, Santa Ynez, and Santa Rose Island faults. A map of faults in the Lompoc region is located in (**Figure 5.4**).

Figure 5.4 Earthquake Faults



After earthquakes, some regions may be prone to liquefaction. On level ground, liquefaction results in water rising to the ground surface. On sloping ground, liquefaction will usually result in slope failure. Liquefaction risk is considered high if there were soft soils (Types D or E) present. The National Earthquake Hazards Reduction Program (NEHRP) rates soils from hard to soft, and gives the soils ratings from Type A through Type E, with the hardest soils being Type A, and the softest soils rated at Type E. The majority of the soils in Lompoc are types A-C, with some areas having type D. There have been no Type E soils identified. Liquefaction risk is also determined by depth to groundwater. A map was generated indicating groundwater and liquefaction severity (**Figure 5.5**).

Figure 5.5 Groundwater and Liquefaction Severity



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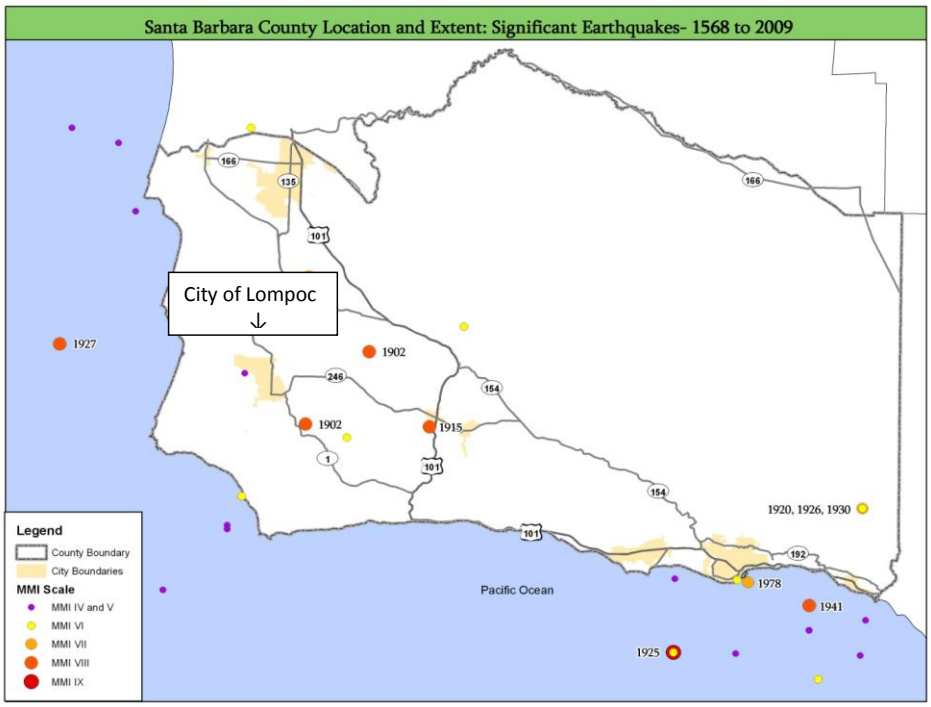
5.3.3 History of Hazard in Lompoc

Lompoc is located in a high seismic activity zone and as such has a long history of earthquakes. Although most seismic activity in California occurs along the San Andreas Fault system, most historic seismic events in the Lompoc region have been centered offshore on an east-west trending fault. The below map (**Figure 5.6**) displays historical epicenters of earthquakes located in the Lompoc area. The dates of the more significant earthquake events are provided adjacent to the epicenters.

Figure 5.6 Significant Earthquakes

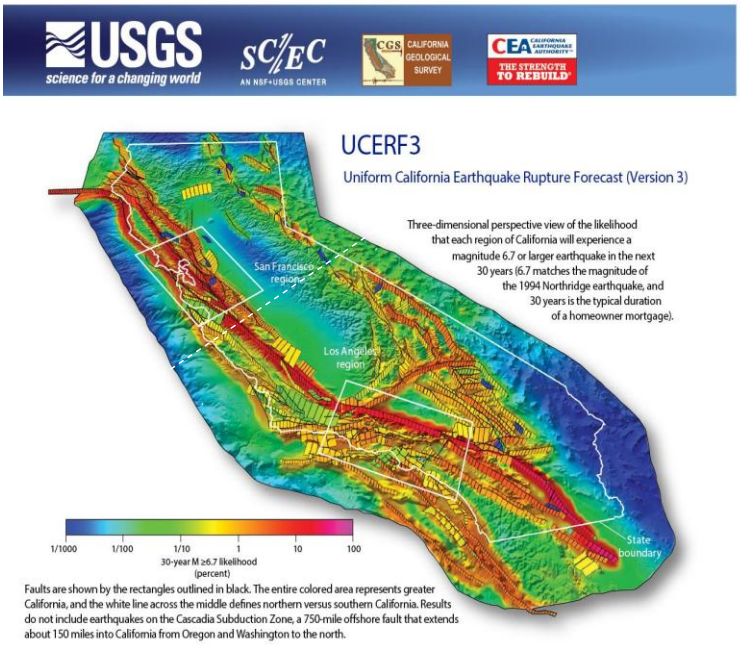


On December 22, 2003 at 11:15 in the morning a magnitude 6.5 earthquake struck the central California coast. The event, known as the San Simeon Earthquake, was located 11 kilometers northeast of San Simeon, and 39 kilometers west/northwest of Paso Robles. Although the San Simeon Earthquake had a more significant impact on San Luis Obispo County, the event was reportedly felt as a MMI VI in Guadalupe and Santa Maria and as a MMI V in Lompoc, Santa Ynez and Solvang. According to reports on the San Simeon earthquake by the U.S. Geological Survey and U.C. Berkeley Seismological Laboratory, two (2) people were killed, 40 people were injured, over 40 buildings collapsed or were severely damaged and more than 10,000 homes and businesses were without power. The most severe damage was to un-reinforced masonry (URM) structures that had not yet been retrofitted to better withstand earthquakes. In Lompoc, there was minor damage to more than 30 URM buildings.

5.3.4 Probability of Occurrence

The United States Geological Survey (USGS) and their partners, as part of the latest Uniform California Earthquake Rupture Forecast Version 3 (UCERF3; 2015), have estimated the chances of having large earthquakes throughout California over the next 30 years (**Figure 5.7**).

Figure 5.7 Rates for Earthquake of Magnitude 6.7 or Larger in the Next 30 years (USGS, 2015)



Statewide, the rate of earthquakes around Magnitude 6.7 (the size of the 1994 Northridge earthquake) has been estimated to be one per 6.3 years (more than 99% likelihood in the next 30 years); in southern California, the rate is one per 12 years (93% likelihood in the next 30 years). Southern California's rates are given in **Table 5.8**.

Table 5.8 Southern California Region Earthquake Likelihoods (UCERF3, 2015)

Magnitude (greater than or equal to)	Average Repeat Time (years)	30-year likelihood of one or more events
5	0.24	100%
6	2.3	100%
6.7	12	93%
7	25	75%
7.5	87	36%
8	522	7%

5.3.5 Climate Change Considerations

To date, no credible evidence has been provided that links climate to earthquakes; however, climate and weather does play a significant role in the response and recovery from earthquakes. Effects from climate change could create cascading complications and impacts.

5.4 Wildfire

5.4.1Description of Hazard

Wildfires can be classified as either a wildland fire or a wildland-urban interface (WUI) fire. The former involves situations where wildfire occurs in an area that is relatively undeveloped except for the possible existence of basic infrastructure such as roads and power lines. A WUI fire includes situations in which a wildfire enters an area that is developed with structures and other human developments. In WUI fires, the fire is fueled by both naturally occurring vegetation and the urban structural elements themselves. According to the National Fire Plan issued by the U.S. Departments of Agriculture and Interior, the wildland-urban interface is defined as "…the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels."

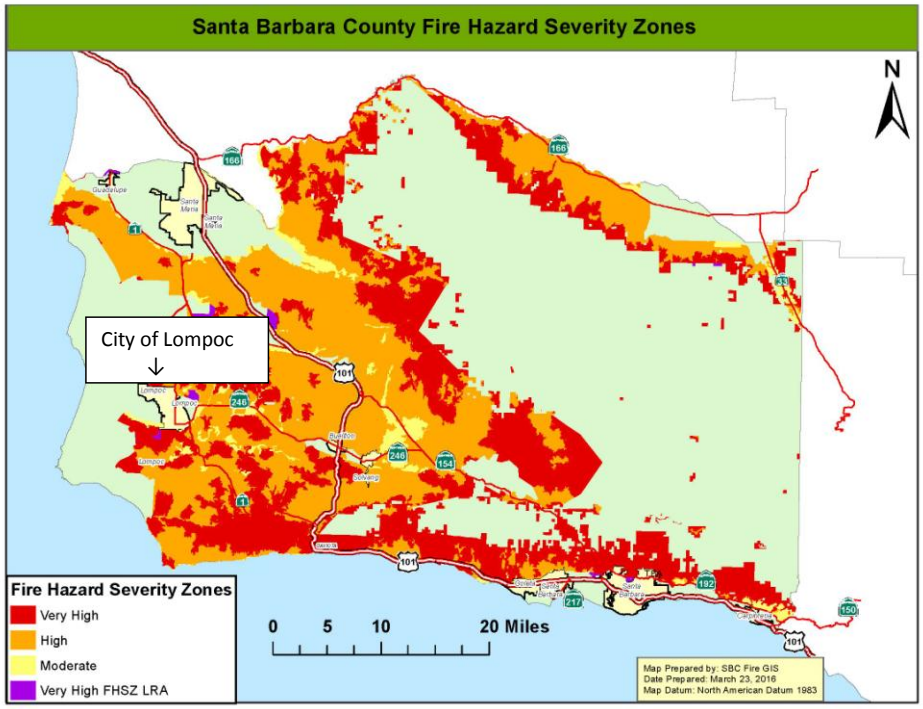
The WUI fire can be subdivided into three categories (NWUIFPP, 1998): The classic wildland-urban interface exists where well-defined urban and suburban development presses up against open expanses of wildland areas. The mixed wildland-urban interface is characterized by isolated homes, subdivisions, and small communities situated predominantly in wildland settings. The occluded wildland-urban interface exists where islands of wildland vegetation occur inside a largely urbanized area. Generally, many of the areas at risk within the Lompoc fall into the classic wildland-urban interface category.

Certain conditions must be present for a wildfire hazard to occur; a large source of fuel must be present, the weather must be conducive (generally hot, dry, and windy), and fire suppression sources must not be able to easily suppress and control the fire. The cause of a majority of wildfires is human-induced or lightning; however, once burning, wildfire behavior is based on three primary factors: fuel, topography, and weather. Fuel will affect the potential size and behavior of a wildfire depending on the amount present, its burning qualities (e.g. level of moisture), and its horizontal and vertical continuity. Topography affects the movement of air, and thus the fire, over the ground surface. The terrain can also change the speed at which the fire travels, and the ability of firefighters to reach and extinguish the fire. Weather as manifested in temperature, humidity and wind (both short and long term) affect the probability, severity, and duration of wildfires.

5.4.2 Location and Extent of Hazard in Lompoc

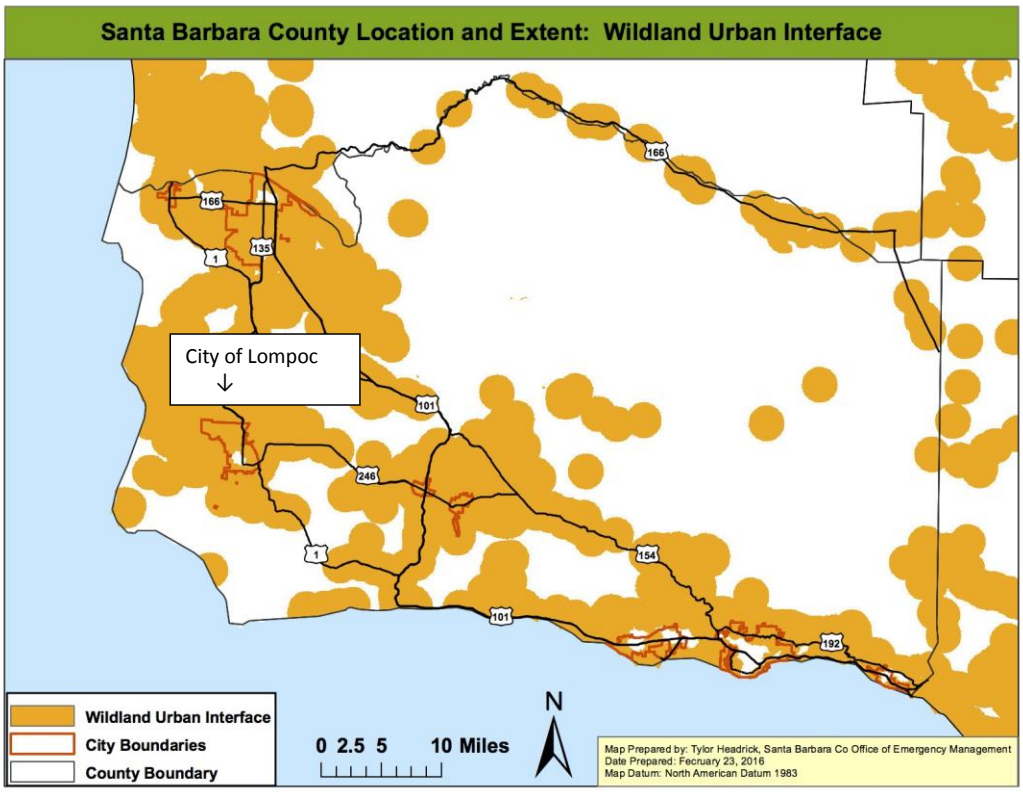
The City ranked the wildfire hazard as being a limited planning concern for the City. City officials continually ensure that future development is sited, designed, and constructed in a manner that will reduce future damages associated with natural hazards. The map **(Figure 5.9)** shows only the Fire Hazard Severity Zone in the Lompoc area.

Figure 5.9 Fire Hazard Severity Zones



CDF-FRAP developed data that displays the relative risk to areas of significant population density from wildfire. This data is created by intersecting residential housing unit density with proximate fire threat, to give a relative measure of potential loss of structures and threats to public safety from wildfire. The map (**Figure 5.10**) was generated using this data but shows only the WUI in Lompoc. The WUI map depicts areas where potential fuels treatments will be prioritized to reduce wildland fire threats.

Figure 5.10 Wildland-Urban Interface (WUI)



Fire representatives on the LPT acknowledge that the WUI data shown in Figure 5.10 was developed on a statewide basis and does not consider the placement of local neighborhoods within the geography. Lompoc Fire has synthesized the data at a more local level to convey communities at risk. To help protect people and their property from potential catastrophic wildfire, the National Fire Plan directs funding to be provided for projects designed to reduce the fire risks to communities. A fundamental step in achieving this goal was the identification of communities that are at high risk of damage from wildfire. These high risk communities identified within the WUI, were published in the Federal Register in 2001. At the request of Congress, the Federal Register notice only listed those communities neighboring federal lands. The list represents the collaborative work of the 50 states and five federal agencies using a standardized process, whereby states were asked to submit all communities within their borders that met the criteria of a structure at high risk from wildfire. The following list contains the federally regulated (communities which adjoin federal lands) communities at risk within Lompoc:

- Vandenberg Air Force Case
- Vandenberg Village
- Mission Hills

There are currently 2 communities on the Communities at Risk List in the Lompoc area. The California State Forester (CAL FIRE Director) has assigned the role of managing the list to the California Fire Alliance (Alliance). Communities that were not captured in any state or federally recognized list, but have been identified to be at risk include:

- Cebada Canyon
- Jalama

The figure (**Figure 5.11**) below provides an overview of the location of the Communities at Risk.

Figure 5.11 Communities at Risk

5.4.3 History of Hazard in Lompoc

Over the past ten years , Santa Barbara County has experiences seven (7) major fires. In these 10 years, none of the fires have directly impacted Lompoc. Three 3 recent wildfires have been adjacent to Lompoc. **Table 5.** lists the fires adjacent to Lompoc.

The fires are the Harris, Sudden and Miguelito Fires. The fires did not directly threaten Lompoc, the smoke

and ash produced created air quality issues for hundreds of miles. Recently the following wildfires threatened the Lompoc area.

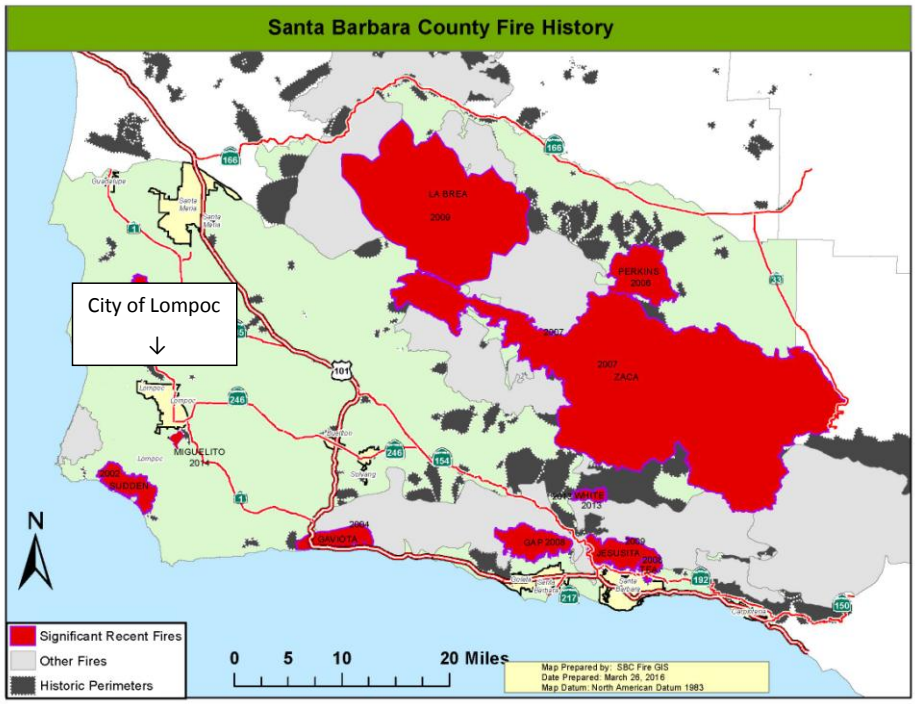
- The Harris Wildfire burned 8,684 acres.
- The Sudden Wildfire charred 9,443 acres.
- The Miguelito Fire burned over 632 acres in the hills above the City of Lompoc.

Table 5.5 Major Adjacent Wildfires in Lompoc

Year	Fire Name
2000	Harris
2002	Sudden
2015	Miguelito

The CDF-FRAP compiles fire perimeters of wildfires and has established an on-going fire perimeter data capture process. The map below (**Figure 5.13**) shows historic, significant wildfire perimeters in Lompoc. Fire perimeters provide a reasonable view of the spatial distribution of past large fires.

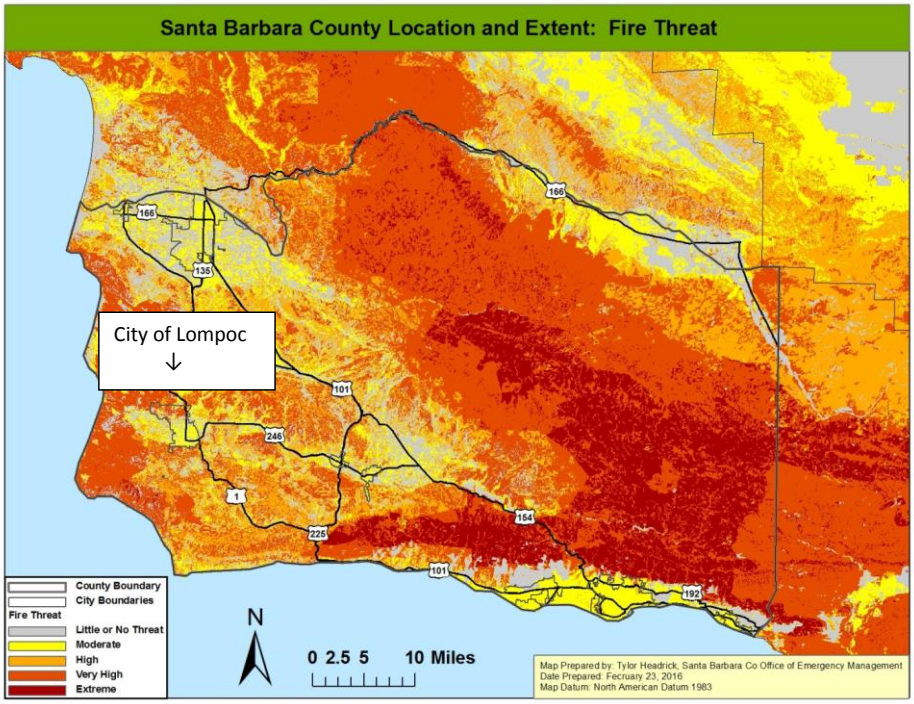
Figure 5.13 Fire History



5.4.4 Probability of Occurrence

Vegetation and topography were the significant elements in the identification of the fire threat zones. A substantial amount of the vegetation in Lompoc is commonly called chaparral; it is a dense and scrubby bush that has evolved to persist in a fire-prone habitat. Chaparral plants will eventually age and die; however, they will not be replaced by new growth until a fire rejuvenates the area. Chamise, Manzanita and ceanothus are all examples of chaparral which are quite common in Lompoc.

Figure 5.14 Fire Threat



5.4.5 Climate Change Considerations

Climate change plays a significant role in wildfire hazards. The changing conditions from wet to dry can create more fuel; the increased possibility of high winds increase risk and present a challenge, and drought conditions could hinder ability to contain fires. Large wildfires also have several indirect effects beyond those of a smaller, local fire. These may include air quality and health issues, road closures, business closures, and other forms of losses. Furthermore, large wildfires increase the threat of other disasters such as landslide and flooding.

5.5 Flood

5.5.1 Description of Hazard

The City ranked the flooding hazard as being a medium impact, high probability event. A flood is a general and temporary condition of partial or complete inundation on land that is normally dry. Several factors determine

the severity of floods, including rainfall intensity and duration, antecedent moisture conditions, surface permeability, and geographic characteristics of the watershed such as shape and slope. Other causes can include a ruptured dam or levee, rapid ice or snow melting in the mountains, under-engineered infrastructure, or even a poorly placed beaver dam can overwhelm a river or channel and send water spreading over adjacent land or floodplains.

A large amount of rainfall in a short time can result in flash flood conditions, as can a dam failure or other sudden spill. The National Weather Service's definition of a flash flood is a flood occurring in a watershed where the time of travel of the peak of flow from one end of the watershed to the other is less than six hours. Another form of flooding occurs when coastal storms produce large ocean waves that sweep across coastlines making landfall. Storm surges inundate coastal areas, destroy dunes, and cause flooding. If a storm surge occurs at the same time as high tide, the water height will be even greater. The City historically has been vulnerable to storm surge inundation associated with tropical storms and El Nino.

The City's Floodplain Ordinance requires all new construction be built at least 200 feet from the top of bank of the Santa Ynez River and all new buildings are constructed 2 feet above the flood zone. When new projects go through the City's approval process, the Planning Commission, City Council, and City Engineer ensure the wastewater treatment plant is protected from flooding inundation.

Erosion of the banks of the Santa Ynez River has become a significant concern within the City. The continual progression of bank erosion poses potential threats to adjacent residences, properties, and public streets. Additionally, continued bank erosion is anticipated to damage the Riverbend Park bikeway within the next one to two large (10-year recurrence interval) storms.

To address the concern of this progressing bank erosion, the City has engaged a consulting team specializing in riverbank stabilization, to evaluate the feasibility, cost, and other considerations for stabilizing this reach of riverbank. The City's consulting team led by Penfield & Smith has prepared concept-level designs, construction cost estimates, and Feasibility Studies that discuss project alternatives, environmental concerns, and design considerations. The City is currently seeking funding opportunities to complete design and construction of this project.

5.5.2 Location and Extent of Hazard in Lompoc

The geographical location, climate, and topography of Lompoc make the City prone to flooding. In regions such as Lompoc, without extended periods of below-freezing temperatures, floods usually occur during the season of highest precipitations or during heavy rainfalls after long dry spells. Additionally, due to the Mediterranean climate and the variability of rainfall, stream flow throughout the City is highly variable and directly impacted from rainfall. Watercourses can experience a high amount of sedimentation during wet years and high amounts of vegetative growth during dry and moderate years.

The drainages in the northern part of the City are characterized by high intensity, short duration runoff events. Runoff from high intensity, short duration storm events can cause inundation of over bank areas, debris including sediment, rock, downed trees in the water that can plug culverts and bridges, erosion and sloughing of banks, and loss of channel capacity due to sedimentation.

5.5.3 History of Hazard in Lompoc

Flooding has been a major problem throughout Lompoc's history. Lompoc has several hydrologic basins that have different types of flooding problems, including over bank riverine flooding, flash floods, tidal flooding/tsunamis, and dam failure. The most common flooding in Lompoc is due to riverine flooding and flash

flood events.

In the last twenty years Lompoc experienced 5 significant floods. Two of these floods received Presidential Disaster Declarations. **Table 5.6** lists these floods, as well as information concerning the nature of the flooding and the extent of the damages.

Table5.6 Historical Records of Recent Large Floods in Lompoc

Date	Damages	Source of Estimate	Comments
1995	Structure and Infrastructure damage Public and private damages were around $100 Million. Presidential Disaster Declaration	FEMA	Structures were reported flooded and/or damaged. Transportation in and out of Lompoc was cut off for several hours; some modes of transportation were not restored for several days.
2005	$2 million	NCDC	In Lompoc, flash flooding and mudslides closed down Highway 101 at Bates Road
January 26, 2011	Total Individual Assistance: $1,909,557 Total Public Assistance: $75,414,223 Countywide per capita impact: Lompoc- $9.43, Presidential Disaster Declaration	FEMA	Severe winter storms, flooding, and debris and mudflows occurred from December 17, 2010 to January 4, 2011. The counties affected include: Inyo, Kern, Kings, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara and Tulare
March 2011	$1.7 Million	City Insurance Claims	A severe winter storm occurred in March 2011 that included flooding, debris and mudflows flows throughout Lompoc
March 1′ 2014	$500k	Television Reports	A strong winter storm caused significant damage to coastal properties on the south coast of Lompoc. Coastal Damage; Goleta Pier partially closed.

While there is extensive detailed documentation of historical flood events in Lompoc, the following section provides a summary of the more recent significant flood events:

1995 Flood- The floods of 1995 brought widespread flooding to Lompoc. The most severe flooding occurred on the South Coast while the rest of the City was largely spared from serious damages. Estimated public and private damages were around $100 million and the area was declared a federal disaster area. (1995 Floods)

2005 Flood– A powerful Pacific storm tapped into a subtropical moisture source to produce heavy rain and flash flooding across Southwestern California. Overall, rainfall totals ranged from 4 to 8 inches over coastal areas to between 10 and 20 inches in the mountains. In Ventura County, State Route 150 was closed at the Dennison Grade due to flash flooding and mudslides. In Los Angeles County, numerous roadways were closed due to mudslide and flash flooding including Interstates 5 and 10, Highway 101 in Hollywood, North Topanga Canyon Road in the San Fernando Valley, Malibu Canyon Road near Malibu and East Colima Road in Walnut. In Lompoc, flash flooding and mudslides closed down Highway 101 at Bates Road. With such heavy rainfall, both the Santa Clara River and the Santa Ynez River exceeded their respective flood stages. In the mountains of Ventura and Los Angeles counties, resort areas received between 3 and 4 feet of new snowfall. Preliminary damage estimates from this storm range between $8-10 million with agricultural interests in Ventura accounting for most of the monetary damage.

2011 Flood- Severe winter storms, flooding, and debris and mudflows occurred from December 17, 2010 to January 4, 2011. The counties affected include: Inyo, Kern, Kings, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Lompoc, and Tulare.

March 2011 Flood- A severe winter storm occurred in March 2011 that included flooding, debris and mudflows throughout Lompoc.

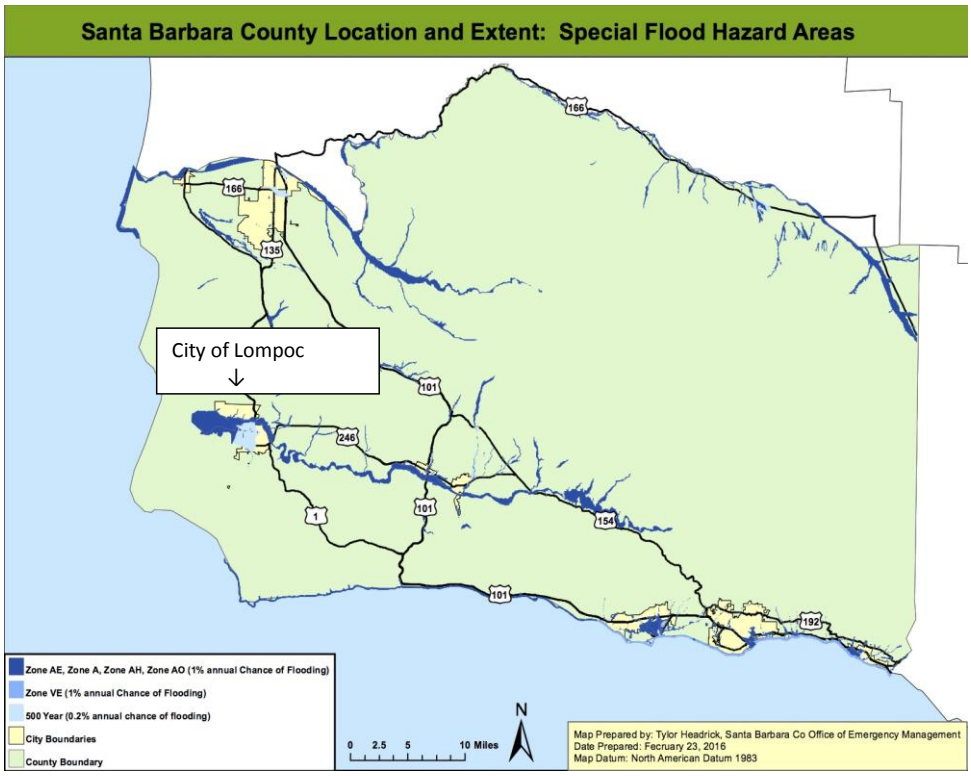
March 2014 Flood- A strong winter storm caused significant damage to coastal properties on the south coast of Lompoc

December 2014 Flood– A brief but intense rainfall, portions of which covered a limited area that exceeded a 200-year return period, caused damages county-wide, mostly in the form of downed trees, bank erosion and sediment and debris deposition.

5.5.4 Probability of Occurrence

The probability of flooding in Lompoc is shown in **Figure 5.15**. The map shows the location of the special flood hazard zones in Lompoc. The flood hazard zones depicted on the map are derived from FEMA's Flood Insurance Rate Maps (FIRM) and indicate the probability of flooding happening over a given period of time. Flood zones are geographic areas that defined varying levels of flood risk. Each zone reflects the severity or type of flooding in the area. The FIRM boundaries are developed by FEMA to convey flood risk.

Figure 5.15 Special Flood Hazard Area



Within the coastal special flood hazard area, there are two primary flood zones: Zone VE and Zone AE. Zone VE, also known as the Coastal High Hazard Area, has a wave component that is greater than three feet in height. Coastal Zone AE has a wave component of 0-3 feet in height.

The Federal Emergency Management Agency is conducting a coastal flood study for Lompoc as part of the California Coastal Analysis and Mapping Project. Results from this Open Pacific Coast Study will produce flood and wave data for the National Flood Insurance Program, Flood Insurance Study reports, and regulatory Flood Insurance Rate Map panels. 1

This coastal study will result in floodplain mapping that is anticipated to become effective in 2018. Current indications are that the resulting base flood elevations will be several feet higher than the current flood mapping.

5.5.5 Climate Change Consideration

Climate change is both a present threat and a slow-onset disaster. It acts as an amplifier of existing hazards. Extreme weather events have become more frequent over the past 40 to 50 years and this trend is projected

[1] Source: FEMA; Lompoc, California Open Pacific Coast Study, California Coastal Analysis and Mapping Project, April 2016

to continue. Rising sea levels, changes in rainfall distribution and intensity are expected to have a significant impact on coastal communities, including portions of Lompoc. This section presents a discussion of how climate change might impact the frequency, intensity and distribution of flood hazards.

5.6 Drought and Water Shortages

5.6.1 Description of Hazard

Drought and water shortages are a gradual phenomenon and generally are not signified by one or two dry years. California's and Lompoc's extensive system of water supply infrastructure (reservoirs, groundwater basins, and interregional conveyance facilities) generally mitigates the effects of short-term dry periods for most water users. However, drought conditions are present when a region receives below-average precipitation, resulting in prolonged shortages in its water supply, whether atmospheric, surface, or ground water. A drought can last for months or years, or may be declared after as few as 15 days.
The effects of the drought are most visible in the Lompoc when looking at the current capacity and maximum storage of the two main water reservoirs in the county, Lake Cachuma and Twitchell. On February 16, 2016, Cachuma was reported to be at 14.9% capacity, and Twitchell was at 0.2% capacity.

It should be noted that during fiscal year 2015/2016 $144,269, of general funds, was spent on water conservation efforts.

5.6.2 Location and Extent of Hazard in Lompoc

The entire City is subject to drought conditions and water shortages.

5.6.3 History of Hazard in Lompoc

Lompoc has had three (3) State and/or federally declared drought disasters since 1950; in 1990, 1991, and 2001. The state of California and Lompoc are currently in a drought. The average rainfall in Lompoc is 17.6 inches; however, since 2016, Lompoc has experienced significantly less than normal rainfall.

5.6.4 Probability of Occurrence

2016 is the fifth year of below average rainfall. Earlier droughts would cycle on an approximate 10 year basis. However, that historic cycle has been altered due to the impacts of climate change. It is difficult to accurately predict probability of drought occurrence with any accuracy.

5.6.5 Climate Change Considerations

This entire section is dedicated to climate change hazards, and as such, is focused on climate change's effects on the community. However, it is important to highlight climate change's potential direct impact.

Climate change has the potential to make drought events more common in the West, including California. Extreme heat creates conditions more conducive for evaporation of moisture from the ground, thereby increasing the possibility of drought. A warming planet could lead to earlier melting of winter snow packs, leaving lower stream flows and drier conditions in the late spring and summer. Snow packs are important in terms of providing water storage and ensuring adequate supply in the summer, when water is most needed. Changing precipitation distribution and intensity have the potential to cause more of the precipitation that does fall to run-off rather than be stored. The result of these processes is an increased potential for more frequent and more severe periods of drought.

5.7 Dam Failure

5.7.1 Description of Hazard

Dams fail due to old age, poor design, structural damage, improper siting, landslides flowing into a reservoir, or terrorist actions. Structural damage is often a result of a flood, erosion, or earthquake. A catastrophic dam failure could inundate the area downstream. The force of the water is large enough to carry boulders, trees, automobiles, and even houses along a destructive path downstream. The potential for casualties, environmental damage, and economic loss is great. Damage to electric generating facilities and transmission lines could impact life support systems in communities outside the immediate hazard area.

5. 7.2 Location and Extent of Hazard in Lompoc

The City of Lompoc lies approximately 33 miles west of the Bradbury Dam and the City sits along the Santa Ynez River. If the dam were to fail, the City of Lompoc could sustain substantial flooding via the Santa Ynez River. It has been established that the Bradbury Dam has been mapped for inundation.

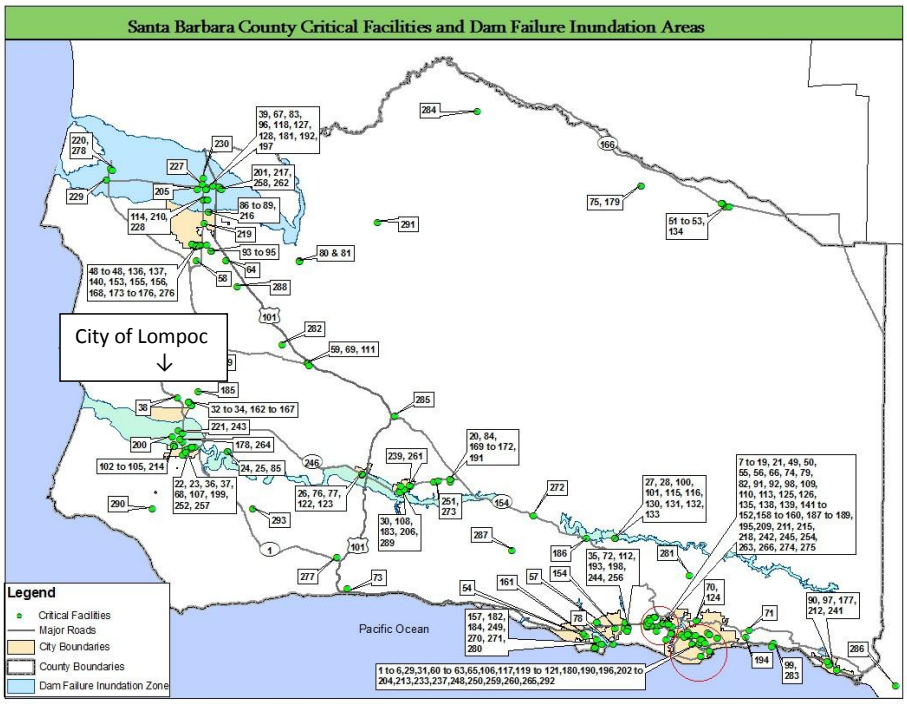
5.7.3 History of Hazard in Lompoc

The City ranked the dam failure hazard as being a limited risk to the City. The State of California and the federal government have a rigorous Dam Safety Program. This is a proactive program that ensures proper planning in the event of failure but also sets standards for dam design and maintenance. Because of this, many potential issues have been addressed and/or resolved.

5. 7.4 Probability of Occurrence

Dam failure events are infrequent and usually coincide with the events that cause them, such as earthquakes, landslides and excessive rainfall and snowmelt. There is a “residual risk” associated with dams; residual risk is the risk that remains after safeguards have been implemented. For dams, the residual risk is associated with events beyond those that the facility was designed to withstand. However, the probability of occurrence of any type of dam failure event is considered to be low in today’s regulatory and dam safety oversight environment.

Figure 6-12 Dam Failure Inundation Areas



5.7.5 Climate Change Considerations

Increased rainfall from changing climate conditions could present a risk to dams in Lompoc if volume of runoff is greater than the dam's capacity. This could cause the county to release stored water into the downstream water courses in order to ensure the integrity of the dam.

SECTION 6 CITY OF LOMPOC VULNERABILITY ASSESSMENT

6. 0 Overview

The purpose of this section is to estimate the potential vulnerability (impacts) of hazards within the city on the built environment (residential, non-residential, critical facilities, etc.) and population. To accomplish this, three (3) different approaches will be used: 1) application of scientific loss estimation models; 2) analysis of exposure of critical facilities to hazards; and 3) a qualitative estimate of the impacts to hazards. It is important to note that the first two approaches can only be applied to hazards that have an exposure area (footprint). For those hazards where an exposure layer does not exist, a brief qualitative assessment of the potential vulnerability will be presented. This will be done for hazards that can occur anywhere within the city.

6.1 Scientific Loss Estimation Models

The scientific loss estimation modeling efforts will include the utilization of the Federal Emergency Management Agency (FEMA) Hazus-MH 3.0 model. Hazus-MH is a nationally applicable standardized methodology that estimates potential losses from earthquakes, hurricane winds and floods. Hazus-MH uses state-of-the-art Geographic Information Systems (GIS) software to map and display hazard data and the results of damage and economic loss estimates for buildings and infrastructure. It also allows users to estimate the impacts of earthquakes, hurricane winds and floods on populations. Estimating losses is essential to decision-making at all levels of government, providing a basis for developing mitigation plans and policies, emergency preparedness and response and recovery planning. This modeling is limited to Earthquake and Flood hazards only.

Hazus standard configuration allows for "out-of-the-box" regional or community-wide loss assessment using default ("Level 1) building inventory databases, aggregated to the census tract (earthquake) or census block (flood) level. A summary of Hazus default building inventory data for City of Lompoc are given in **Table 6-1** (by general occupancy) and **Table 6-2** (by general building type). The distribution of buildings across the various construction classes given in Table 2 is estimated using Hazus default relationships (e.g., x percent of offices may be built of concrete frame, y percent of offices may be built of reinforced masonry, etc.). The actual distribution of building across these construction types may be different. For example, the California Seismic Safety Commission (CSSC) published results of unreinforced masonry building surveys (CSSC, 2006), which indicate that the 23 URM buildings in the City of Lompoc have been retrofitted (vs. 185 URM buildings predicted by the default database).

Table 6-1: Hazus-MH 3.0 City of Lompoc

Building Inventory Information by General Occupancy	Building Replacement Value ($1,000)	Contents Replacement Value ($1,000)	Building Square Footage(1,000 Sq. Ft.)	Estimated Building Count
Residential	$2,529,435	$1,265,024	18,277	9,451
Commercial	$394,873	$441,400	2,291	566
Industrial	$50,229	$68,698	358	98
Other	$120,434	$122,735	715	160
TOTAL	**$3,094,971**	**$1,897,857**	**21,641**	**10,275**

Table 6-2: Hazus-MH 3.0 Default Building Inventory Data for Lompoc by General Building Type

Selected Building Inventory Data by General Building Type	Building Replacement Value ($1,000)	Building Replacement Value (%)	Estimated Building Count	% of Building Count
Concrete	$184,687	6.0%	221	2%
Manufactured Housing	$47,746	1.5%	919	9%
Precast Concrete	$84,329	2.7%	139	1%
Reinforced Masonry	$213,351	6.9%	322	3%
Steel	$164,170	5.3%	213	2%
Unreinforced Masonry	$44,411	1.4%	68	1%
Wood Frame (Other)	$103,984	3.4%	146	1%
Wood Frame (Single-family)	$2,252,290	72.8%	8,250	80%
TOTAL	**$3,094,968**		**10,278**	

Table 6-3 provides a summary of the Hazus-MH essential facilities default data (police stations and public schools) for Lompoc. The Hazus-MH essential facilities default data for fire station was augmented to account for a significant number of missing facilities for City of Lompoc. Table **6-3** also indicates the construction type and design level assumed by Hazus-MH for these facilities; all are assumed to be wood frame of either High or Moderate code design level. A more accurate risk assessment could be conducted if additional facility information was collected, such as structural system, number of stories, year of construction/seismic code used for design, building square footage, building replacement value, and content replacement value. It should be noted that the Hazus-MH default database represents each school campus with a single building record of an assumed construction type. In reality, most public schools are multi-building campuses, built over a period of years (i.e., buildings may be designed to different seismic codes). To improve the risk assessment for public schools, information on each individual building would need to be collected.

Table6-3: Hazus-MH 3.0 Default Essential Facilities Data for City of Lompoc

Essential Facility Type	HAZUS-MH Default Structural Class and Design Level	Lompoc
Fire Stations	W1 (Wood Frame ≤ 5,000Sq.Ft.), Moderate Code Design Level	2
Police Stations	W1 (Wood Frame ≤ 5,000Sq.Ft.), Moderate Code Design Level	1

The lifeline inventory within HAZUS-MH is divided between transportation and utility lifeline systems. There are seven transportation systems that include highways, railways, light rail, buses, ports, ferries and airports; and six utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power, and communications. The lifeline inventory data are provided in **Tables 6-4** and **Table 6-5**.

Table 6-4: Transportation System Lifeline Inventory

System	Component	# Locations/ # Segments	Replacement value (millions of dollars)
Roads	*Bridges*	**4**	***40.000,000***
	Roads Roads, Storm Drain, curb & gutter, sidewalk, pedestrian bridges, Class I Bike Paths, curb ramps, traffic signals and traffic signs.	City Limits	***165,800,000***
		Subtotal	**205,800,000**
Bus	*Facilities*	2	***811,600***
		Subtotal	***811,600***
Airport	*Facilities*	9	***2,801,034***
	Runways		
		Subtotal	***2,801,034***
		Subtotal	
TOTAL			**$209,412,634**

Table 6-5: Utility System Lifeline Inventory

System	Component	# Locations / Segments	Replacement value (millions of dollars)
Potable Water	*Facilities*	*23*	***$29,930,095***
		Subtotal	***$29,930,095***
Waste Water	*Facilities*	*30*	***70,135,200***
		Subtotal	***70,135,200***
Electrical Power	*Facilities*	*4*	***4,625,897***
		Subtotal	***4,625,897***
			5.00
		TOTAL	**$104,691,192**

6.2 Analysis of Exposure of Critical Facilities to Hazards

The Local Planning Team reviewed and updated its list critical facilities and a generated a summary of the facilities by major categories: Law, Fire, Public Works, Utility City Hall, and Other (**Table 6-6**). This list of critical facilities presents the buildings and structures that are the Cities' primary concern for ensuring resiliency; they include both City owned or operated facilities as well as some privately owned and operated facilities. Information for City owned or operated facilities (building replacement cost and building content costs) were reviewed and updated as needed; where available the same information was reviewed and updated for the privately owned or operated facilities.

Using Geographic Information Systems (GIS) software, each critical facility was geolocated on maps to illustrate the geographic location of each facility. Based on each facility's geolocatation, GIS software was then used to identify facilities within the hazard exposure area (footprint). The results were a map and a table summarizing

the total number of exposed critical facilities by the major categories; and a total of the building replacement cost and building content costs for city owned or operated facilities. This approach was done for Wildfire, Sea Level Rise, Dam Failure, Tsunami, Landslides/Earth Movements, Climate-related (some), and Levee Failure.

Table 6-6 Critical Facilities in City of Lompoc

Category of Facility	Total Structures	Total Worth	Contents Total
City Hall	1	9,389,488	3,503,388
Police Station	1	6,922,073	2,433,673
Fire	2	2,733,700	383,900
Water Treatment	19	20,623700	5,963,400
Water Reservoirs	4	8,706,395	268,795
Waste Water Treatment	30	70,136,200	24,948,800
Electrical Power	4	4,625,897	3,074,574
Library	1	7,567,600	2,461,400
Airport	9	2,801,034	192,500
Public Works	9	11,981,100	3,804,000
Bus	2	811,600	240,000
Other	37	33,044,495	2,979,795
Total Value	**117**	**$178,531,682**	**$50,014,225**

6.3 Qualitative Estimate of Impacts

The approach used to complete this effort involves utilizing readily available data (i.e., Census) to extrapolate and estimate potential vulnerability. In some cases, the estimation will build upon historic events but it may also include projecting worst case potentials. The Local Planning Team summarized the remaining hazards which the City is vulnerable and assessed the amount and type of damage that could be expected. This approach was done for Droughts/Water Shortage, Flooding, Earthquake, and Wildfire.

6.4 Scientific Loss Estimate Analysis

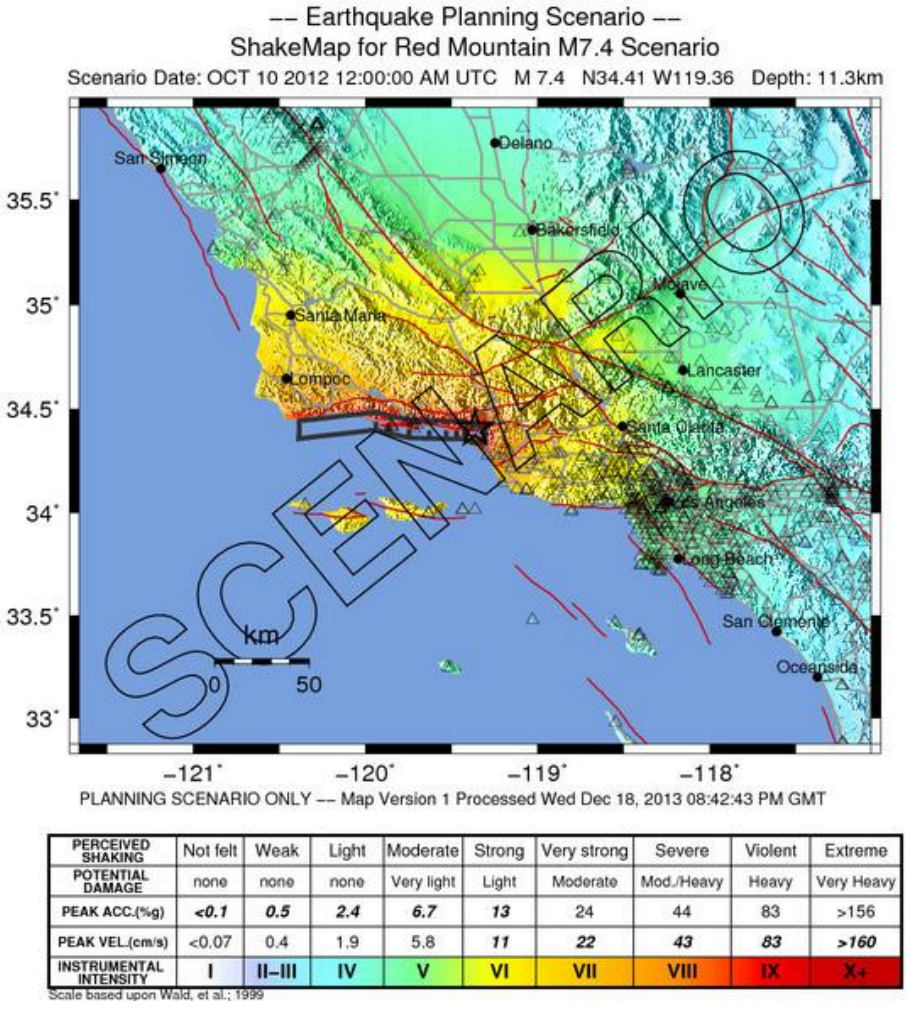
6.4.1 Earthquake and Liquefaction

The entire geography of Lompoc is exposed to some risk of shaking from an earthquake. The many fault lines, soil types, and construction types lead to a complicated assessment of vulnerability to earthquake.

6.4.1.1 HAZUS-MH Earthquake Risk Assessment

Two earthquake scenarios developed by the United States Geological Survey (USGS), as shown in **Figure 6.1** and **Figure 6.2**, were selected to assess the range of impacts. County-level maps of ground shaking for the same scenarios are shown in **Figure 6.3** and **Figure 6.4**.

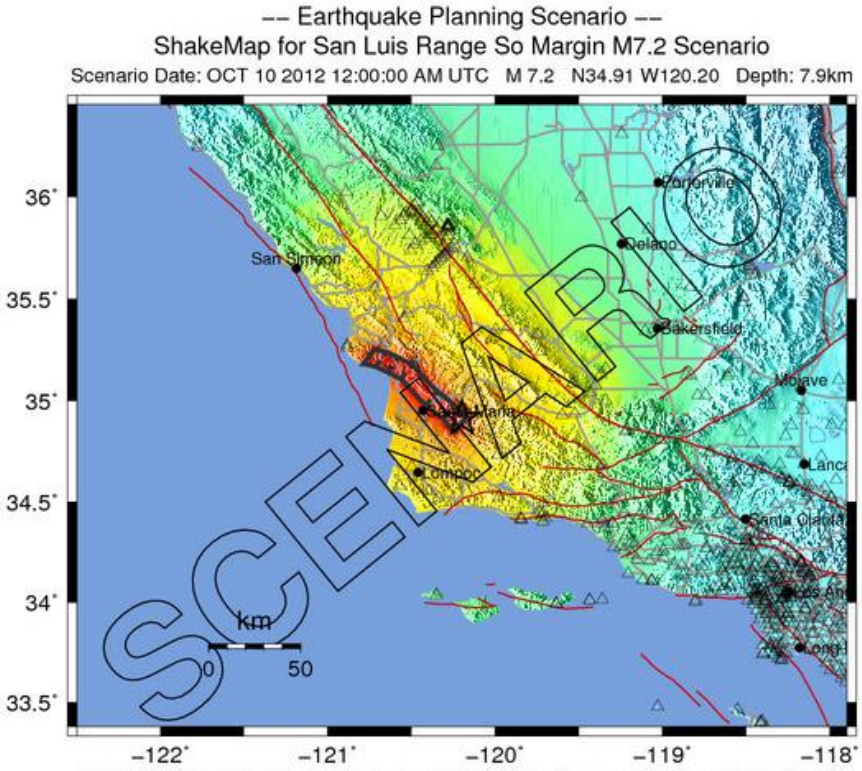
Figure 6.1: Scenario 1 – M7.4 Earthquake on the Red Mountain Fault



PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	*<0.1*	*0.5*	*2.4*	*6.7*	*13*	24	44	83	>156
PEAK VEL.(cm/s)	<0.07	0.4	1.9	5.8	*11*	*22*	*43*	*83*	*>160*
INSTRUMENTAL INTENSITY	I	II–III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Wald, et al.; 1999

Figure 6-2 Scenario 2 M7.2 Earthquake on the San Luis Range Fault, South Margin



PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Mod./Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	*<0.1*	*0.5*	*2.4*	*6.7*	*13*	24	44	83	>156
PEAK VEL.(cm/s)	<0.07	0.4	1.9	5.8	*11*	*22*	*43*	*83*	*>160*
INSTRUMENTAL INTENSITY	I	II–III	IV	V	VI	VII	VIII	IX	X+

Scale based upon Wald, et al.; 1999

Figure 6.3: USGS Shake Map Ground Motions for Lompoc for a M7.4 Earthquake on the Red Mountain Fault (Scenario 1)

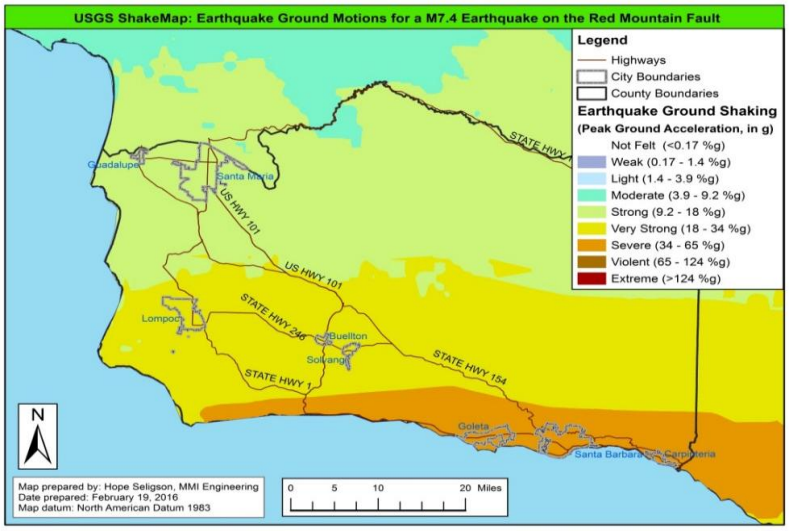
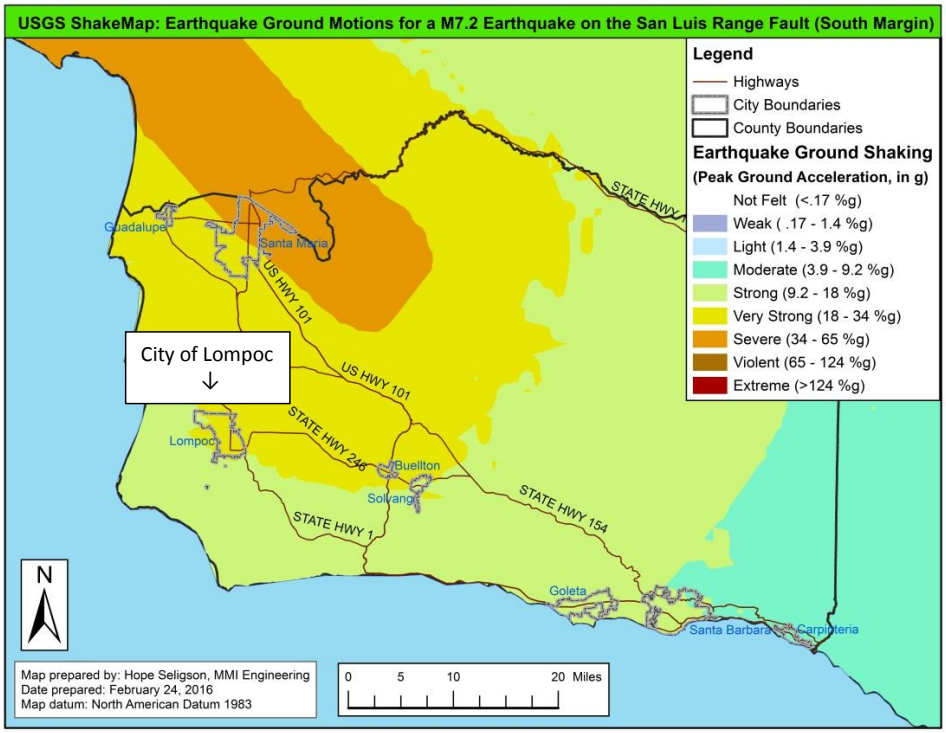


Figure 6.4: USGS Shake Map Ground Motions for Lompoc for a M7.2 Earthquake on the San Luis Range Fault, South Margin (Scenario 2)



As noted above, the latest version of Hazus (Hazus 3.0, released in November, 2015) was used to conduct a city-wide earthquake risk assessments. The Hazus results, computed at the census tract level, were aggregated to produce city-level impact summaries. An overview of the county-wide results for both scenarios is provided in **Table 6.7**, along with the sub-set of results that represent the unincorporated city areas. As shown, the M7.4 Red Mountain Fault earthquake scenario generates more building damage and loss in the City, than the M7.2 San Luis Range Fault earthquake scenario.

Table 6.8 provides a breakdown of estimated building damage (building count by Hazus damage state) by general building type, allowing for an understanding of the distribution of predicted damage in the modeled scenarios.

Functionality of essential facilities included in the Hazus default database (with additional fire station facilities added) in the two scenario earthquakes is summarized in **Table 6.9** for the City of Lompoc.

Table 6-7: Estimated Impacts for Two Earthquake Scenario Events Affecting Lompoc

		Earthquake Scenario	
		M7.4 Red Mountain Scenario	**M7.2 San Luis Range South Margin Scenario**
Direct Economic Losses for Buildings ($1,000)			
	Total Building Exposure Value	**3,094,971**	
Capital Stock Losses	Cost of Structural Damage	3,162	1,886
	Cost of Non-Structural Damage	24,876	16,003
	Total Building Damage (Str. + Non-Str.)	**28,039**	**17,889**
	Building Loss Ratio %	0.9%	0.6%
	Cost of Contents Damage	11,529	7,389
	Inventory Loss	150	101
Income Losses	Relocation Loss	1,063	529
	Capital-Related Loss	644	324
	Rental Income Loss	699	388
	Wage Losses	864	409
	Total Direct Economic Loss	**42,989**	**27,028**
	% Of Countywide Loss	**1.2%**	**3.3%**
Casualties			
Day Casualties	**Casualties - 2 pm**		
	Level 1 - minor injuries, basic first aid	5	3
	Level 2 - hospital treat & release	0	0
	Level 3 - injuries requiring hospitalization	0	0
	Level 4 - fatalities	**0**	**0**
	Total Casualties	**5**	**3**
Night Casualties	**Casualties - 2 am**		
	Level 1 - minor injuries, basic first aid	5	3
	Level 2 - hospital treat & release	0	0
	Level 3 - injuries requiring hospitalization	0	0
	Level 4 - fatalities	**0**	**0**
	Total Casualties	**5**	**3**
Shelter			
Shelter	Number of Displaced Households	1	0
	Number of People Requiring Short-term Shelter	1	0
Debris (thousands of tons)			
Debris	Brick, Wood & Other (Light) Debris	2.3	1.4
	Concrete & Steel (Heavy) Debris	1.8	0.9
	Total Debris	**4.1**	**2.3**

Table 6-8: Estimated Building Damage Count by General Building Type for Two Earthquake Scenario Events Affecting City of Lompoc

		Earthquake Scenario	
		M7.4 Red Mountain Scenario	**M7.2 San Luis Range South Margin Scenario**
Building Damage Count by General Building Type (Based on Hazus Default Building Data)			
Concrete	None	166	189
	Slight	41	26
	Moderate	12	5
	Extensive	1	0
	Complete	0	0
	TOTAL	**220**	**220**
Manuf. Housing	None	419	524
	Slight	325	272
	Moderate	158	115
	Extensive	18	9
	Complete	0	0
	TOTAL	**920**	**920**
Precast Concrete	None	100	114
	Slight	29	20
	Moderate	10	5
	Extensive	0	0
	Complete	0	0
	TOTAL	**139**	**139**
Reinforced Masonry	None	280	298
	Slight	32	19
	Moderate	8	3
	Extensive	0	0
	Complete	0	0
	TOTAL	**320**	**320**
Steel	None	146	169
	Slight	44	31
	Moderate	19	10
	Extensive	2	1
	Complete	0	0
	TOTAL	**211**	**211**
Unreinforced Masonry	None	45	53
	Slight	18	13
	Moderate	4	2
	Extensive	0	0
	Complete	0	0
	TOTAL	**67**	**68**

		Earthquake Scenario

		M7.4 Red Mountain Scenario	M7.2 San Luis Range South Margin Scenario
Building Damage Count by General Building Type (Based on Hazus Default Building Data, Continued)			
Wood Frame (Other)	None	112	127
	Slight	29	18
	Moderate	4	1
	Extensive	0	0
	Complete	0	0
	TOTAL	**145**	**146**
Wood Frame (Single-family)	None	7119	7546
	Slight	1112	697
	Moderate	20	9
	Extensive	0	0
	Complete	0	0
	TOTAL	**8,251**	**8,252**
ALL BUILDING TYPES	None	8,387	9,020
	Slight	1,630	1,096
	Moderate	235	150
	Extensive	21	10
	Complete	0	0
	TOTAL	**10,273**	**10,276**

Table 6-9: Predicted Essential Facility Functionality in Two Earthquake Scenario Events Affecting City of Lompoc

	Earthquake Scenario	
FACILITY TYPE	**M7.4 Red Mountain Scenario**	**M7.2 San Luis Range South Margin**
Lompoc Fire Department		
Total Number of Buildings in Hazus Default Database*	**2 (Stations 1 and 2)**	
Default Structural Class and Design Level	**W1 (Wood Frame ≤ 5,000 SqFt), Moderate Code Design Level**	
Damage:		
# Buildings with >50% Probability of Moderate or Greater Damage	0	0
# Buildings with >50% Probability of Complete Damage	0	0
Functionality:		
Functionality < 50 % on Day 1	0	0
Functionality 50 - 75% on Day 1	0	0
Functionality >75% Day 1	2	2
Lompoc Police Department		
Total Number of Buildings in Hazus Default Database	**1**	
Default Structural Class and Design Level	**W1 (Wood Frame ≤ 5,000 SqFt), Moderate Code Design Level**	
Damage:		
# Buildings with >50% Probability of Moderate or Greater Damage	0	0
# Buildings with >50% Probability of Complete Damage	0	0
Functionality:		
Functionality < 50 % on Day 1	0	0
Functionality 50 - 75% on Day 1	0	0
Functionality >75% Day 1	1	1
Lompoc Elementary School District		
Total Number of Buildings in Hazus Default Database	**17 Schools****	
Default Structural Class and Design Level	**W1 (Wood Frame ≤ 5,000 SqFt), High Code Design Level**	
Damage:		
# Buildings with >50% Probability of Moderate or Greater Damage	0	0
# Buildings with >50% Probability of Complete Damage	0	0
Functionality:		
Functionality < 50 % on Day 1	0	0
Functionality 50 - 75% on Day 1	0	0
Functionality >75% Day 1	17	17

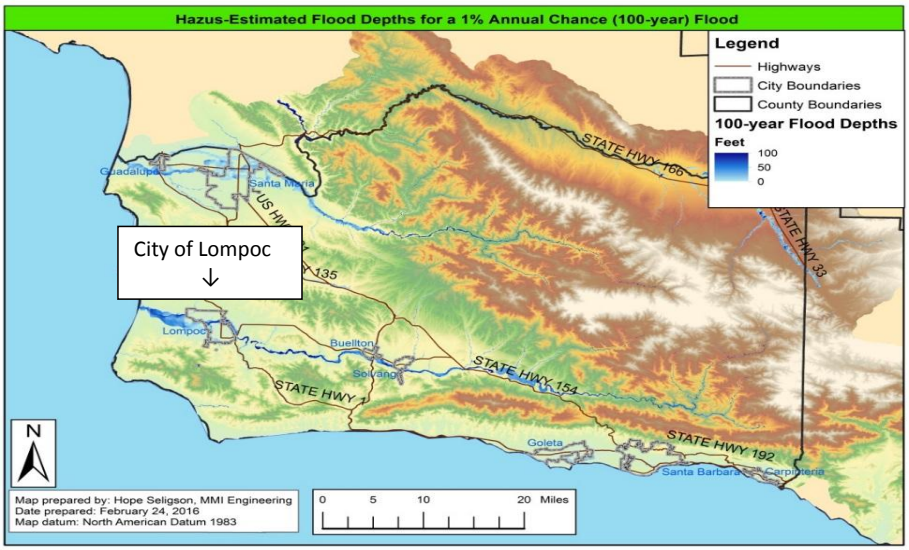
6.5.1 Flood

Hazus 3.0 was used to develop a flood depth grid for the 1-percent annual chance (100-year) flood, using Hazus 3.0 built-in, basic (i.e., Level 1) flood depth estimation methodology. The Hazus 3.0 flood hazard assessment methodology uses available information and local river and floodplain characteristics, such as frequency, discharge and ground elevation to estimate flood elevation, and ultimately flood depth. Digital elevation model (DEM) data with 30-meter resolution, available from the USGS' National Elevation Dataset (see: http://nationalmap.gov/elevation.html) has been utilized in the current assessment.

It should be noted that the flood depth grid generated by Hazus 3.0 ***is not*** equivalent to regulatory floodplain data contained in FEMA's Digital Flood Insurance Rate Maps (DFIRMs), which are the result of extensive, detailed engineering study. The Hazus-generated flood depth grid is a hypothetical representation of a potential flooding scenario, intended for non-regulatory uses. Further, it should also be noted that the DEM data used in the default analysis do not reflect the presence of channels and levees. A more detailed assessment would utilize higher resolution DEM data, such as LIDAR-based DEM data, and/or would require GIS-based revisions to the DEM to better reflect local flood control structures. Hazus-estimated flood depths across Lompoc are provided in **Figure 6.5**.

An overview of the city-wide Hazus results for the 100-year flood scenario is provided in **Table 6.10**. **Table 6.11** provides a breakdown of estimated building damage (building count by percent damage range) by general occupancy. As shown, most of the flood-damaged buildings are single family homes. Functionality of essential facilities included in the Hazus default database (with additional fire station facilities added) in the flood scenario is summarized in **Table 6.12** for City of Lompoc.

Figure 6.5: Hazus-Estimated Flood Depths for a 1-percent Annual Chance (100-year) Flood



6.5.1.1 HAZUS-MH Flood Risk Assessment

Table 6-10: Hazus -Estimated Impacts for the 1-Percent Annual Chance (100-Year) Flood Scenario Affecting City of Lompoc

		Flood Scenario
		1-percent chance annual flood (100-year flood)
Direct Economic Losses for Buildings ($1,000)		
	Total Building Exposure Value	**3,094,971**
Capital Stock Losses	Total Building Damage	76,315
	Building Loss Ratio %	2.5%
	Cost of Contents Damage	61,001
	Inventory Loss	940
Income Losses	Relocation Loss	156
	Capital-Related Loss	71
	Rental Income Loss	33
	Wage Losses	130
	Total Direct Economic Loss	**138,646**
	% Of City Loss	12.2%
Shelter		
	Number of Displaced Households	4,207

Shelter	Number of People Requiring Short-term Shelter	3,358
Debris (thousands of tons)		
Debris	Finishes	3.7
	Structures	1.5
	Foundations	1.4
	Total Debris	**6.6**

Table 6-11 Estimated Building Damage (Building Count by General Occupancy, by Percent Damage Range) for a 1-percent Annual Chance (100-year) Flood Scenario Affecting City of Lompoc

		Flood Scenario
		1-percent chance annual flood (100-year flood)
Direct Economic Losses for Buildings ($1,000)		
	Total Building Exposure Value	**3,094,971**
Capital Stock	Total Building Damage	76,315
	Building Loss Ratio %	2.5%
	Cost of Contents Damage	61,001
	Inventory Loss	940
Income	Relocation Loss	156
	Capital-Related Loss	71
	Rental Income Loss	33
	Wage Losses	130
	Total Direct Economic Loss	**138,646**
	% Of City Loss	12.2%
Shelter		
Shelter	Number of Displaced Households	4,207
	Number of People Requiring Short-term Shelter	3,358
Debris (thousands of tons)		
Debris	Finishes	3.7
	Structures	1.5
	Foundations	1.4
	Total Debris	**6.6**
Building Damage Count in Flooded Census Blocks by Occupancy		
Single Family	None	202
	1 - 10%	165
	11 - 20%	184

	21 - 30%	66
	31 - 40%	53
	41 - 50%	43
	Substantial Damage	74
	TOTAL	**787**
Manufactured Housing	None	23
	1 - 10%	1
	11 - 20%	0
	21 - 30%	2
	31 - 40%	0
	41 - 50%	0
	Substantial Damage	12
	TOTAL	**38**

		Flood Scenario
		1-percent chance annual flood (100-year flood)
Building Damage Count in Flooded Census Blocks by Occupancy (Continued)		
Other Residential	None	0
	1 - 10%	0
	11 - 20%	2
	21 - 30%	0
	31 - 40%	0
	41 - 50%	0
	Substantial Damage	0
	TOTAL	**2**
Commercial	None	0
	1 - 10%	0
	11 - 20%	0
	21 - 30%	0
	31 - 40%	0
	41 - 50%	0
	Substantial Damage	0
	TOTAL	**0**
Industrial	None	0
	1 - 10%	0
	11 - 20%	0
	21 - 30%	0
	31 - 40%	0
	41 - 50%	0
	Substantial Damage	0
	TOTAL	**0**
Other Occupancies	None	0
	1 - 10%	0
	11 - 20%	0
	21 - 30%	0
	31 - 40%	0
	41 - 50%	0
	Substantial Damage	0
	TOTAL	**0**
ALL OCCUPANC	None	225
	1 - 10%	166
	11 - 20%	186
	21 - 30%	68
	31 - 40%	53

	41 - 50%	43
	Substantial Damage	86
	TOTAL	**827**

Table 6-12 Predicted Essential Facility Functionality for a 1-percent Annual Chance (100-year) Flood Scenario Affecting City of Lompoc

		Flood Scenario
	FACILITY TYPE	**1-percent chance annual flood (100-year flood)**
Fire Stations	**Lompoc Fire Department**	
	Total Number of Buildings in Hazus Default Database*	**2 (Stations 1 and 2)**
	Flood Exposure	
	# facilities located within flooded areas	0
	Damage:	
	# Buildings with Moderate or Greater Damage	0
	# Buildings with Substantial Damage	0
	Functionality:	
	# facilities expected to be non-functional on Day 1	0
Police Stations	**Lompoc Police Department**	
	Total Number of Buildings in Hazus Default Database	**1**
	Flood Exposure	
	# facilities located within flooded areas	0
	Damage:	
	# Buildings with Moderate or Greater Damage	0
	# Buildings with Substantial Damage	0
	Functionality:	
	# facilities expected to be non-functional on Day 1	0
S	**Lompoc Elementary School District**	
	Total Number of Buildings in Hazus Default Database	**17 Schools****
	Flood Exposure	
	# facilities located within flooded areas	2 (Clarence Ruth Elem., Lompoc Valley Middle)
	Damage:	
	# Buildings with Moderate or Greater Damage	0
	# Buildings with Substantial Damage	0
	Functionality:	

	# facilities expected to be non-functional on Day 1	2 (Clarence Ruth Elem., Lompoc Valley Middle)

6.5.1.2 Critical Facilities in 100 and 500 Year Flood Zone

There are no Critical Facilities in the 100 Year Flood Zone. However, there are 7 Critical Facilities in the 500 Year Flood Zone.

6.5.1.3 Repetitive Flood Loss Properties

Repetitive loss properties are defined as property that is insured under the NFIP# 060334 that has filed two or more claims in excess of $1,000 each within any consecutive 10-year period since 1978. There are currently no repetitive loss properties in the City of Lompoc.

6.5.1.4 Critical Facilities

Although Flood damage was well delineated in the previous section (Scientific Loss Estimation modeling), the Local Planning Team wanted to include additional vulnerability data for the Critical Facilities. The exposure of the critical facilities to flood zones is summarized in **Table 6.13** and depicted on **Figure 6.7**.

Table 6-13 Critical Facilities by Category in Flood Zones

Critical Facility Category	100-Year	500-Year
City Hall	N/A	N/A
Police Station	**N/A**	**N/A**
Fire Stations 1 & 2	**N/A**	**X**
Water Treatment	**N/A**	**X**
Water Reservoirs	**N/A**	**N/A**
Waste Water Treatment	**N/A**	**X**
Electrical Power	**N/A**	**X**
Library	**N/A**	**N/A**
Airport	**N/A**	**X**
Public Works	**N/A**	**X**
Bus	**N/A**	**X**

6.6 Wildfire

In looking at critical facilities' vulnerability to wildfire, there were three measures that were evaluated. The first is whether a critical facility is within the Fire Severity Zone (FSZ). The FSZ is mapped by the CA Department of Forestry and Fire Protection. It shows the geographic extents for areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. The second measure for vulnerability is the Wildland Urban Interface which is the potential treatment zone where projects could be conducted to reduce wildland fire threats to people. For the purposes of this analysis, "within the WUI" represents those critical facilities that are in the geographical area where the three factors of "threat to people", "communities at risk", and "distance to developed areas" intersect. The final measure is that of "Fire Threat". Fire Threat is a combination of the factors of fire frequency and potential fire behavior. The two factors are combined to create five

(5) threat classes ranging from "Little or No Threat" to "Extreme". The exposure of the critical facilities to these three measures is indicated in the tables (**Table 6.14**, **Table 6.15**, and **Table 6.16**) and figures (**Figure 6.7**. **Figure 6.8**, and **Figure 6.9**) below. It is worth noting that all critical facilities have at least some threat from one or more of the three measures. Because of this, the exposure has been color coded low too high in a yellow, orange, red scheme to make it easier for the reader to discern the different designations.

Table 6-14 Critical Facilities by Category in Fire Hazard Severity Zone

Critical Facility Category		Outside	Moderate	High	Very High
City Hall		X	N/A	N/A	N/A
Police Station		X	N/A	N/A	N/A
Fire		X	N/A	N/A	N/A
Water Treatment		X	N/A	N/A	N/A
Water Reservoirs		X	N/A	N/A	N/A
Waste Water Treatment		X	N/A	N/A	N/A
Electrical Power		X	N/A	N/A	N/A
Library		X	N/A	N/A	N/A
Airport		X	N/A	N/A	N/A
Public Works		X	N/A	N/A	N/A
Bus		X	N/A	N/A	N/A

Figure 6.7 Critical Facilities in Fire Hazard Severity Zone

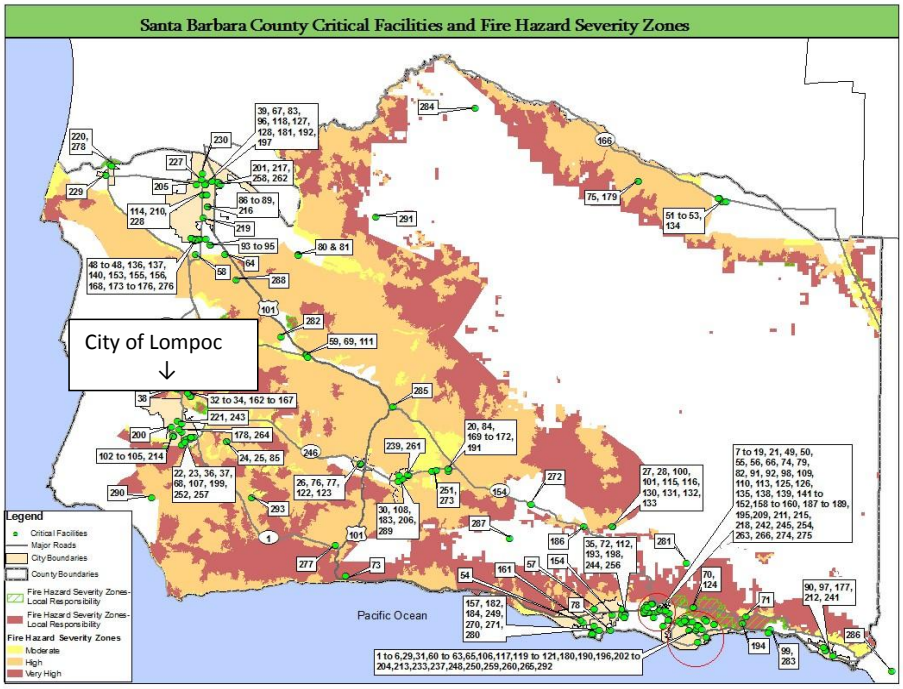


Table 6-15 Critical Facilities by Category in Wildland Urban Interface (WUI) Zone

Critical Facility Category	Outside Zone	Within Zone
City Hall	X	
Police Station	X	
Fire Stations 1 & 2		X
Water Treatment		X
Water Reservoirs		X
Waste Water Treatment		X
Electrical Power		X
Library	X	
Airport	X	
Public Works		X
Bus		X

Figure 6.8 Critical Facilities in Wildland Urban Interface (WUI)

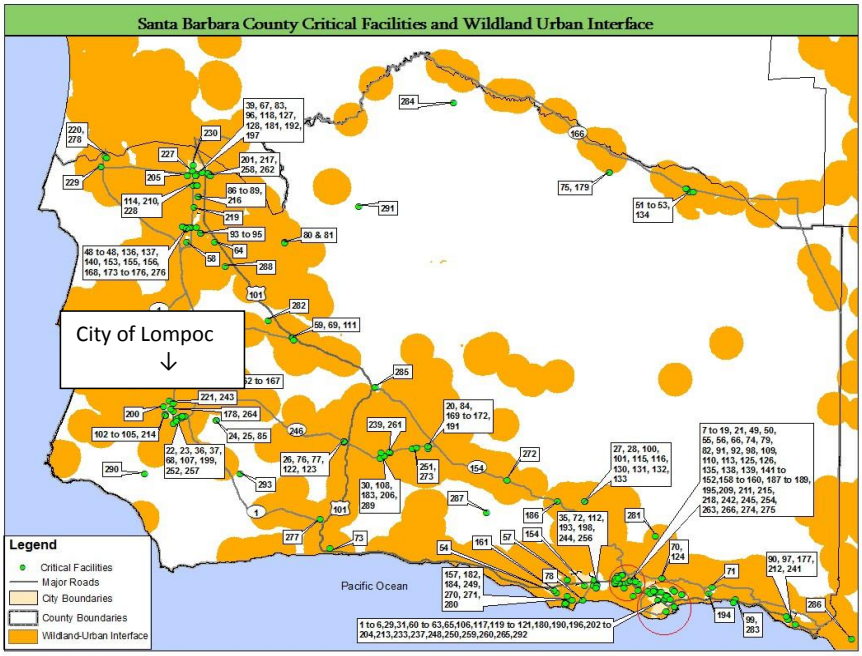
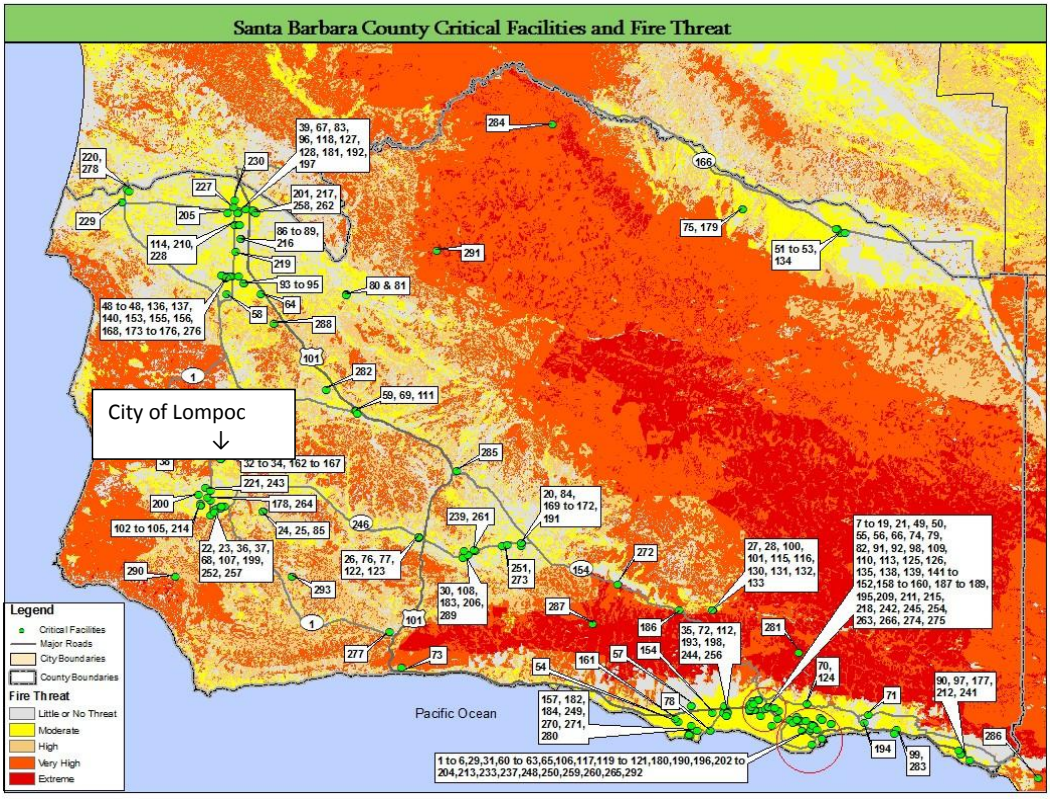


Table 6-16 Critical Facilities by Category in Fire Threat Zones

Critical Facility Category	Little or No Threat	Moderate	High	Very High
City Hall		X	N/A	N/A
Police Station		X	N/A	N/A
Fire Station #1	X		N/A	N/A
Fire Station #2		X	N/A	N/A
Water Treatment		X	N/A	N/A
Water Reservoirs	X		N/A	N/A
Waste Water Treatment	X		N/A	N/A
Electrical Power		X	N/A	N/A
Library		X	N/A	N/A
Airport		X	N/A	N/A
Public Works	X		N/A	N/A
Bus	X		N/A	N/A

Figure 6.9 Critical Facilities in Fire Threat Zones



6.7 Dam Failure

The Bradbury dam is the largest concern of failure because floodwaters from this dam would affect the City of Lompoc, Lompoc Valley, and south VAFB, agricultural lands, roads, and highways. The dam failure vulnerability is simply a look at those critical facilities exposed to risk as indicated by whether they fall into a geographic region that represents a dam inundation zone. There are 42 City critical facilities within the dam inundation zones. The critical facilities represent approximately $83,405,900 million in building value and almost $29,232,800 million in contents exposed to the risk (**Table 6-16 figure 6-12** depicts the location of the critical facilities in relation to the dam failure inundation zones.

Table 6-16 Critical Facilities by Category in Bradbury Dam Inundation Zone

Critical Facility Category	Outside Zone	Building Value	Content
City Hall	X		
Police Station	X		
Fire Station 1	X		
Fire Station 2		447,500	46,700
Water Treatment		20,623,700	5,963,400
Water Reservoirs	X		
Waste Water Treatment		70,136,200	24,948,800
Electrical Power		4,625,897	3,074,574
Library		7,567,600	2,461,400
Airport		2,801,034	195,500
Public Works	X		
Bus	X		

6.8 Drought and Water Shortage

Past experience with Lompoc droughts tells us that drought impacts are felt first by those most dependent on or affected by annual rainfall – fire departments, farmers engaged in agriculture, residents relying on wells, or other small water systems lacking a reliable water source. Drought and water shortage can happen; and have significant impacts on the populations and the economy. Significant economic impacts on Lompoc's agriculture industry can occur as a result of short- and long-term drought conditions; these include hardships to farmers, farm workers, packers, and shippers of agricultural products. In some cases, droughts can also cause significant increases in food prices to the consumer due to shortages. Drought can also result in lack of water and subsequent feed available to grazing livestock, potentially leading to risk of livestock death and resulting in losses to the Santa Barbara's agricultural economy.

Drought can have secondary impacts. For example, drought is a major determinant of wildfire hazard, in that it creates greater propensity for fire starts and larger, more prolonged conflagrations fueled by excessively dry vegetation, along with reduced water supply for firefighting purposes.

SECTION 7 LOMPOC MITIGATION STRATEGY

7.1 Mitigation Goals and Objectives

The MAC identified common goals and objectives. Using the 2011 County Plan, the MAC reviewed and revised the goals and objectives to reflect the current capabilities, exposure to hazards, and vulnerability assessment findings. As part of the planning process, the LPT reviewed and validated these goals and objectives.

Table 7.1 Goals and Objectives

Goal 1: Promote disaster-resiliency for future development to help them become less vulnerable to hazards
Objective 1.A Facilitate the development (or updating) of the City's Comprehensive Plan, City General Plans, and zoning ordinances to limit (or ensure safe) development in hazard areas
Objective 1.B: Facilitate the incorporation and adoption of building codes and development regulations that encourage disaster resistant design
Objective 1.C: Facilitate consistent implementation of plans, zoning ordinances, and building and fire codes
Goal 2: Promote disaster resiliency for existing assets (critical facilities/infrastructure and public facilities) and people to help them become less vulnerable to hazards
Objective 2.A: Mitigate vulnerability structures and public infrastructure including facilities, roadways, and utilities
Objective 2.B: Mitigate vulnerability populations
Objective 2.C: Support a coordinated permitting processes and consistent enforcement
Goal 3: Enhance hazard mitigation coordination and communication
Objective 3.A: Address data limitations identified in Hazard Profiling and Risk Assessment
Objective 3.B: Increase awareness and knowledge of hazard mitigation principles and practice among local government officials
Objective 3.C: Provide technical assistance to implement private sector mitigation plans
Objective 3.D: Educate the public to increase awareness of hazards, potential impact, and opportunities for mitigation actions
Objective 3.E: Monitor and publicize the effectiveness of mitigation actions implemented Citywide
Objective 3.F: Educate the professional community on design and construction techniques that will minimize damage from the identified hazards
Objective 3.G: Participate in initiatives that have mutual hazard mitigation benefits for the City.
Objective 3.H: Encourage other organizations, within the public, private, and non-profit sectors, to incorporate hazard mitigation activities into their existing programs and plans
Objective 3.I: Continue to identify, prioritize, and implement mitigation actions
Objective 3.J: Continuously improve the City's capability and efficiency at administering pre- and post-disaster mitigation programs.

7.2 MITIGATION ACTION/PROGRESS

The LPT reviewed the mitigation actions identified in the 2011 City Plan to determine the status of each mitigation action. **Table 7.2** provides an overview and the status of each mitigation actions.

Table 7.2 Completed Mitigation Actions

#	Description	Status	Completion Date	Comments
2011 -1	Develop and maintain disaster cache supplies	Complete	2013	Tested effectiveness during Table Functional Exercise. Successful outcome.
2011-2	Disaster Early Warning and Evacuation Plan Earthquake/Dam Failure	Complete	2015	City of Lompoc Radio station is operational.
2011-3	Disaster Early Warning and Evacuation Plan Earthquake/Dam Failure	Complete	2015	Reinforced Vegetative Bank Protection (RVPB) completed

7.3 Prioritizing Mitigation Actions

The LPT used the STAPLE/E Criteria (Social, Technical, Administrative, Political, Legal, Economic, and Environmental) to evaluate and prioritize the mitigation actions. Based on the evaluation score of each of STAPLE/E Criteria (**Table 7.3**), mitigation actions received a cumulative score. The cumulative score was then used to prioritize the mitigation actions. The following scale was used to evaluate each STAPLE/E Criteria:

0 = Poor (negative impacts)
1 = Fair (neutral or no impacts)
2 = Good (positive impacts)
3 = Excellent (very favorable impacts)

The intent of prioritizing mitigation actions is to help the City focus and concentrate their efforts; however, it should be noted that when and if specialized grants and/or funds are made available that could finance a mitigation action the City may adjust the ranking to enable them to implement the mitigation action.

Table 7.3 STAPLE/E Criteria

SOCIAL	• Is the proposed action socially acceptable to the community? • Are there equity issues involved that would mean that one segment of the community are treated unfairly? • Will the action cause social disruption?
TECHNICAL	• Will the proposed action work? • Will it create more problems than it solves? • Does it solve a problem or only a symptom? • Is it the most useful action in light of other community goals?
ADMINISTRATIVE	• Can the community implement the action? • Is there someone to coordinate and lead the effort? • Is there sufficient funding, staff, and technical support available? • Are there ongoing administrative requirements that need to be met?
POLITICAL	• Is the action politically acceptable? • Is there public support both to implement and to maintain the project?
LEGAL	• Is the community authorized to implement the proposed action? Is there a clear legal basis or precedent for this activity? • Are there legal side effects? Could the activity be construed as a taking? • Is the proposed action allowed by the general plan, or must the general plan be amended to allow the proposed action? • Will the community be liable for action or lack of action? • Will the activity be challenged?
ECONOMIC	• What are the costs and benefits of this action? • Do the benefits exceed the costs? • Are initial, maintenance, and administrative costs taken into account? • Has funding been secured for the proposed action? If not, what are the potential sources (public, non-profit, and private)? • How will this action affect the fiscal capability of the community? • What burden will this action place on the tax base or local economy? • What are the budget and revenue effects of this activity? • Does the action contribute to other community goals, such as capital improvements or economic development? • What benefits will the action provide?
ENVIRONMENTAL	• How will the action affect the environment? • Will the action need environmental regulatory approvals? • Will it meet local and state regulatory requirements? • Are endangered or threatened species likely to be affected?

7.4 MITIGATION ACTIONS

The following table (**Table 7.4**) presents the prioritized list of mitigation actions which will be considered and implemented during the life of the City Plan update.

Table 7.4 Prioritized and Recommended Mitigation Actions

Number	Title		Priority Score							
			S	T	A	P	L	E	E	TOTAL
2016.1	Earthquake Retrofit Fire Station		3	3	3	3	3	3	3	21
2016.2	Continuation to identify the , most at-risk critical facilities in Lompoc and create a mitigation action plan for those facilities		3	3	3	3	3	2	3	20
2016.3	Inform public about proper evacuation procedures.		3	3	3	3	2	2	3	19
2016.4	Advise public about the local flood hazard, flood insurance and flood protection measures.		3	3	3	3	3	2	1	18
2016.5	Create a wildfire scenario to estimate potential loss of life and injuries, the types of potential damage, and existing vulnerabilities within a community to develop Wildfire mitigation priorities.		3	2	2	3	2	2	3	17
2016.6	Schedule an annual “what’s new in mitigation” briefing for the City Council.		2	2	2	2	2	2	2	14
2016.7	Continue City of Lompoc Water Wise outreach program		3	2	2	2	1	3	3	17
2016.8	Santa Ynez River Bank Stabilization-Riverside Location-Part 1		3	3	2	3	2	3	2	18
2016.9	Santa Ynez River Bank Stabilization-Riverside Location-Part 2		3	3	2	3	2	3	2	18

7.5 IMPLEMENTATION PLAN

Number: 2016.1
Action Title: Earthquake Retrofit Fire Station
Action Description: See Attached Seismic Evaluation
Relevant Objective: Objective 2.A: Mitigate vulnerability structures and public infrastructure including facilities
Applicable Hazards: Earthquake
Estimated Timeline to complete: 18 Months
Cost: $3,266,514, PDM Grant already submitted and in review process.
Responsible Department: Fire

Number: 2016.2
Action Title: Identify the most at-risk critical facilities and evaluate potential mitigation techniques
Action Description: Using GIS mapping of all Critical Facilities to facilitate analysis to identify vulnerable facilities.
Relevant Objective: Objective 2.A: Mitigate vulnerability structures and public infrastructure including facilities
Applicable Hazards: Earthquake, Wildfire, Flood
Estimated Timeline to complete: 24 Months
Cost: $3,000. This will be included in the 2017/19 budget.
Responsible Department: Fire

Number: 2016.3
Action Title: Inform public about proper evacuation procedures.
Action Description: Create an Education Campaign to Inform public about proper evacuation procedures. The Campaign would use the city Web page, Social Media, Print, Audio and Video Media. The Fire Department would include proper evacuation procedures in their CERT curriculum.
Relevant Objective: Objective 3.D: Educate the public to increase awareness of hazards, potential impact, and opportunities for mitigation actions
Applicable Hazards: Earthquake, Wildfire, Flood
Estimated Timeline to complete: Ongoing with quarterly new programs introduced.
Cost: $50000. This will be included in the 2017/19 budget.
Responsible Department: Fire

Number: 2016.4
Action Title: Advise public about the local flood hazard, flood insurance and flood protection measures.
Action Description: Inform the public at regularly scheduled Public Events as to local flood hazard, flood insurance and flood protection measures. The events will be held at Home Depot CERT training, LISTOS training and Aware and Prepare training. City WEB page and Social Media will also be utilized.
Relevant Objective: Objective 3.D: Educate the public to increase awareness of hazards, potential impact, and opportunities for mitigation actions
Applicable Hazards: Flood
Estimated Timeline to complete: Ongoing.
Cost: $2000.00 This will be included in the 2017/19 budget
Responsible Department: Fire

Number: 2016.5
Action Title: Create a wildfire scenario to estimate potential loss of life and injuries, the types of potential damage, and existing vulnerabilities within a community to develop wildfire mitigation priorities
Action Description Using GIS mapping of wildfire hazard areas to facilitate analysis and planning decisions through comparison with zoning, development, infrastructure, etc. Developing and maintaining a database to track community vulnerability to wildfire.
Relevant Objective: Objective 2.A: Mitigate vulnerability structures and public infrastructure including facilities, roadways, and utilities. Objective 3.A: Address data limitations identified in Hazard Profiling and Risk Assessment.
Applicable Hazards: Wildfire
Estimated Timeline to complete: Ongoing.
Cost: $5000 This will be included in the 2017/19 budget.

Number: 2016.6
Action Title Schedule an annual "what's new in mitigation" briefing for the City Council.
Action Description Present to the City Council and Public the status of Mitigation Measures in progress, and completed. Advise the City Council and Public of the effectiveness of the Mitigation and their cost effectiveness.
Relevant Objective: Objective 3.B: Increase awareness and knowledge of hazard mitigation principles and practice among local government officials. Objective 3.E: Monitor and publicize the effectiveness of mitigation actions implemented Citywide.
Applicable Hazards: Wildfire, Earthquake, Flood
Estimated Timeline to complete: Ongoing.
Cost: No cost other then staff time
Responsible Department: Fire

Number: 2016.7
Action Title City of Lompoc Water Wise Outreach program
Action Description Inform and educate residents about water conservation programs and rebates.
Relevant Objective: Reduce water usage, and increase water efficiency.
Applicable Hazards: Drought Mitigation
Estimated Timeline to complete: Ongoing.
Cost: TBD
Responsible Department: TBD

Number: 2016.8
Action Title: Santa Ynez River Bank Stabilization-Riverside Location Part 1
Action Description: Construct a bank stabilization project to mitigate these threats.
Relevant Objective: Mitigate bank erosion poses potential threats to adjacent residences, properties, and public streets.
Applicable Hazards: Flood
Estimated Timeline to complete: 2018
Cost: $1.1 Million
Responsible Department: Public Works

Number: 2016.9
Action Title: Santa Ynez River Bank Stabilization-Riverside Location Part 2
Action Description: Design and construct a bank stabilization project .
Relevant Objective: The continual progression of Santa Ynez River bank erosion poses potential threats to adjacent properties, city park facilities and public street. Additionally, continued bank erosion is anticipated to damage the Riverbend Park bikeway within the next one to two large (10-year recurrence interval) storms.
Applicable Hazards: Flood
Estimated Timeline to complete: No Projected completion date
Cost: $2.4 Million
Responsible Department: Public Works

SECTION 8 PLAN MAINTENANCE

2011 Plan Maintenance
The city of Lompoc used the regularly schedule Plan meeting as a catalyst to monitor progress of the 2011 Mitigation projects. It should be noted all projects have been successfully completed. The Mitigation projects served as a basis for consideration of the 2016 Mitigation Projects proposed in this plan. As a direct result of the 2011 Plan process the LPT is now better position and confident to mitigate future hazards and create a disaster resilient community.

2016 Plan Maintenance
The Lompoc Fire Department will be responsible for ensuring that this Plan is monitored on an on-going basis. The Fire Department will call the LPT together on a quarterly basis to review the mitigation actions set forth in this Plan and discuss progress. During this meeting the LPT while continuing to collaborate with the county MAC team, will develop a list of Hazards to be updated, added, or removed in future revisions of this Plan.

The Plan will be a discussion/work item on the City of Lompoc Staff Meeting Agenda. Department heads and other emergency preparedness staff who serve in the County's EOC will focus on evaluating the Plan in light of technological, budgetary, political changes, or other significant events that may occur during the year.

Major disasters affecting the City, legal changes, and/or other events may trigger a meeting of the MAC. This group will be responsible for determining if the Plan needs be updated before the five year mark.

The City is committed to reviewing and updating this plan at least once every five years, as required by the DMA 2000.

The public will continue to be involved whenever the plan is updated and as appropriate during the monitoring and evaluation process utilizing the robust Lompoc Fire Department Outreach program. (Section 3.4.2) Prior to adoption of updates, the City will provide multiple opportunities for the public to comment on the revisions. Lompoc citizens will be made aware of public meetings via, City Web page, print, audio, visual, and social media.

POINT OF CONTACT

Comments or suggestions regarding this plan may be submitted at any time to Kurt Latipow, City of Lompoc Fire Chie
Kurt Latipow
Fire Chief
City of Lompoc Fire Department
115 South G Street
Lompoc, CA. 93436
K_Latipow@ci.lompoc.ca.us
805.736.4513

Annex A City Council Resolution

RESOLUTION NO. 6069(16)

A Resolution of the Council of the City Of Lompoc,
County of Santa Barbara, State of California,
Adopting the City of Lompoc Annex to
The 2016 Santa Barbara County Multi Jurisdiction
Hazard Mitigation Plan

WHEREAS, the Federal Disaster Mitigation Act of 2000 (Act), as described in 44 Code of Federal Regulations Section 201.6 mandates local governments to submit and maintain a Federal Emergency Management Agency (FEMA) approved local hazard mitigation plan; and,

WHEREAS, the City of Lompoc (City) has agreed to participate in a county-wide multi-jurisdictional plan with Santa Barbara County as the lead agency; and,

WHEREAS, the Multi-Jurisdiction Hazard Mitigation Plan (Plan) identifies each jurisdiction's risk assessment and mitigation strategies to reduce the impacts of natural disasters on the public and local government; and,

WHEREAS, identification of hazards in the City assists with response planning, exercise development, public education, and awareness, and other emergency management functions; and,

WHEREAS, the Act requires the Plan to be formally adopted by the City Council and provided to FEMA for formal approval, and

WHEREAS, in 2011 the City formally adopted the Plan by the adoption of Resolution No. 5753(11).

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF LOMPOC, CALIFORNIA, DOES HEREBY RESOLVE AS FOLLOWS:

SECTION 1. The City Council hereby approves the City's Annex to Santa Barbara County Multi Jurisdiction Hazard Mitigation Plan (attached hereto), in accordance with the Disaster Mitigation Act of 2000.

SECTION 2. This Resolution is effective upon its adoption.

The above and foregoing Resolution was proposed by Council Member _____, seconded by Council Member _____, and was duly passed and adopted by the Council of the City of Lompoc at its regular meeting on, by the following vote:

AYES: Council Member(s):

NOES Council Member(s):

_____
Bob Lingl, Mayor
City of Lompoc

ATTEST:

_____
Stacey Haddon, City Clerk
City of Lompoc

Attachment: Santa Barbara County Multi Jurisdiction Hazard Mitigation Plan

Annex B Public Involvement

PRESS RELEASE JULY 25, 2016
Contact: Kurt Latipow, City of Lompoc Fire Department Chief

805-875-8054

k_latipow@ci.lompoc.ca.us

http://www.cityoflompoc.com/fire/

Lompoc Fire Department To Host Town Hall On City's Hazard Mitigation Plan Update

Forum on Aug. 3 will provide information on mitigation plan, allow residents opportunity to give input and ask questions

LOMPOC, CA, July 25, 2016 – The City of Lompoc Fire Department is hosting a community town hall on **Wed. Aug. 3** to inform residents about an update to the City of Lompoc's annex to Santa Barbara County Hazard Mitigation Plan, to seek input, and to answer any questions the public has.

This City of Lompoc Hazard Mitigation Plan Town Hall is scheduled from **6:30 p.m. to 7:30 p.m.** in **Lompoc City Council Chambers, 100 Civic Center Plaza**.

Citizen input is crucial to creating a more resilient community, so all residents are encouraged to participate in this town hall.

The event will consist of an overview of the City of Lompoc's annex to the County Multi-Jurisdictional Hazard Mitigation Plan, as well as a presentation on the update process, as required every five years. In addition, the town hall will include information on hazards the City is vulnerable to, and a question and answer session.

The Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan is a countywide plan that identifies risks and suggests ways to minimize vulnerabilities and damage from natural and man-made disasters. The plan includes annexes from each city. The plan is a comprehensive resource that serves to enhance public awareness, acts as a decision tool for policy makers, enhances local policies for risk-reduction capabilities, provides coordination between the cities and the county, and promotes compliance with state and federal program requirements.

The Federal Disaster Mitigation Act of 2000 required all local governments to create a disaster Hazard Mitigation Plan in order to qualify for federal mitigation funding in the future.

The Hazard Mitigation Plan must be updated and revised every five years.

(more)

The Santa Barbara County Office of Emergency Management (OEM) is coordinating the plan update through collaboration with the City's Local Planning Team and the County Planning Team.

These groups participated in a review of the risks and vulnerabilities of each hazard that could impact the region, and updated strategies to improve the Santa Barbara County Operational Area's knowledge and understanding of how to militate against the consequences of potential disasters in at-risk communities.

Public comments will be reviewed by the Santa Barbara County OEM and the Local Planning Team, and incorporated into the final plan as appropriate.

For more information and to participate in the public review process, go to: http://www.cityoflompoc.com/AwareAndPrepare/

###

July 25, 2016 City of Lompoc WEB Page LHMP Public Notification

City of Lompoc

Local Hazard Mitigation Plan

City of Lompoc Local Hazard Mitigation Plan Update

The City of Lompoc is in the process of updating our annex to the Santa Barbara County Hazard Mitigation Plan as required every five years, and we want your input.

The Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan is a countywide plan that identifies risks and suggests ways to minimize vulnerabilities and damage from natural and man-made disasters. The plan includes annexes from each city. The plan is a comprehensive resource that serves to enhance public awareness, acts as a decision tool for policy makers, enhances local policies for risk-reduction capabilities, provides coordination between the cities and the county, and promotes compliance with state and federal program requirements.

Please review our draft of the plan here: DRAFT Local Hazard Mitigation Plan

Feedback or questions on the Lompoc Local Hazard Mitigation Plan may be directed to Lompoc Fire Department Chief Kurt Latipow at: k_latipow@ci.lompoc.ca.us or 805-875-8054.

*Feedback will be accepted through our community town hall meeting for the plan on **Wed. Aug. 3**.*
Please **click here** for more information on this town hall.

Lompoc Fire Department - 115 South G Street - Lompoc, California 93436 - (805) 736-4513

City of Lompoc - 100 Civic Center Plaza - Lompoc, CA 93436 - (805) 736-1261 - ©

July 29, 2016 Lompoc Record
Lompoc Fire to focus on hazard mitigation plan at town hall event

- Contributed, Lompoc Fire Department

The Lompoc Fire Department will host a town hall Aug. 3 to discuss the city's hazard mitigation plan.

The Lompoc Fire Department will host a community town hall event Aug. 3 to inform, seek input and answer any questions that members of the public may have about an update to the city's hazard mitigation plan.

The event is scheduled for 6:30 to 7:30 p.m. in the Lompoc City Council Chambers at 100 Civic Center Plaza.

"Citizen input is crucial to creating a more resilient community, so all residents are encouraged to participate in this town hall," read a release from the city.

The event will consist of an overview of Lompoc's annex to the Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan, as well as a presentation on the update process, as

required every five years. In addition, the town hall will include information on hazards to which the city is vulnerable and a question-and-answer session.

The hazard mitigation plan is a countywide plan that identifies risks and suggests ways to minimize vulnerabilities and damage from natural and man-made disasters. The plan includes annexes from each city.

It is a comprehensive resource that serves to enhance public awareness, acts as a decision tool for policymakers, enhances local policies for risk-reduction capabilities, provides coordination between the cities and the county, and promotes compliance with state and federal program requirements.

The Federal Disaster Mitigation Act of 2000 required all local governments to create a disaster hazard mitigation plan in order to qualify for federal mitigation funding.

The Santa Barbara County Office of Emergency Management is coordinating the plan update through collaboration with the city's local planning team and the county planning team.

These groups participated in a review of the risks and vulnerabilities of each hazard that could impact the region, and updated strategies to improve the Santa Barbara County Operational Area's knowledge and understanding of how to mitigate against the consequences of potential disasters in at-risk communities.

Public comments will be reviewed by the Office of Emergency Management and the local planning team, and incorporated into the final plan as appropriate.

To review the plan update draft and/or participate in the public review process, go to www.cityoflompoc.com/AwareAndPrepare/HazPlan.htm.

This report was prepared by Willis Jacobson. He can be reached at wjacobson@leecentralcoastnews.com.

Annex C Local Mitigation Review Tool

LOCAL MITIGATION PLAN REVIEW TOOL

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers States 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.
- The Multi-jurisdiction Summary Sheet is an optional worksheet that can be used to document how each jurisdiction met the requirements of the each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation; and Plan Adoption).

The FEMA Mitigation Planner must reference this *Local Mitigation Plan Review Guide* when completing the *Local Mitigation Plan Review Tool*.

Jurisdiction **City of Lompoc, CA**	**Title of Plan:** **Local Hazard Mitigation Plan**	**Date of Plan:** **August 16, 2016**
Local Point of Contact: **Kurt Latipow**		**Address:** **115 South G. Street** **Lompoc CA. 93436**
Title: **Fire Chief**		
Agency: **Fire Department**		
Phone Number: **805.736.4513**		**E-Mail:** **K_latipow@ci.lompoc.ca.us**

State Reviewer:	**Title:**	**Date:**

FEMA Reviewer:	**Title:**	**Date:**
Date Received in FEMA Region ***(insert #)***		
Plan Not Approved		

Plan Approvable Pending Adoption	
Plan Approved	

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 this *Plan Review Guide* in Section 4, Regulation Checklist.

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	**Location in Plan** (section and/or page number)	**Met**	**Not Met**
ELEMENT A. PLANNING PROCESS			
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))	Section 3		
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))	Section 3		
A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))	Section 3		
A4. Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))	Section 3		
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 8		
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))	Section 8		

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	**Location in Plan** (section and/or page number)	**Met**	**Not Met**
ELEMENT A: REQUIRED REVISIONS			
ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT			
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))	Section 5		
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))	Section 5		
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))	Section 5		
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 4		
ELEMENT B: REQUIRED REVISIONS			
ELEMENT C. MITIGATION STRATEGY			
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))	Section 2		
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 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		
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))	Section 7		

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	**Location in Plan** (section and/or page number)	**Met**	**Not Met**
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))	Section 7		
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))	Section 7		
ELEMENT C: REQUIRED REVISIONS			
ELEMENT D. PLAN REVIEW, EVALUATION, AND IMPLEMENTATION (applicable to plan updates only)			
D1. Was the plan revised to reflect changes in development? (Requirement §201.6(d)(3))	Section 4		
D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement §201.6(d)(3))	Section 4		
D3. Was the plan revised to reflect changes in priorities? (Requirement §201.6(d)(3))	Section 4		
ELEMENT D: REQUIRED REVISIONS			
ELEMENT E. PLAN ADOPTION			
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))	Appendix A		
E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5))	N/A		
ELEMENT E: REQUIRED REVISIONS			
ELEMENT F. ADDITIONAL STATE REQUIREMENTS (OPTIONAL FOR STATE REVIEWERS ONLY; NOT TO BE COMPLETED BY FEMA)			
F1.			
F2.			
ELEMENT F: REQUIRED REVISIONS			