Final Plan

May 2, 2018 | # Hazard Mitigation Plan

emergency planning consultants

TOWN OF YUCCA VALLEY, CALIFORNIA • INC. NOV. 27, 1991 •

Credits

Q&A | ELEMENT A: PLANNING PROCESS | A1

Q: A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))

A: See **Special Thanks** below.

Special Thanks

Hazard Mitigation Planning Team:

Agency	*Name*	*Department*	*Position*
Town of Yucca Valley	Curtis Yakimow	Administrative Services	Town Manager
	Jessica Rice	Administrative Services	Management Analyst
	Shane Stueckle	Community Development	Deputy Town Manager
	Debra Breidenbach-Sterling	Human Resources / Risk Management	HR/ Risk Manager
	Lesley Copeland	Town Clerk	Town Clerk
	Alex Qishta	Public Works / Engineering	Public Works Director
	Susan Earnest	Community Services	Community Services Manager
	Sharon Cisneros	Finance	Finance Manager
County of San Bernardino	Mike Barta	Sheriff's	Lieutenant
	Tom Marshall	Fire	Division Chief
Emergency Planning Consultants	Carolyn J. Harshman	Consultant	President

Acknowledgements

Town of Yucca Valley

- ✓ Rick Denison, Mayor
- ✓ Robert Lombardo, Mayor Pro Tem
- ✓ Merl Abel, Council Member
- ✓ Jeff Drozd, Council Member
- ✓ Robert Leone, Council Member

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Consulting Services

Emergency Planning Consultants

- ✓ Project Manager: Carolyn J. Harshman, CEM, President
- ✓ Lead Research Assistant: Alex L. Fritzler
- ✓ HAZUS/GIS: Michael McDaniel

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Mapping

The maps in this plan were provided by the Town of Yucca Valley, County of San Bernardino, Federal Emergency Management Agency (FEMA), or were acquired from public Internet sources. Care was taken in the creation of the maps contained in this Plan, however they are provided "as is". The Town of Yucca Valley cannot accept any responsibility for any errors, omissions or positional accuracy, and therefore, there are no warranties that accompany these products (the maps). Although information from land surveys may have been used in the creation of these products, in no way does this product represent or constitute a land survey. Users are cautioned to field verify information on this product before making any decisions.

Mandated Content

In an effort to assist the readers and reviewers of this document, the jurisdiction has inserted "markers" emphasizing mandated content as identified in the Disaster Mitigation Act of 2000 (Public Law – 390). Following is a sample marker:

EXAMPLE

Q&A | ELEMENT A: PLANNING PROCESS | A1

Q A1: Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))

A:

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Part I: PLANNING PROCESS

Introduction

The Hazard Mitigation Plan (Mitigation Plan) was prepared in response to Disaster Mitigation Act of 2000 (DMA 2000). DMA 2000 (also known as Public Law 106-390) requires state and local governments to prepare mitigation plans to document their mitigation planning process, and identify hazards, potential losses, mitigation needs, goals, and strategies. This type of planning supplements the Town's comprehensive land use planning and emergency management planning programs. This document is a federally mandated update to the Town of Yucca Valley Hazard Mitigation Plan (approved by FEMA on 10/4/2012) and ensures continuing eligibility for Hazard Mitigation Grant Program (HMGP) funding.

DMA 2000 was designed to establish a national program for pre-disaster mitigation, streamline disaster relief at the federal and state levels, and control federal disaster assistance costs. Congress believed these requirements would produce the following benefits:

- ✓ Reduce loss of life and property, human suffering, economic disruption, and disaster costs.
- ✓ Prioritize hazard mitigation at the local level with increased emphasis on planning and public involvement, assessing risks, implementing loss reduction measures, and ensuring critical facilities/services survive a disaster.
- ✓ Promote education and economic incentives to form community-based partnerships and leverage non-federal resources to commit to and implement long-term hazard mitigation activities.

The following FEMA definitions are used throughout this plan (Source: FEMA, 2002, *Getting Started, Building Support for Mitigation Planning*, FEMA 386-1):

Hazard Mitigation – "Any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards."

Planning – "The act or process of making or carrying out plans; specifically, the establishment of goals, policies, and procedures for a social or economic unit."

Planning Approach

The four-step planning approach outlined in the FEMA publication, *Developing the Mitigation Plan: Identifying Mitigation Actions and Implementing Strategies* (FEMA 386-3) was used to develop this plan:

- ✓ **Develop mitigation goals and objectives -** The risk assessment (hazard characteristics, inventory, and findings), along with municipal policy documents, were utilized to develop mitigation goals and objectives.
- ✓ **Identify and prioritize mitigation actions -** Based on the risk assessment, goals and objectives, existing literature/resources, and input from participating entities, mitigation activities were identified for each hazard. Activities were 1) qualitatively evaluated against

the goals and objectives, and other criteria; 2) identified as high, medium, or low priority; and 3) presented in a series of hazard-specific tables.

- ✓ **Prepare implementation strategy -** Generally, high priority activities are recommended for implementation first. However, based on community needs and goals, project costs, and available funding, some medium or low priority activities may be implemented before some high priority items.
- ✓ **Document mitigation planning process -** The mitigation planning process is documented throughout this plan.

Hazard Land Use Policy in California

Planning for hazards should be an integral element of any Town's land use planning program. All California cities and counties have a General Plan (also known as Comprehensive Plan) and the implementing ordinances required to comply with the statewide land use planning regulations.

The continuing challenge faced by local officials and state government is to keep the network of local plans effective in responding to the changing conditions and needs of California's diverse communities, particularly in light of the very active seismic region in which we live.

Planning for hazards requires a thorough understanding of the various hazards facing the Town and region as a whole. Additionally, it's important to take an inventory of the structures and contents of various Town holdings. These inventories should include the compendium of hazards facing the Town, the built environment at risk, the personal property that may be damaged by hazard events and most of all, the people who live in the shadow of these hazards. Such an analysis is found in this hazard mitigation plan.

State and Federal Partners in Hazard Mitigation

All mitigation is local and the primary responsibility for development and implementation of risk reduction strategies and policies lies with each local jurisdiction. Local jurisdictions, however, are not alone. Partners and resources exist at the regional, state and federal levels. Numerous California state agencies have a role in hazards and hazard mitigation.

Some of the key agencies include:

- ✓ California Office of Emergency Services (Cal OES) is responsible for disaster mitigation, preparedness, response, recovery, and the administration of federal funds after a major disaster declaration;
- ✓ Southern California Earthquake Center (SCEC) gathers information about earthquakes, integrates information on earthquake phenomena, and communicates this to end-users and the general public to increase earthquake awareness, reduce economic losses, and save lives.
- ✓ California Department of Forestry and Fire Protection (CAL FIRE) is responsible for all aspects of wildland fire protection on private and state properties, and administers forest practices regulations, including landslide mitigation, on non-federal lands.
- ✓ California Division of Mines and Geology (DMG) is responsible for geologic hazard characterization, public education, and the development of partnerships aimed at reducing risk.
- ✓ California Division of Water Resources (DWR) plans, designs, constructs, operates, and maintains the State Water Project; regulates dams; provides flood protection and assists

in emergency management. It also educates the public, serves local water needs by providing technical assistance

- ✓ FEMA provides hazard mitigation guidance, resource materials, and educational materials to support implementation of the capitalized DMA 2000.
- ✓ United States Census Bureau (USCB) provides demographic data on the populations affected by natural disasters.
- ✓ United States Department of Agriculture (USDA) provides data on matters pertaining to land management.

Q&A | ELEMENT A: PLANNING PROCESS | A3

Q: A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))

A: See **Stakeholders** below.

Stakeholders

A Hazard Mitigation Planning Team (Planning Team) consisting of department representatives from the Town of Yucca Valley and the County of San Bernardino staff worked with Emergency Planning Consultants to create the updated Plan. **The Planning Team served as the primary stakeholders throughout the planning process.**

As required by DMA 2000, the Planning Team encouraged involvement from the general public and external agencies. External agencies (including utility providers, special districts and adjoining jurisdictions) were emailed an invitation to comment on the Second Draft Plan. The general public was informed of the opportunity to contribute to the Second Draft Plan via a press release, an announcement on the Town's website on April 26, 2017, and placement of a copy of the Second Draft Plan on the Town Hall's counter.

The general public and external agencies served as secondary stakeholders with an opportunity to contribute to the plan during the Plan Writing Phase.

Hazard Mitigation Legislation

Hazard Mitigation Grant Program

In 1974, Congress enacted the Robert T. Stafford Disaster Relief and Emergency Act, commonly referred to as the Stafford Act. In 1988, Congress established the Hazard Mitigation Grant Program (HMGP) via Section 404 of the Stafford Act. Regulations regarding HMGP implementation based on the DMA 2000 were initially changed by an Interim Final Rule (44 CFR Part 206, Subpart N) published in the Federal Register on February 26, 2002. A second Interim Final Rule was issued on October 1, 2002.

The HMGP helps states and local governments implement long-term hazard mitigation measures for natural hazards by providing federal funding following a federal disaster declaration. Eligible applicants include state and local agencies, Indian tribes or other tribal organizations, and certain nonprofit organizations.

In California, the HMGP is administered by Cal OES. Examples of typical HMGP projects include:

- ✓ Property acquisition and relocation projects
- ✓ Structural retrofitting to minimize damages from earthquake, flood, high wind, wildfire, or other natural hazards
- ✓ Elevation of flood-prone structures
- ✓ Vegetative management programs, such as:
    - o Brush control and maintenance
    - o Fuel break lines in shrubbery
    - o Fire-resistant vegetation in potential wildland fire areas

Pre-Disaster Mitigation Program

The Pre-Disaster Mitigation Program (PDM) was authorized by §203 of the Stafford Act, 42 United States Code, as amended by §102 of the DMA 2000. Funding is provided through the National Pre-Disaster Mitigation Fund to help state and local governments (including tribal governments) implement cost-effective hazard mitigation activities that complement a comprehensive mitigation program.

In Fiscal Year 2009, two types of grants (planning and competitive) were offered under the PDM Program. Planning grants allocate funds to each state for Mitigation Plan development. Competitive grants distribute funds to states, local governments, and federally recognized Indian tribal governments via a competitive application process. FEMA reviews and ranks the submittals based on pre-determined criteria. The minimum eligibility requirements for competitive grants include participation in good standing in the National Flood Insurance Program (NFIP) and a FEMA-approved Mitigation Plan. (Source: http://www.fema.gov/fima/pdm.shtm)

> "Floods and hurricanes happen. The hazard itself is not the disaster – it's our habits, it's how we build and live in those areas...that's the disaster."
>
> Craig Fugate,
> FEMA Director

Flood Mitigation Assistance Program

The Flood Mitigation Assistance (FMA) Program was created as part of the National Flood Insurance Reform Act (NFIRA) of 1994 (42 U.S.C. 4101). Financial support is provided through the National Flood Insurance Fund to help states and communities implement measures to reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insurable under the NFIP.

Three types of grants are available under FMA: planning, project, and technical assistance. Planning grants are available to states and communities to prepare Flood Mitigation Plans. NFIP-participating communities with approved Flood Mitigation Plans can apply for project grants to implement measures to reduce flood losses. Technical assistance grants in the amount of 10 percent of the project grant are available to the state for program administration. Communities that receive planning and/or project grants must participate in the NFIP. Examples of eligible projects include elevation, acquisition, and relocation of NFIP-insured structures. (Source: http://www.fema.gov/fima/fma.shtm)

Q&A | ELEMENT C. MITIGATION STRATEGY | C2

Q: 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))

A: See **NFIP Participation** below.

National Flood Insurance Program

Established in 1968, the NFIP provides federally-backed flood insurance to homeowners, renters, and businesses in communities that adopt and enforce floodplain management ordinances to reduce future flood damage. The Town of Yucca Valley adopted a floodplain management ordinance and has Flood Insurance Rate Maps (FIRM) that show floodways, 100-year flood zones, and 500-year flood zones. The Deputy Town Manager is designated as floodplain administrator. The floodplain management ordinance is enforced through the development and permitting processes.

NFIP Participation

The Town of Yucca Valley participates in NFIP. The FEMA FIRM maps for the Town of Yucca Valley were last updated September 2, 2016. Unfortunately, FEMA flood maps are not entirely accurate. These studies and maps represent flood risk at the point in time when FEMA completed the studies and does not incorporate planning for floodplain changes in the future due to new development. Although FEMA is considering changing that policy, it is optional for local communities. The Town of Yucca Valley contains the following flood zones: Zone A, AE, and X.

Q&A | ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT | B4

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

A: See **Repetitive Loss Properties** below.

Repetitive Loss Properties

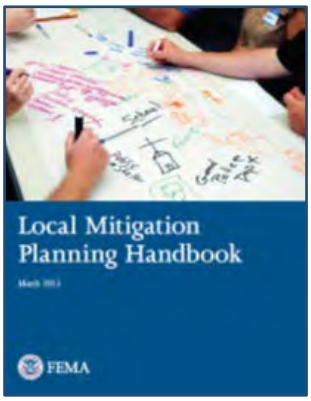
Repetitive Loss Properties (RLPs) are most susceptible to flood damages; therefore, they have been the focus of flood hazard mitigation programs. Unlike a Countywide program, the Floodplain Management Plan (FMP) for repetitive loss properties involves highly diversified property profiles, drainage issues, and property owner's interest. It also requires public involvement processes unique to each RLP area. The objective of an FMP is to provide specific potential mitigation measures and activities to best address the problems and needs of communities with repetitive loss properties. A repetitive loss property is one for which two or more claims of $1,000 or more have been paid by the National Flood Insurance Program (NFIP) within any given ten-year period. According to FEMA resources, there are five Repetitive Loss Properties (RLPs) within the Town of Yucca Valley with a total payout of $81,179.37.

State and Federal Guidance in Hazard Mitigation

While local jurisdictions have primary responsibility for developing and implementing hazard mitigation strategies, they are not alone. Various state and federal partners and resources can help local agencies with mitigation planning.

The Mitigation Plan was prepared in accordance with the following regulations and guidance documents:

- ✓ DMA 2000 (Public Law 106-390, October 10, 2000)
- ✓ 44 CFR Parts 201 and 206, Mitigation Planning and Hazard Mitigation Grant Program, Interim Final Rule, October 1, 2002
- ✓ 44 CFR Parts 201 and 206, Mitigation Planning and Hazard Mitigation Grant Program, Interim Final Rule, February 26, 2002
- ✓ How-To Guide for Using HAZUS-MH for Risk Assessment, (FEMA 433), February 2004
- ✓ Mitigation Planning "How-to" Series (FEMA 386-1 through 9 available at: http://www.fema.gov/fima/planhowto.shtm)
- ✓ Getting Started: Building Support for Mitigation Planning (FEMA 386-1)
- ✓ Understanding Your Risks: Identifying Hazards and Estimating Losses (FEMA 386-2)
- ✓ Developing the Mitigation Plan: Identifying Mitigation Actions and Implementing Strategies (FEMA 386-3)
- ✓ Bringing the Plan to Life: Implementing the Mitigation Plan (FEMA 386-4)
- ✓ Using Benefit-Cost Review in Mitigation Planning (FEMA 386-5)
- ✓ Integrating Historic Property and Cultural Resource Considerations into Mitigation Planning (FEMA 386-6)
- ✓ Integrating Manmade Hazards into Mitigation Planning (FEMA 386-7)



- ✓ Multi-Jurisdictional Mitigation Planning (FEMA 386-8)
- ✓ Using the Mitigation Plan to Prepare Successful Mitigation Projects (FEMA 386-9)
- ✓ State and Local Plan Interim Criteria Under the DMA 2000, July 11, 2002, FEMA
- ✓ Mitigation Planning Workshop for Local Governments-Instructor Guide, July 2002, FEMA
- ✓ Report on Costs and Benefits of Natural Hazard Mitigation, Document #294, FEMA
- ✓ LHMP Development Guide – Appendix A - Resource, Document, and Tool List for Local Mitigation Planning, December 2, 2003, Cal OES
- ✓ Local Mitigation Plan Review Guide (FEMA 2011)
- ✓ Local Mitigation Planning Handbook (FEMA 2013)

How is the Plan Organized?

The structure of the plan enables the reader to use a section of interest to them and allows the Town to review and update sections when new data is available. The ease of incorporating new data into the plan will result in a Mitigation Plan that remains current and relevant.

Following is a description of each section of the plan:

Part I: Planning Process

Introduction

Describes the background and purpose of developing a mitigation plan.

Planning Process

Describes the mitigation planning process including: stakeholders and integration of existing data and plans.

Part II: Risk Assessment

Community Profile

Summarizes the history, geography, demographics, and socioeconomics of the Town.

Risk Assessment

This section provides information on hazard identification, vulnerability and risk associated with hazards in the Town.

Town-Specific Hazard Analysis

Describes the hazards posing a significant threat to the Town including:

Earthquake | Wildfire | Flooding | Extreme Weather

Each Town-Specific Hazard Analysis includes information on previous occurrences, local conditions, hazard assessment, and local impacts.

Part III: Mitigation Strategies

Mitigation Strategies

Documents the goals, community capabilities, and priority setting methods supporting the Plan. Also highlights the Mitigation Actions Matrix: 1) goals met; 2) identification, assignment, timing, and funding of mitigation activities; 3) benefit/cost/priorities; 4) plan implementation method; and 5) activity status.

Plan Maintenance

Establishes tools and guidelines for maintaining and implementing the Mitigation Plan.

Part IV: Appendix

The plan appendices are designed to provide users of the Mitigation Plan with additional information to assist them in understanding the contents of the mitigation plan, and potential resources to assist them with implementation.

General Hazard Overviews

Generalized subject matter information discussing the science and background associated with the identified hazards.

Attachments

FEMA Letter of Approval
Town Council Staff Report
Town Council Resolution
Planning Team Sign-in Sheets
Web postings and notices
External agency invitations

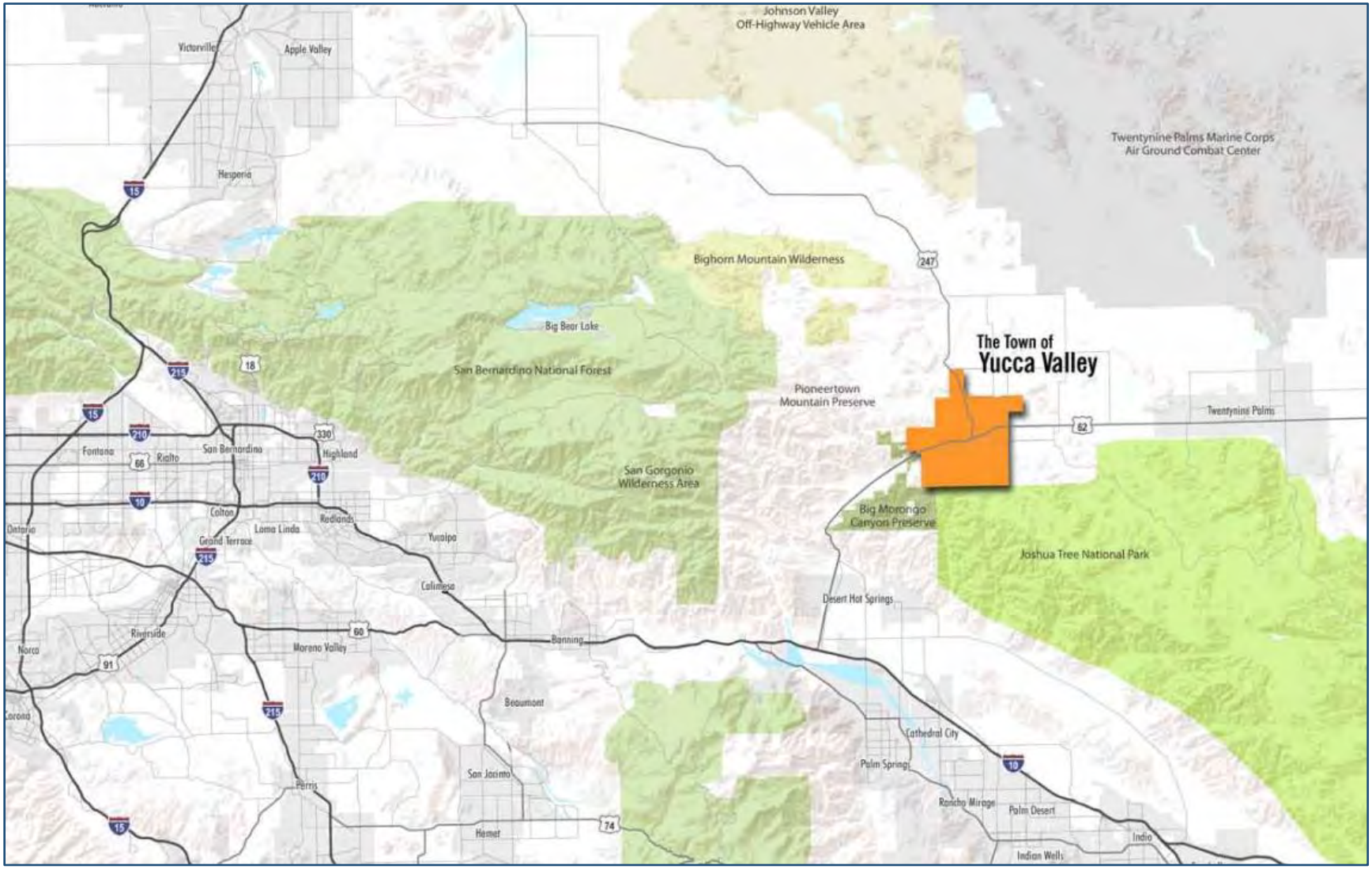
Plan Adoption and Approval

As per DMA 2000 and supporting Federal regulations, the Mitigation Plan is required to be adopted by the Town Council and approved by FEMA. See the **Planning Process Section** for details.

Who Does the Mitigation Plan Affect?

This plan provides a framework for planning for natural hazards. The resources and background information in the plan are applicable Town-wide and to Town-owned facilities outside of the Town boundaries, and the goals and recommendations provide groundwork for local mitigation plans and partnerships. **Map: Town of Yucca Valley** shows the regional proximity of the Town to its adjoining communities.

Map: Town of Yucca Valley
(Source: Yucca Valley Community Profile – 20 Years, 2011)



Planning Process

Throughout the project, the Town followed its traditional approach to developing policy documents which included preparation of a First Draft Plan for review by the Planning Team who served as the primary stakeholders. Next, following necessary updates, a Second Draft Plan was shared with the general public and external agencies (special districts, adjoining jurisdictions, etc.) during the plan writing phase. The general public and external agencies served as the secondary stakeholders. Next, the comments gathered from the secondary stakeholders were incorporated into a Third Draft Plan which was submitted to Cal OES and FEMA along with a request for an "Approval Pending Adoption".

Next, the Planning Team completed amendments to the Plan to reflect mandated input by Cal OES and FEMA. Following receipt of FEMA's Approval Pending Adoption, the Final Draft Plan was posted as per the Town's usual and customary practices for public meetings which included access to the Final Draft Plan. As is the Town's usual and customary practice, any comments gathered between the public notice and public meeting were gathered and included in the staff report to the Town Council. Following adoption by the Town Council, proof of the Council's action was forwarded to FEMA along with a request for approval. The planning process described above is portrayed below in a timeline:

Q&A | ELEMENT A: PLANNING PROCESS | A1

Q: A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))

A: See **Planning Phases Timeline** below.

Q&A | ELEMENT A: PLANNING PROCESS | A2

Q: A2. Does the Plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2))

A: See **Planning Phases Timeline** below.

Q&A | ELEMENT A: PLANNING PROCESS | A3

Q: A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))

A: See **Planning Phases Timeline** below.

Q&A | ELEMENT E: PLAN ADOPTION | E1

Q: 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))

A: See **Planning Phases Timeline** below.

Figure: Planning Phases Timeline

PLANNING PHASES TIMELINE				
Plan Writing Phase (First & Second Draft Plan)	Plan Review Phase (Third & Fourth Draft Plan)	Plan Adoption Phase (Final Draft Plan)	Plan Approval Phase (Final Plan)	Plan Implementation Phase
• Planning Team input – research, meetings, writing, review of First Draft Plan • Incorporate input from the Planning Team into Second Draft Plan • Invite public and external agencies to review, comment, and contribute to the Second Draft Plan. • Incorporate input into the Third Draft Plan	• Third Draft Plan sent to Cal OES and FEMA for Approval Pending Adoption • Address any mandated revisions identified by Cal OES and FEMA into Final Draft Plan	• Post public notice and Final Draft Plan for upcoming Town Council meeting • Invite external agencies to attend the public meeting of the Town Council. • Incorporate any pre-meeting comments into the Town Council Staff Report. • Present Final Draft Plan to the Town Council at public meeting. • Town Council Adopts Plan	• Submit proof of adoption to FEMA with request for final approval • Receive FEMA approval • Incorporate FEMA approval into the Final Plan	• Conduct quarterly Planning Team meetings • Integrate mitigation action items into budget, CIP and other funding and strategic documents

Plan Methodology

The Planning Team discussed knowledge of natural hazards and past historical events, as well as planning and zoning codes, ordinances, and recent planning decisions.

The rest of this section describes the mitigation planning process including 1) Planning Team involvement, 2) extended Planning Team support (department heads), 3) public and external agency involvement; and 4) integration of existing data and plans.

Q&A | ELEMENT A: PLANNING PROCESS | A1

Q: A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))

A: See **Table: Planning Team Involvement and Level of Participation** below.

Planning Team Involvement

The Planning Team consisted of representatives from Town of Yucca Valley departments related to hazard mitigation processes. The Planning Team served as the primary stakeholders throughout the planning process. Citizens and businesses ("the public") along with external agencies served as secondary stakeholders in the planning process. The Planning Team was responsible for the following tasks:

- ✓ Confirming planning goals
- ✓ Prepare timeline for plan update
- ✓ Ensure plan meets DMA 2000 requirements
- ✓ Organize and solicit involvement of public and external agencies
- ✓ Analyze existing data and reports
- ✓ Update hazard information
- ✓ Review HAZUS loss projection estimates
- ✓ Update status of Mitigation Action Items
- ✓ Develop new Mitigation Action Items
- ✓ Participate in Planning Team meetings and Town Council public meeting
- ✓ Provide existing resources including maps and data

The Planning Team, with assistance from Emergency Planning Consultants, identified and profiled hazards; determined hazard rankings; estimated potential exposure or losses; evaluated development trends and specific risks; and developed mitigation goals and action items.

Table: Planning Team Level of Participation

Name	Research and Writing of Plan	Planning Team Meeting 11/16/16	Planning Team Meeting 12/7/16	Planning Team Meeting 1/18/2017	Planning Team Comment on First Draft Plan	Distribute Second Draft Plan to General Public and External Agencies	Submit Third Draft Plan to Cal OES/FEMA for Conditional Approval	Post Final Draft Plan and Encourage Participation by Public and External Agencies	Present Final Draft Plan to Town Council at Public Meeting for Plan Adoption	Submit Proof of Adoption to FEMA	Incorporate FEMA Approval into Final Plan
Town of Yucca Valley											
Debra Breidenbach-Sterling		X	X	X	X						
Sharon Cisneros			X	X	X						
Lesley Copeland		X	X		X						
Susan Earnest			X	X	X						
Alex Qishta		X	X	X	X						
Jessica Rice, Chair		X	X	X	X	X	X	X	X	X	X
Shane Stueckle		X	X	X	X						
Curtis Yakimow		X	X		X						
County of San Bernardino											
Mike Barta			X	X	X						
Tom Marshall			X		X						
Emergency Planning Consultants											
Carolyn J. Harshman	X	X	X	X					X	X	X

Table: Planning Team Timeline

	November 2016	December	January 2017	February	March	April	May	June	July	August	September	October	November	December	January 2018	February	March	April	May
Research and Writing of First Draft Plan	X	X	X																
Planning Team Meetings	X	X	X																
Planning Team Review and Comment on First Draft Plan			X	X	X	X													
Review and comment by general public and external agencies of the Second Draft Plan						X													
Third Draft Plan to Cal OES/FEMA for Approval Pending Adoption							X	X	X	X	X	X	X	X	X	X	X		
Incorporate mandated amendments into Final Draft Plan																	X		
Post Final Draft Plan prior to Town Council meeting.																		X	
Present Final Draft Plan to Town Council at Public Meeting																			X
Submit Proof of Adoption to FEMA																			X
Incorporate FEMA Approval into Final Plan																			X

Q&A | ELEMENT A: PLANNING PROCESS | A2

Q: A2. Does the Plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2))

A: See **General Public and External Agency Involvement** below.

Q&A | ELEMENT A: PLANNING PROCESS | A3

Q: A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))

A: See **General Public and External Agency Involvement** below.

General Public and External Agency Involvement

In addition to the Planning Team, the secondary stakeholders also provided information, expertise, and other resources during the plan writing phase. The secondary stakeholders included the general public and external agencies (special districts, adjoining jurisdictions, etc.).

Following review and input by the Planning Team of the First Draft Plan, a Second Draft Plan incorporating any revisions was made available to the secondary stakeholders as identified above. All gathered input from the secondary stakeholders was directed to the Chair of the Planning Team who reviewed the input and incorporated it as appropriate into the Third Draft Plan. Following is a specific accounting of comments received from the review of the Second Draft Plan by the secondary stakeholders:

Date Informed	Agency, Name, Title	Date & Information Gathered	How Information was Addressed
4.27.17	City of Twentynine Palms, Frank Luckino, City Manager		
4.27.17	City of Twentynine Palms Larry Bowden, Emergency Manager		
4.27.17	High Desert Water District, Ron Wortham, Emergency Manager	5.9.17 Suggested reference to distance to Palm Springs be changed to "driving distance" of 27 miles rather than the "straight line" distance of 37 miles.	The suggested change to "driving distance of 27 miles" was made to the Community Profile on page 26.
4.27.17	High Desert Water District, Ed Muzik, General Manager		
4.27.17	Sempra Utilities, Deborah McGarrey, Public Affairs Manager		
4.27.17	Joshua Basin Water District, Curt Sauer, General Manager		

4.27.17	Joshua Basin Water District, Kathleen Radnich, Emergency Manager		
4.27.17	San Bernardino County Sheriff's Department, Jeff Joling, Captain		
4.27.17	San Bernardino County Sheriff's Department, Mike Barta, Lieutenant		
4.27.17	San Bernardino County Fire Department, Tom Marshall, Division Chief		
4.27.17	Southern California Edison, Jennifer Cusack, Local Public Affairs Region Manager	4.28.17 Recommended adding number of military personnel (enlisted and civilian) into the demographics.	

Q&A | ELEMENT A: PLANNING PROCESS | A3

Q: A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))

A: See **Figure: External Agencies Email Invite** below.

External agencies were invited via email and provided with an electronic link to the Town's website. Following is the email invitation sent to external agencies:

Figure: External Agencies Email Invite

From: Jessica Rice
Sent: Thursday, April 27, 2017 11:20 AM
To: fluckino@29palms.org; lbowden@29palms.org; Ron Wortham <ronw@hdwd.com>; Ed Muzik <edm@hdwd.com>; Jennifer Cusack <jennifer.cusack@sce.com>; Deborah McGarrey <dmcgarrey@semprautilities.com>; Curt Sauer (csauer@jbwd.com) <csauer@jbwd.com>; Kathleen J. Radnich <kjradnich@gmail.com>; jjoling@sbcsd.org; Mike Barta (mbarta@sbcsd.org) <mbarta@sbcsd.org>; tmarshall@sbcfire.org
Cc: Curtis Yakimow <cyakimow@YUCCA-VALLEY.ORG>; Carolyn Harshman <epc@pacbell.net>
Subject: Town of Yucca Valley Local Hazard Mitigation Plan

Good Morning,

The Town of Yucca Valley is in the process of updating its Local Hazard Mitigation Plan (LHMP). The LHMP identifies the natural risks and manmade hazards within our community. The Plan also provides a list of mitigation action items that can be used to reduce the impacts from these hazards.

Part of the mandated approval process for the LHMP requires the Town to share this document with key organizations within the community and solicit comments during the plan writing phase. I am asking you to please review this draft version of the LHMP and share your comments with me by May 15, 2017. You can access the Plan on the front page of the Town's website at www.yucca-valley.org, under "Hot Topics". Copies of the Plan are also available at Town Hall for review.

As a colleague in the field of emergency preparedness, I am sure you understand the importance of sharing this information and I hope you will be able to find the time to assist me with this task. I will thank you in advance for your time and assistance with this project. I look forward to reading your comments.

Thank you,
Jessica Rice

Following receipt of FEMA's "Approvable Pending Adoption" and in advance of the Town Council public meeting, the general public (via the jurisdiction's routine public noticing) and external agencies (via email invitation) were informed of the Fourth Draft Plan and encouraged to attend the public meeting. Any comments gathered during the public noticing period were noted in the Town Council Staff Report (as per jurisdiction's routine protocol) and added to the Final Draft Plan.

Q&A | ELEMENT C. MITIGATION STRATEGY | C1

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

A: See **Capability Assessment – Existing Processes and Programs** below.

Capability Assessment – Existing Processes and Programs

The Town will incorporate mitigation planning as an integral component of daily operations. This will be accomplished by the Planning Team working with their respective departments to integrate mitigation strategies into the planning documents and operational guidelines within the Town. In addition to the Capability Assessment below, the Planning Team will strive to identify additional policies, programs, practices, and procedures that could be created or modified to address mitigation activities.

Table: Capability Assessment - Existing Processes and Programs

Process	Action	Implementation of Plan
Hazard Mitigation	Ensure representation on Planning Team includes all departments responsible for the existing processes and programs identified in this table.	✓ *Planning Team's effectiveness in implementing Plan and creating a culture of mitigation* ✓ *Planning Team members become "ambassadors" in the various departments charged with influencing development, infrastructure, and future planning* ✓ *Involve Hazard Mitigation Planning Team in review of future updates of the Town's General Plan (overall assessment of demographic, land use, and economic conditions and future goals) or Zoning Ordinance (specific development standards pertaining to specific lots within the Town including lot size and use, setbacks, etc.) to ensure consideration of threats posed by hazards (See Mitigation Actions Matrix)*
Administrative	Departmental or organizational work plans, policies, and procedural changes	✓ *Office of the Town Manager* ✓ *Community Development Department* ✓ *Public Works/Engineering Department* ✓ *Other departments as appropriate* ✓ *Continue training staff for all aspects of Emergency Management and ensure adequate staffing levels by cross-training staff for each identified capability/task*
Administrative	Other plans	✓ *Reference plan in Emergency Operations Plan (identifies authorities and references for the Town to take action before, during, and after a disaster including identification of roles and responsibilities of departments within the Town)* ✓ *Address plan findings and incorporate mitigation activities in General Plan*
Budgetary	Capital and operational budgets	✓ *Include line item mitigation measures in budget as appropriate*
Regulatory	Executive orders, ordinances, and other directives	✓ *Building Code (describes specific technical standards about the way a structure is built and maintained including building, electrical, and plumbing materials),* ✓ *Capital Improvement Plan (includes projects for City-owned developments that require multiple years of budgetary commitments.) (Require hazard mitigation in design of new construction)* ✓ *General Plan (Institutionalize hazard mitigation in land use and new construction)*

Process	Action	Implementation of Plan
		✓ *National Flood Insurance Program* ✓ *Master Plan of Drainage* ✓ *Zoning Ordinance*
Funding	Traditional and nontraditional sources	✓ *Once plan is approved, seek authority to use bonds, fees, loans, and taxes to finance projects* ✓ *Seek assistance from federal and state government, foundation, nonprofit, and private sources, such as Hazard Mitigation Grant Program* ✓ *Research and grant opportunities through U.S. Department of Housing and Urban Development, Community Development Block Grant*
Partnerships	Creative funding and initiatives	✓ *Community volunteers* ✓ *In-kind resources* ✓ *Public-private partnerships* ✓ *State support*
Partnerships	Advisory bodies and committees	✓ *Disaster Council* ✓ *Safety Committee*

Q&A | ELEMENT A: PLANNING PROCESS | A4

Q: A4. Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))

A: See **Use of Existing Data** below.

Use of Existing Data

The Planning Team gathered and reviewed existing data and plans during plan writing and specifically noted as "sources". Numerous electronic and hard copy documents were used to support the planning process:

Town of Yucca Valley General Plan and Elements
www.yucca-valley.org
Applicable Incorporation: Land Use map, Community Profile section – geography, environmental, population, housing, transportation and demographic data

Town of Yucca Valley Community Profile – 20 Years (2011)
www.yucca-valley.org
Applicable Incorporation: Community Profile section – employment and transportation data

County of San Bernardino All-Hazards Mitigation Plan (2014)
www.sbcounty.gov

Applicable Incorporation: Information about hazards in the County contributed to the hazard-specific sections in the Town's Mitigation Plan.

California State Hazard Mitigation Plan (2013)
www.hazardmitigation.calema.ca.gov
Applicable Incorporation: Used to identify hazards posing greatest hazard to State.

HAZUS Maps and Reports
Created by Emergency Planning Consultants
Applicable Incorporation: Numerous HAZUS results have been included for Earthquake and Flooding scenarios to determine specific risk to Town of Yucca Valley.

U.S. Census Data
www.census.gov/data
Applicable Incorporation: Community Profile section – demographic and population data

FEMA "How to" Mitigation Series (386-1 to 386-9)
www.fema.gov/media
Applicable Incorporation: Mitigation Measures Categories and 4-Step Planning Process are quoted in the Executive Summary.

National Flood Insurance Program
www.fema.gov/national-flood-insurance-program
Applicable Incorporation: Used to confirm there are no repetitive loss properties within the Town

Local Flood Insurance Rate Maps
www.msc.fema.gov
Applicable Incorporation: Provided by FEMA and included in Flood Hazard section.

California Department of Forestry and Fire Protection (CAL FIRE)
www.fire.ca.gov
Applicable Incorporation: Wildland fire hazard mapping

California Department of Conservation
www.conservation.ca.gov/cgs
Applicable Incorporation: Seismic hazards mapping

U.S. Geological Survey (USGS)
www.usgs.gov
Applicable Incorporation: Earthquake records and statistics

Q&A | ELEMENT E: PLAN ADOPTION | E1

Q: 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))

A: See **Plan Adoption Process** below.

Plan Adoption Process

Once FEMA's Approval Pending Adoption letter dated March 7, 2018 was received, public notice was posted along with the Final Draft Plan.

Adoption of the plan by the local governing body demonstrates the Town's commitment to meeting mitigation goals and objectives. Governing body adoption legitimizes the plan and authorizes responsible agencies to execute their responsibilities. The Town Council must adopt the Mitigation Plan before the Plan can receive a final approval from FEMA.

In preparation for the public meeting with the Town Council, the Planning Team Chair Ms. Jessica Rice prepared a Staff Report including an overview of the Planning Process, Risk Assessment, Mitigation Goals, and Mitigation Actions. The presentation by the consultant Ms. Carolyn Harshman included a summary of the planning process and hazards. The meeting participants were encouraged to present their views and make suggestions on possible mitigation actions.

The members of the Town Council had a range of questions for the consultant. Several questions focused on the process of identifying and ranking hazards including which posed the greatest threat to the Town – Wildfire or Earthquake. The consultant responded that Earthquake poses the greatest threat because of long-lasting impacts to structures and utilities over a very large portion of the region. Another hazard-related question was on the need to update the FEMA FIRM maps and the possibility of seeking grant funding. The consultant explained the cost of updating the maps falls to FEMA, but the wait can be long, so some jurisdictions have taken it upon themselves to hire geohydrologists and other engineers to create the maps then submit to FEMA for approval. Still on the subject of flooding, concern was expressed about the need for more property owners to purchase National Flood Insurance. The consultant suggested that additional mitigation action items can be added to the Mitigation Plan at any time but to be sure to forward any updated pages to FEMA so that their records will be complete in the event of a grant request.

A member of the public, Ms. Sarann Graham, Board President of the Hi-Desert Water District questioned the Town Council on why the two jurisdictions worked separately instead of together on the mitigation plans. The Mayor asked the consultant to comment and she said many of the plans she's written have had regional planning teams with each represented jurisdiction receiving their own plan. Political differences between jurisdictions tend to be a limiting factor in developing multi-jurisdictional plans. Even so, it was agreed to consider a joint planning team for future plan updates. Ms. Graham also encouraged joint application in the future for grant-funded projects.

The Town Council voted unanimously to adopt the updated Mitigation Plan. The Resolution of adoption by the Town Council is in the **Appendix**.

Plan Approval

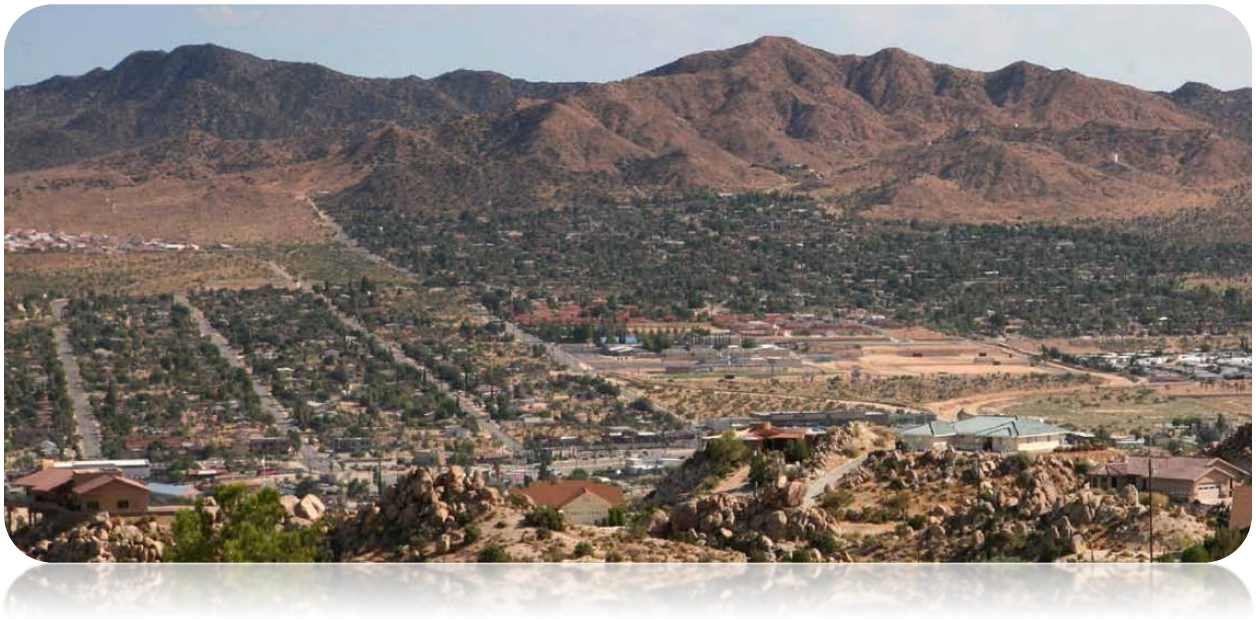
FEMA issued a letter of Approval Pending Adoption on March 7, 2018 pending adoption by the Town Council. FEMA issued a final approval on May 2, 2018. A copy of the FEMA Letter of Approval is in the **Appendix**.

Part II: RISK ASSESSMENT

Community Profile

Geography and the Environment

According to the **Yucca Valley 20 Year Community Profile** (2011), Yucca Valley is near the southern border of San Bernardino County, about 10 miles north of Riverside County and 115 miles west of the Arizona border. Nearby cities include San Bernardino (55 miles to the west), Palm Springs (27 driving miles to the south), and Barstow (89 miles to the north). Yucca Valley is located in the Mojave Desert approximately 3,300 feet above sea level. The San Bernardino Mountains are to the west and Joshua Tree National Park abuts the Town's southern border. The Town encompasses approximately 39 square miles.



Climate

The Town of Yucca Valley has a moderate climate, including hot, dry summers with an average temperature of about 82°F and cool, wet winters with an average temperature of 55°F. Winter temperatures in some areas can range near zero, the cold often compounded by the wind-chill factor. The average annual rainfall for the region is less than 10 inches.

As the State of California and the San Bernardino region has undergone a several-year drought, rainfall has been much lower in the Town.

Furthermore, actual rainfall in the Southern California region tends to fall in large amounts during sporadic and often heavy storms rather than consistently over storms at somewhat regular intervals. In short rainfall in Southern California might be characterized as feast or famine within a single year.

Population and Demographics

In 2010, Yucca Valley had a population of 20,700 residents, making it the third smallest of San Bernardino County's 24 cities, significantly larger than Big Bear Lake, the second smallest city, and slightly smaller than Barstow, the next largest city. From 2000 to 2009, Yucca Valley grew by 19 percent, a growth rate similar to that of San Bernardino County and significantly higher than California's growth rate of 10 percent. Yucca Valley's growth contributed less than 1 percent of San Bernardino County's growth over the nine-year period. Yucca Valley's current estimated population is 21,600 as of 2015. According to the 2010 U.S. Census the demographic makeup of the Town is as follows:

Table: Town of Yucca Valley Demographics
(Source: 2010 U.S. Census)

Racial/Ethnic Group	2000	2010	Change	Change %
White	16,363	17,280	917	6%
Black	379	666	287	76%
American Indian Eskimo	227	232	5	2%
Asian or Pacific Islander	269	513	244	91%
Other	772	1,185	413	53%
Total	16,363	20,700	4,337	27%
Hispanic	1,922	3,679	1,757	91%

Housing and Community Development

Table: Town of Yucca Valley Housing
(Source: 2015 American Community Survey)

2015	Number	Percent %
Housing Type:		
1-unit, detached	7,404	74%
1-unit, attached	123	1%
2-4 Units	1,038	10%
5+ Units	413	4%
Mobile homes/Other	1,023	10%
Total Available Housing Units	10,001	100%
Housing Statistics:		
Owner-Occupied Housing	4,976	59%
Renter-Occupied	3,485	41%
Average Household Size:	2.5 persons	
Median Home Price:	$131,700	

Employment and Industry

According to the **Yucca Valley 20 Year Community Profile** (2011), on average from 2007 through 2009, only about 16 percent of Yucca Valley residents worked in the town, and residents living outside of the Town filled about 68 percent of the jobs in Yucca Valley. The data show that more residents in the Town are employed in each sector than there are local jobs in each sector. **Map: Yucca Valley Resident Employment Locations** shows the locations where Yucca Valley's residents work

Map: Yucca Valley Resident Employment Locations (2011)

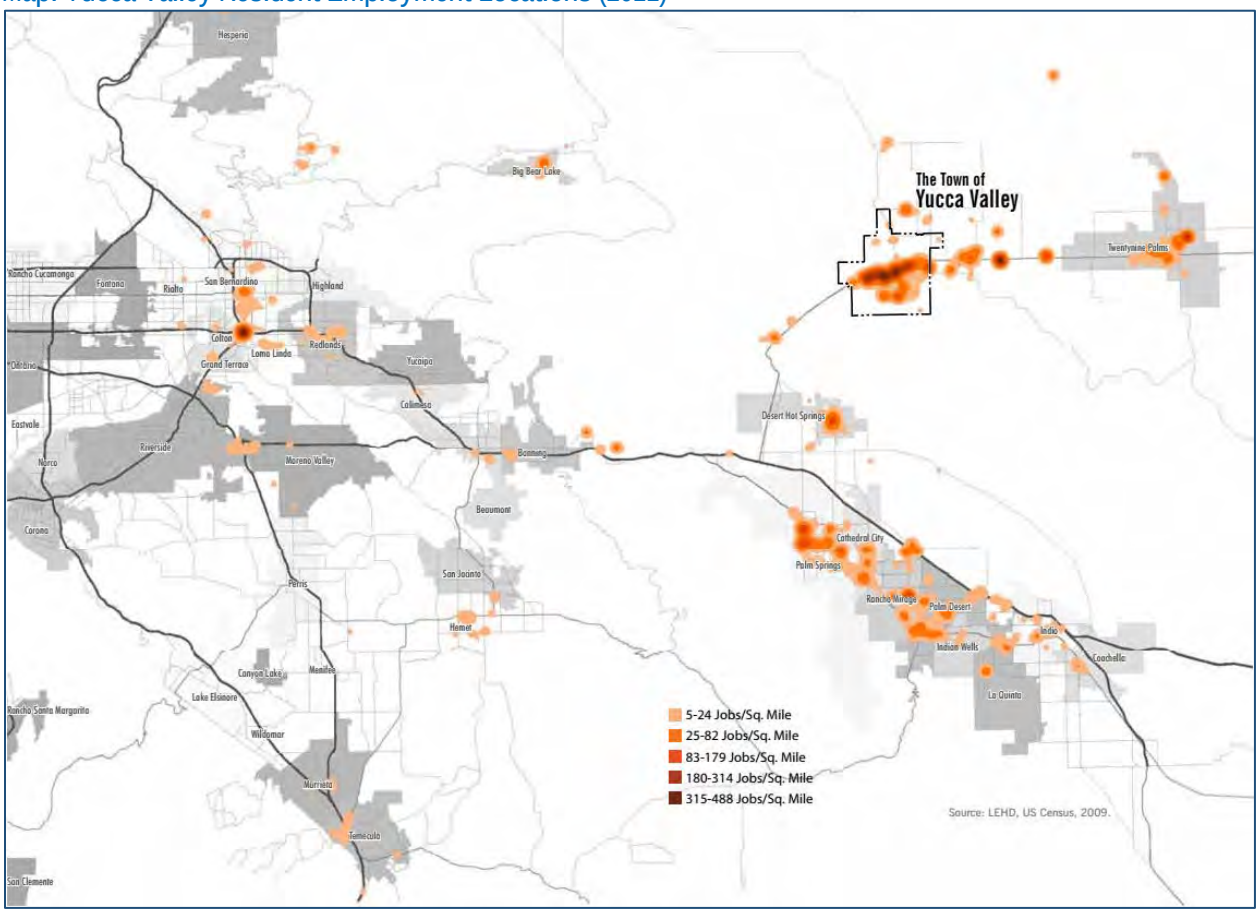


Table: Town of Yucca Valley Industry
(Source: American Community Survey - 2015)

Industry	2015	
	Number	Percent %
Agriculture, forestry, fishing and hunting, and mining	14	0.2%
Construction	655	9.0%
Manufacturing	264	3.6%
Wholesale Trade	55	0.8%
Retail Trade	1,157	15.9%
Transportation and Warehousing, and Utilities	282	3.9%
Information	88	1.2%
Finance and insurance, and real estate and rental and leasing	369	5.1%
Professional, scientific, and management, and administrative and waste management services	524	7.2%
Educational services, and health care and social assistance	1,802	24.8%
Arts, entertainment, and recreation, and accommodation and food services	798	11.0%
Other services, except public administration	510	7.0%
Public administration	758	10.4%

Table: Town of Yucca Valley Occupation
(Source: American Community Survey - 2015)

Occupation	2015	
	Number	Percent
Civilian employed population (16 years and over)	7,276	100.0 %
Management, business, science, and arts occupations	2,182	30.0%
Service occupations	1,820	25.0%
Sales and office occupations	1,868	25.7%
Natural resources, construction, and maintenance occupations	1,032	14.2%
Production, transportation, and material moving	374	5.1%

Transportation and Commuting Patterns

According to the **Yucca Valley 20 Year Community Profile** (2011), eighty-nine percent of working residents in Yucca Valley commute to work via automobile (compared with 88 percent statewide); of these 13 percent travel in a carpool with two or more people. Walking, bicycling, public transit, and other modes account for 3 percent of the total work trips for Yucca Valley residents (compared with 9 percent statewide), and the remaining 7 percent work from home.

Commute Times and Patterns

Travel time to work affects quality of life; long commutes detract from the time one can spend with family and friends and can be an unproductive time, especially for those driving alone. In 2009, 43 percent of Yucca Valley residents not working from home commuted less than 15 minutes to work. Only 27 percent of working residents in the comparison region of Indio, Desert Hot Springs, and Victorville traveled less than 15 minutes to work. Only 25 percent of Californians working outside the home commuted less than 15 minutes. However, twice as many Yucca Valley residents commuted between 45 and 59 minutes to work than residents in the comparison region (16 percent and 8 percent, respectively). The average commute time for Yucca Valley residents and residents in the region is similar, approximately 28 minutes.

Public Transit

The Morongo Basin Transit Authority (MBTA) provides public transportation to Yucca Valley as well as the communities of Joshua Tree, Twentynine Palms, the Twentynine Palms Marine Base - Combat Center, Palm Springs, and the Palm Springs International Airport. Annual ridership is approximately 143,000 passengers. It operates a fleet of 24 buses which run on compressed natural gas. Eight bus routes run within and between these cities and connect with SunLine Transit Agency in the Coachella Valley and with the Greyhound bus station in Palm Springs. The MBTA recently completed the Yucca Valley Transit Center, an intermodal transit center where passengers can transfer between bus routes. The transfer station provides connectivity to the Park N Ride facility with 137 lighted parking spaces where commuters can safely leave their cars and join a carpool, as well as a link to SunLine Transit Agency in the Coachella Valley. The MBTA also provides Ready Ride, a door-to-door service available for senior and disabled passengers with advance reservations. Senior and disabled passengers can also receive free transportation for non-emergency medical appointments from Reach Out Morongo Basin, an interfaith volunteer program based out of the Yucca Valley Senior Center.

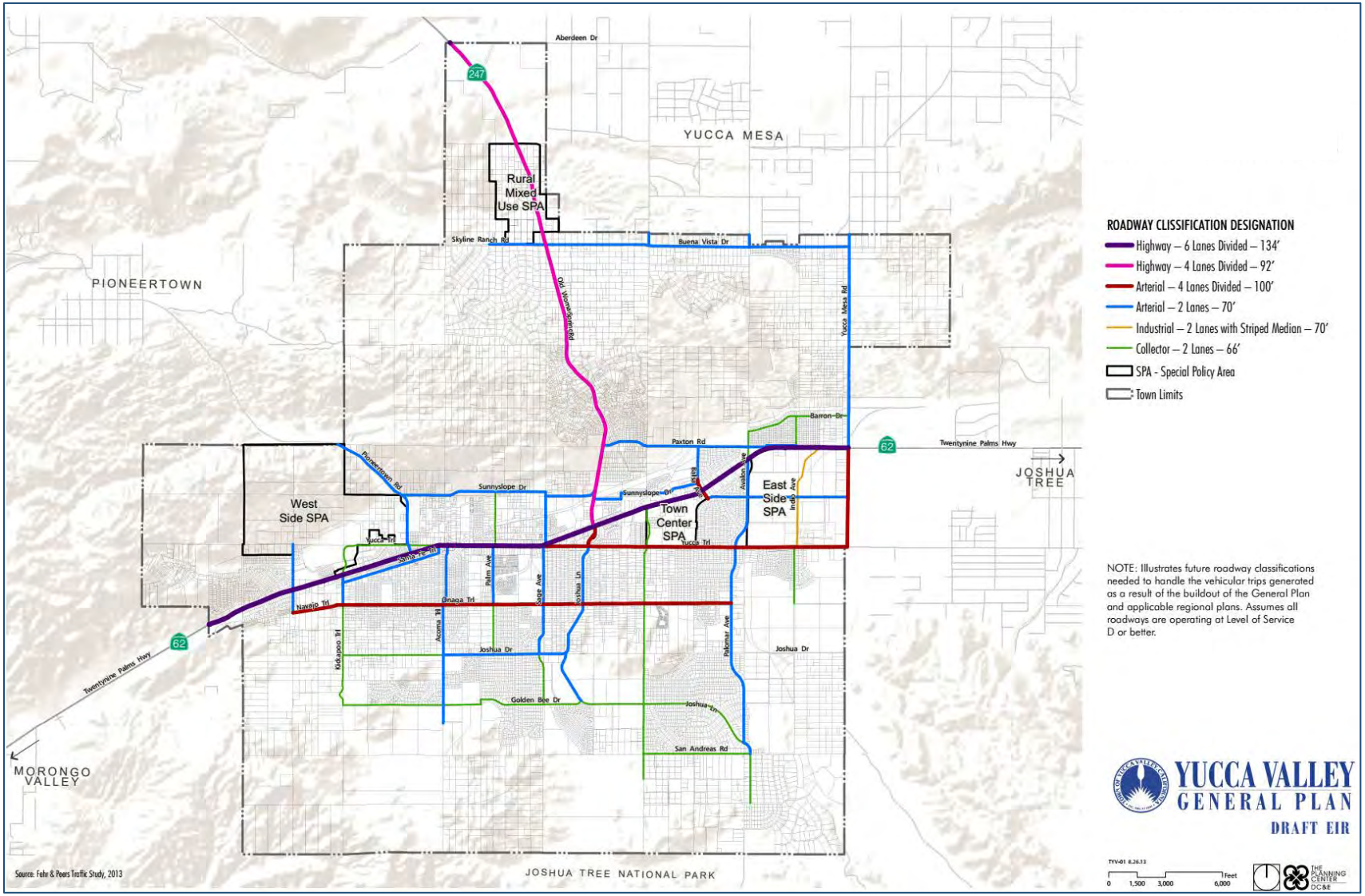
State Highways

While Yucca Valley's relatively isolated high desert location helps it maintain a friendly hometown atmosphere, the fact that it stands at the crossroads of two corridors gives residents direct access to major cities, beaches, ski resorts, and tourist destinations. SR-62 is the primary east–west thoroughfare for Yucca Valley, and SR-247 is the primary north–south thoroughfare. The two highways meet in the central part of town and serve as primary corridors for Yucca Valley residents and visitors. The majority of travelers going to 29 Palms Marine base or Joshua Tree utilize these roads, making Yucca Valley a hub of activity for the Morongo Basin.

SR-62 is 152 miles long. It begins 17 miles west of Yucca Valley and connects the town with Morongo Valley, Joshua Tree, and Twentynine Palms. Its eastern terminus is in Earp at the Arizona state line. Its western terminus connects with I-10 which gives Yucca Valley residents direct highway access to Palm Springs in 30 minutes, Los Angeles in 2 hours, and San Diego in 2.5 hours.

SR-247 is a 78-mile route entirely within San Bernardino County. Its southern terminus begins at SR-62 in Yucca Valley. The portion of the highway that runs from Yucca Valley to Lucerne Valley is known as Old Woman Springs Road. From Lucerne Valley, SR-247 travels north to Barstow, connecting with I-15.

Map: Yucca Valley Roadways
(Source: Town of Yucca Valley Environmental Impact Report, 2013)



Risk Assessment

What is a Risk Assessment?

Conducting a risk assessment can provide information regarding: the location of hazards; the value of existing land and property in hazard locations; and an analysis of risk to life, property, and the environment that may result from natural hazard events. Specifically, the five levels of a risk assessment are as follows:

1. *Hazard Identification*
2. *Profiling Hazard Events*
3. *Vulnerability Assessment/Inventory of Existing Assets*
4. *Risk Analysis*
5. *Assessing Vulnerability/Analyzing Development Trends*

Q&A | ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT | B1

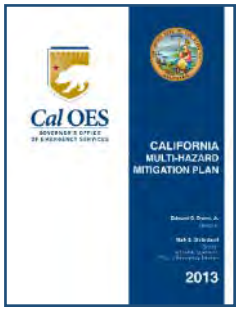
Q: B1. Does the Plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction(s)? (Requirement §201.6(c)(2)(i))

A: See **Hazard Identification** below.

1) Hazard Identification

This section is the description of the geographic extent, potential intensity, and the probability of occurrence of a given hazard. Maps are used in this plan to display hazard identification data. ***The Town of Yucca Valley utilized the categorization of hazards as identified in California's State Hazard Mitigation Plan, including: Earthquakes, Floods, Levee Failures, Wildfires, Landslides and Earth Movements, Tsunami, Climate-related Hazards, Extreme Weather, Volcanoes, and Other Hazards***.

Next, the Planning Team reviewed existing documents to determine which of these hazards posed the most significant threat to the Town. In other words, which hazard would likely result in a local declaration of emergency.



The geographic extent of each of the identified hazards was identified by the Planning Team utilizing maps and data contained in the Town's General Plan – Safety Element and Town's General Plan Environmental Impact Report. In addition, numerous internet resources and the County of San Bernardino Multi-Jurisdictional Mitigation Plan (2011) served as valuable

resources. Utilizing the Calculated Priority Risk Index (CPRI) ranking technique, the Planning Team concluded the following hazards posed a significant threat against the Town:

Earthquake | Wildfire | Flooding | Extreme Weather

The hazard ranking system is described in **Table: Calculated Priority Risk Index**, while the actual ranking is shown in **Table: Calculated Priority Risk Index Ranking for Town of Yucca Valley**.

Table: Calculated Priority Risk Index
(Source: Federal Emergency Management Agency)

CPRI Category	Degree of Risk			Assigned Weighting Factor
	Level ID	Description	Index Value	
Probability	Unlikely	Extremely rare with no documented history of occurrences or events. Annual probability of less than 1 in 1,000 years.	1	45%
	Possibly	Rare occurrences. Annual probability of between 1 in 100 years and 1 in 1,000 years.	2	
	Likely	Occasional occurrences with at least 2 or more documented historic events. Annual probability of between 1 in 10 years and 1 in 100 years.	3	
	Highly Likely	Frequent events with a well-documented history of occurrence. Annual probability of greater than 1 every year.	4	
Magnitude/ Severity	Negligible	Negligible property damages (less than 5% of critical and non-critical facilities and infrastructure. Injuries or illnesses are treatable with first aid and there are no deaths. Negligible loss of quality of life. Shut down of critical public facilities for less than 24 hours.	1	30%
	Limited	Slight property damage (greater than 5% and less than 25% of critical and non-critical facilities and infrastructure). Injuries or illnesses do not result in permanent disability, and there are no deaths. Moderate loss of quality of life. Shut down of critical public facilities for more than 1 day and less than 1 week.	2	
	Critical	Moderate property damage (greater than 25% and less than 50% of critical and non-critical facilities and infrastructure). Injuries or illnesses result in permanent disability and at least 1 death. Shut down of critical public facilities for more than 1 week and less than 1 month.	3	
	Catastrophic	Severe property damage (greater than 50% of critical and non-critical facilities and infrastructure). Injuries and illnesses result in permanent disability and multiple deaths. Shut down of critical public facilities for more than 1 month.	4	
Warning Time	> 24 hours	Population will receive greater than 24 hours of warning.	1	15%
	12–24 hours	Population will receive between 12-24 hours of warning.	2	
	6-12 hours	Population will receive between 6-12 hours of warning.	3	
	< 6 hours	Population will receive less than 6 hours of warning.	4	
Duration	< 6 hours	Disaster event will last less than 6 hours	1	10%
	< 24 hours	Disaster event will last less than 6-24 hours	2	
	< 1 week	Disaster event will last between 24 hours and 1 week.	3	
	> 1 week	Disaster event will last more than 1 week	4	

Table: Calculated Priority Risk Index Ranking for Town of Yucca Valley

Hazard	Probability	Weighted 45% (x.45)	Magnitude Severity	Weighted 30% (x.3)	Warning Time	Weighted 15% (x.15)	Duration	Weighted 10% (x.1)	CPRI Ranking
Earthquake – San Andreas M7.8	3	1.35	4	1.20	4	0.6	1	0.1	3.25
Wildfire	3	1.35	2	0.6	4	0.6	3	0.3	2.85
Extreme Weather (Wind & Extreme Cold)	4	1.80	2	0.6	1	0.15	3	0.3	2.85
Flooding (flash flooding and Yucca Wash)	4	1.80	1	0.3	4	0.6	1	0.1	2.80

2) Profiling Hazard Events

This process describes the causes and characteristics of each hazard and what part of the Town's facilities, infrastructure, and environment may be vulnerable to each specific hazard. A profile of each hazard discussed in this plan is provided in the Town-Specific Hazard Analysis. **Table: Vulnerability: Location, Extent, and Probability for Town of Yucca Valley** indicates a generalized perspective of the community's vulnerability of the various hazards according to extent (or degree), location, and probability.

Q&A | ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT | B1

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

A: See **Table: Vulnerability: Location, Extent, and Probability for Town of Yucca Valley** below.

Q&A | ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT | B2

Q: B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))

A: See **Table: Vulnerability: Location, Extent, and Probability for Town of Yucca Valley** below.

Q&A | ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT | B3

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

A: See **Table: Vulnerability: Location, Extent, and Probability for Town of Yucca Valley** below.

Table: Vulnerability: Location, Extent, and Probability for Town of Yucca Valley

Hazard	Location (Where)	Extent (How Big an Event)	Probability (How Often) *	Most Recent Significant Occurrence
Earthquake	Entire Project Area	The Southern California Earthquake Center (SCEC) in 2007 concluded that there is a 99.7 % probability that an earthquake of M6.7 or greater will hit California within 30 years.[1]	Moderate	1992 – Landers Earthquake
Wildfire	West-Northwest & Southern Portions of Town	Very High Fire Hazard Severity Zone rating.	High	2015 – Lake Fire
Extreme Weather (High Winds)	Entire Project Area	Windstorms in excess of 65 miles per hour, severe snowstorms (i.e. hail, heavy snow, ice)	High	2016 - 80 mph winds
Extreme Weather (Winter Storm)	Higher Elevations of Project Area	December-March annual snowfall measures inches-feet	Moderate	Annual
Flooding	Yucca Wash, Water Canyon, Old Woman Springs Creek, Covington Wash, East and West Burnt Mountain Creeks, Long Canyon, Hospital Canyon, and Piñon Creek. Also, history of flash flooding.	100-Year Flood Zone areas subject to inundation, flooding, and flash flooding.	High	2017 – Rain storms lead to flash flooding and mudflows. 2013 – Thunderstorm lead to flash flooding and mudflows
* Probability is defined as: Low = 1:1,000 years, Moderate = 1:100 years, High = 1:10 years				
[1] Uniform California Earthquake Rupture Forecast				

3) Vulnerability Assessment/Inventory of Existing Assets

A Vulnerability Assessment in its simplest form is a simultaneous look at the geographical location of hazards and an inventory of the underlying land uses (populations, structures, etc.). Facilities that provide critical and essential services following a major emergency are of particular concern because these locations house staff and equipment necessary to provide important public safety, emergency response, and/or disaster recovery functions.

Critical Facilities

FEMA separates critical buildings and facilities into the five categories shown below based on their loss potential. All of the following elements are considered critical facilities:

Essential Facilities are essential to the health and welfare of the whole population and are especially important following hazard events. Essential facilities include hospitals and other medical facilities, police and fire stations, emergency operations centers and evacuation shelters, and schools.

Transportation Systems include airways – airports, heliports; highways – bridges, tunnels, roadbeds, overpasses, transfer centers; railways – trackage, tunnels, bridges, rail yards, depots; and waterways – canals, locks, seaports, ferries, harbors, drydocks, piers.

Lifeline Utility Systems such as potable water, wastewater, oil, natural gas, electric power and communication systems.

High Potential Loss Facilities are facilities that would have a high loss associated with them, such as nuclear power plants, dams, and military installations.

Hazardous Material Facilities include facilities housing industrial/hazardous materials, such as corrosives, explosives, flammable materials, radioactive materials, and toxins.

Below, **Table: Impact to Critical Facilities** illustrates the hazards with potential to impact critical facilities owned by or providing services to the Town of Yucca Valley.

Q&A | ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT | B3

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

A: See **Table: Impact to Critical Facilities** below.

Table: Impact to Critical Facilities

Name of Facility	Earthquake	Wildfire	Flooding	Extreme Weather	
				High Winds	Winter Storm
Town Hall Complex 57090 Twentynine Palms Highway	X	X	X	X	
Community Development / Public Works 58928 Business Center Drive	X	X	X	X	
Yucca Valley Animal Shelter 4755 Malin Way	X	X	X	X	X
California Welcome Center – Yucca Valley/Chamber of Commerce 56711 Twentynine Palms Highway	X	X	X	X	
San Bernardino County Fire Department Stations: #41 - 57201 Twentynine Palms Highway	X	X	X	X	X
San Bernardino County Fire Department Stations: #42 – 58612 Aberdeen Drive	X	X	X	X	X
San Bernardino County Fire Department Stations: #36 – 6715 Park Blvd., Joshua Tree, CA	X	X	X	X	X
San Bernardino County Sheriff's Department - Morongo Basin Station 6527 White Feather Road Joshua Tree, CA	X	X	X	X	X
Yucca Valley High School (evacuation/shelter site) 7500 Sage Avenue	X	X	X	X	X
Joshua Springs Christian School (American Red Cross shelter site) 57373 Joshua Lane	X	X	X	X	X
Copper Mountain College (American Red Cross shelter site) 6162 Rotary Way, Joshua Tree, CA	X	X	X	X	X

4) Risk Analysis

Estimating potential losses involves assessing the damage, injuries, and financial costs likely to be sustained in a geographic area over a given period of time. This level of analysis involves using mathematical models. The two measurable components of risk analysis are magnitude of the harm that may result and the likelihood of the harm occurring. Describing vulnerability in terms of dollar losses provides the community and the state with a common framework in which to measure the effects of hazards on assets. For each hazard where data was available, quantitative estimates for potential losses have been included in the hazard assessment. Data was not available to make vulnerability determinations in terms of dollar losses for all of the identified hazards. The **Mitigation Actions Matrix** includes an action item to conduct such an assessment in the future.

5) Assessing Vulnerability/ Analyzing Development Trends

This step provides a general description of Town facilities and contents in relation to the identified hazards so that mitigation options can be considered in land use planning and future land use decisions. This Mitigation Plan provides comprehensive description of the character of the Town of Yucca Valley in the **Community Profile Section**. This description includes the geography and environment, population and demographics, land use and development, housing and community development, employment and industry, and transportation and commuting patterns. Analyzing these components of the Town of Yucca Valley can help in identifying potential problem areas and can serve as a guide for incorporating the goals and ideas contained in this mitigation plan into other community development plans.

Hazard assessments are subject to the availability of hazard-specific data. Gathering data for a hazard assessment requires a commitment of resources on the part of participating organizations and agencies. Each hazard-specific section of the plan includes a section on hazard identification using data and information from Town, County, state, or federal sources.

Regardless of the data available for hazard assessments, there are numerous strategies the Town can take to reduce risk. These strategies are described in the action items detailed in the Mitigation Actions Matrix in the **Mitigation Strategies Section**. Mitigation strategies can further reduce disruption to critical services, reduce the risk to human life, and alleviate damage to personal and public property and infrastructure.

Land and Development

The Town of Yucca Valley General Plan provides the framework for the growth and development of the Town. This Plan is one of the Town's most important tools in addressing environmental challenges including transportation and air quality; growth management; conservation of natural resources; clean water and open spaces.

The three largest land use designations within the Town boundaries are Rural Residential, Rural Living and Hillside Residential, which together make up approximately 59 percent of the land area in the Town. Residential land use designations, in general, represent 89 percent of the Town. Commercial, public, and other nonresidential land use designations represent a small percentage of the Town's land area.

Q&A | ELEMENT D: PLAN REVIEW, EVALUATION, AND IMPLEMENTATION | D1

Q: D1. Was the plan revised to reflect changes in development? (Requirement §201.6(d)(3))

A: See **Changes in Development** below.

Changes in Development

This section is intended to discuss recent development (since the writing of the first Mitigation Plan) as well as planned potential development, or conditions that may affect the risks and vulnerabilities (e.g. addition of high-risk industrial uses). Since the adoption of the 2012 Mitigation Plan, there have been no significant alterations to the development pattern of the Town in the hazard areas. In light of the economic downturn in the community since the last Plan, it's likely the vulnerability has actually decreased. Additionally, there has been no development in specific hazard-prone areas (e.g. floodplains).

Q&A | ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT | B3

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

A: See **Impacts to Types of Land Uses** below.

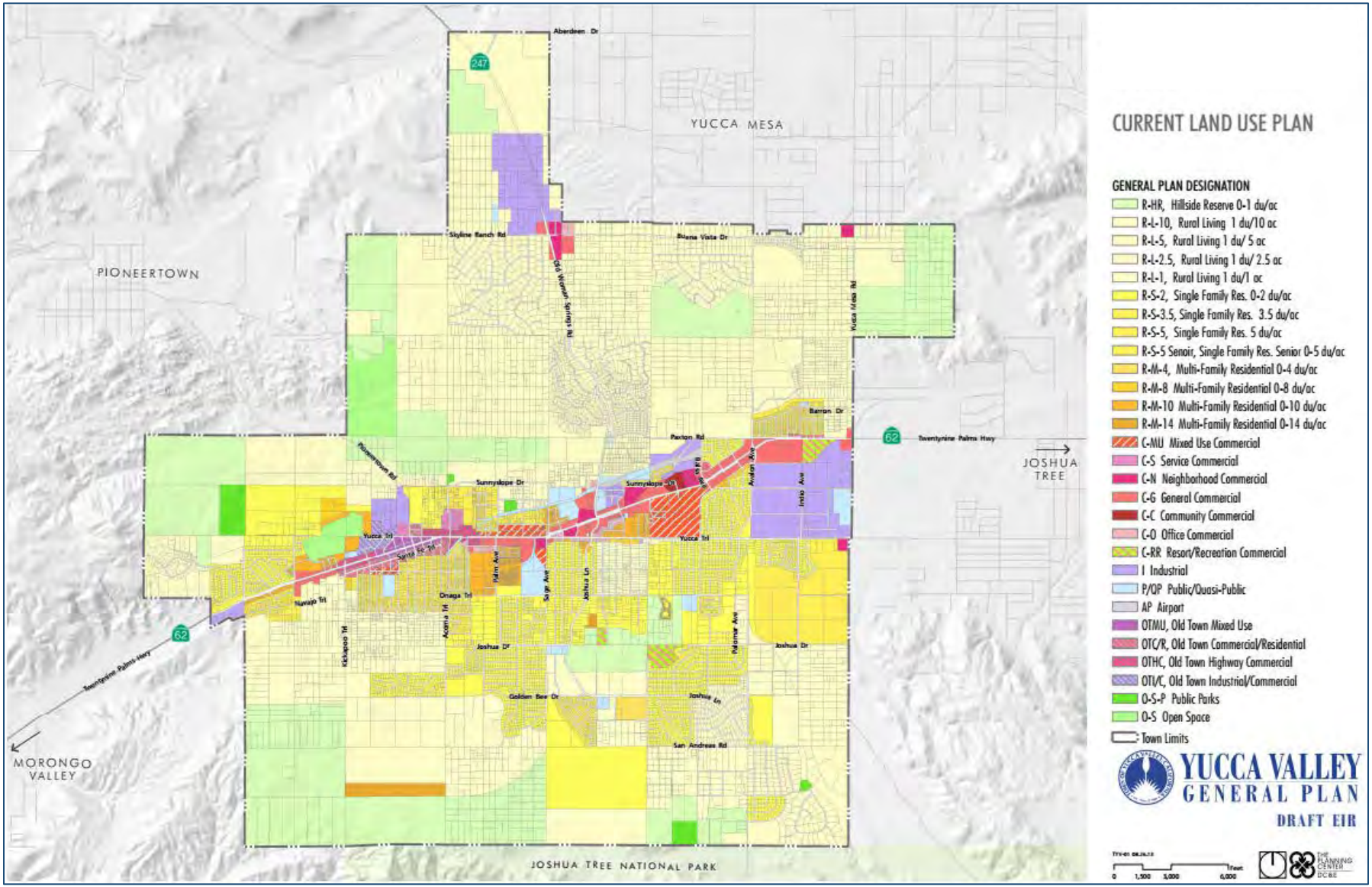
Impacts to Types of Land Uses

Town of Yucca Valley's General Plan identifies primarily residential land uses with other land uses consisting of commercial, public, and other nonresidential uses.

Table: Impacts to Existing and Future Land Uses in the Town of Yucca Valley
(Source: EPC Analysis Based on Town of Yucca Valley General Plan – Environmental Impact Report)

Category of Land Use Designation	Acres (Area)	Earthquake	Wildfire	Extreme Weather	Flooding
Hillside Residential	4,017	X	X	X	X
Rural Living	4,921	X	X	X	X
Single Family Residential	10,049	X	X	X	X
Multi-Family Residential	2,027	X	X	X	X
Commercial	646	X	X	X	X
Industrial	799	X	X	X	X
Public/Open Space/Other	511	X	X	X	X

Map: Current Land Use Plan
(Source: Town of Yucca Valley General Plan, 2013)



Earthquake Hazards

Previous Occurrences of Earthquakes in the Town of Yucca Valley

Q&A | ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT | B2

Q: B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))

A: See **Previous Occurrences of Earthquakes in the Town of Yucca Valley** below.

The following earthquake events significantly impacted the region surrounding the Town of Yucca Valley.

According to the General Plan – Safety Element (2013), several notable past earthquakes were felt strongly in Yucca Valley but a concentration of intense seismic activity in 1992 was the most destructive in recent history. The Joshua Tree Earthquake struck on April 22, 1992, most likely centered on the Eureka Peak fault approximately 12 miles south of Highway 62. This magnitude 6.1 earthquake injured over 30 people.

On June 28, 1992, the magnitude 7.3 Landers Earthquake rocked Southern California and was the largest quake to have occurred in the continental United States in 40 years. The epicenter was in Landers, approximately 10 miles north of Yucca Valley. Several faults were involved, including Johnson Valley which bisects the northern part of the Town. Several roads and buildings were damaged, over 400 people were injured in the region and 3 people lost their lives, including one in Yucca Valley. The magnitude 6.4 Big Bear Earthquake struck approximately 3 hours after the Landers Earthquake. No additional damage in Yucca Valley was attributed to this quake.

Since the writing of the 2012 Mitigation Plan, there have been no significant earthquake events in the Town of Yucca Valley.

Previous Occurrences of Earthquakes in San Bernardino County

Southern California has a history of powerful and relatively frequent earthquakes, dating back to the powerful magnitude 8.0+ 1857 San Andreas Earthquake which did substantial damage to the relatively few buildings that existed at the time.

Paleo seismological research indicates that large magnitude (8.0+) earthquakes occur on the San Andreas Fault at intervals between 45 and 332 years with an average interval of 140 years. Other lesser faults have also caused very damaging earthquakes since 1857.

Q&A | ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT | B1

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

A: See **Local Conditions** below.

Local Conditions

According to the Yucca Valley 20 Year Community Profile (2011), Yucca Valley is in an area of high seismic activity and several faults have the potential to cause damage in the community. The Pinto Mountain fault extends in an easterly direction through the central part of Town. The Eureka Peak, Burnt Mountain, Johnson Valley, and Homestead Valley faults run north–south through various portions of the community. The southern San Andreas Fault passes about eight miles southwest of the Town. These and several other seismically active faults are within about 60 miles of the community, posing a significant seismic shaking hazard. The faults that extend through the town also have the potential to cause surface fault rupture, the displacement of the ground surface when a fault moves. Deformation associated with movement along the Pinto Mountain fault could impact several buildings and infrastructure in downtown Yucca Valley. The State of California regulates development in seismically active areas through the Alquist-Priolo Earthquake Fault Zoning Act and Seismic Hazards Mapping Act.

Earthquakes that could affect the Town would most likely originate from the San Andreas, Johnson Valley, Pinto Mountain, Burnt Mountain, or Eureka Peak Faults. These faults are close enough in proximity or expected to generate strong enough shaking that could affect the Town.

San Andreas Fault

The San Andreas Fault is located approximately 12 miles southwest of the Town of Yucca Valley. This fault zone extends from the Gulf of California northward to the Cape Mendocino area where it continues northward along the ocean floor. The total length of the San Andreas Fault Zone is approximately 750 miles. The activity of the fault has been recorded during historic events, including the 1906 (M8.0) event in San Francisco and the 1857 (M7.9) event between Cholame and San Bernardino, where at least 250 miles of surface rupture occurred. These seismic events are among the most significant earthquakes in California history. Geologic evidence suggests that the San Andreas Fault has a 50 percent chance of producing a magnitude 7.5 to 8.5 quake (comparable to the great San Francisco earthquake of 1906) within the next 30 years.

Johnson Valley Fault

The Johnson Valley Fault exists within the northern Town limits. The 1992 M7.3 Landers earthquake rupture propagated from the Johnson Valley fault to the Homestead Valley fault across Homestead Valley. Rupture was concentrated along the Kickapoo fault (a.k.a., Landers fault), a previously unrecognized north-south-striking, 5-km-long fault in Homestead Valley, and along small secondary fault traces east of the Kickapoo fault. Seismic activity on the Johnson Valley Fault is expected to have a maximum magnitude of 7.3.

Pinto Mountain Fault

The Pinto Mountain fault bisects the middle of Town and runs parallel to Highway 62. The Pinto Mountain fault zone is an east-trending left-lateral strike-slip fault that extends from the Morongo Valley region to beyond Twentynine Palms. This fault most recently experienced a triggered sip in 1992, due to the shaking from the Landers earthquake.

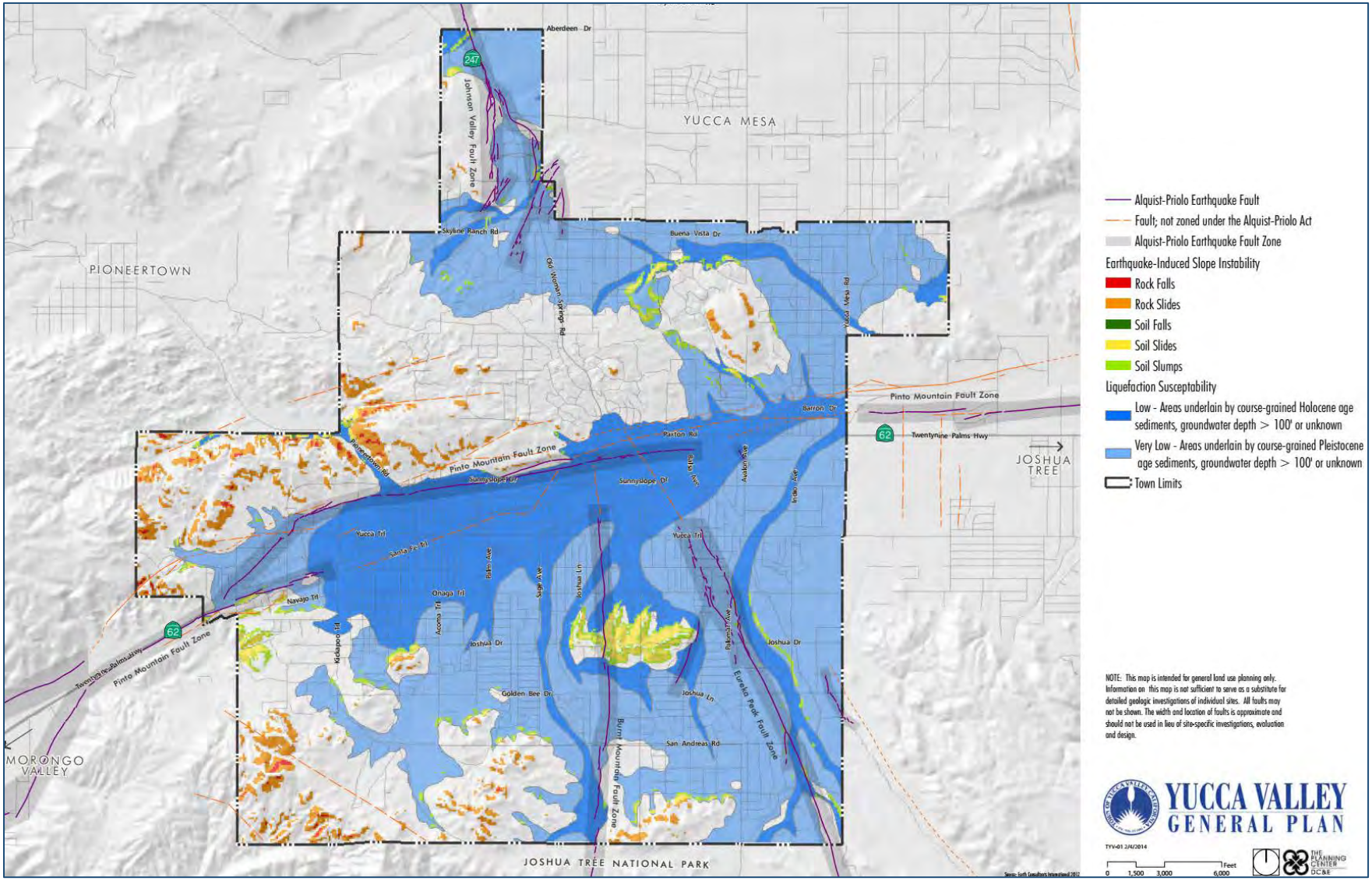
Burnt Mountain Fault

The Burnt Mountain fault runs north and south along the southern portion of Yucca Valley. Like its neighbor to the east (the Eureka Peak fault), the Burnt Mountain fault was unknown until the Landers earthquake sequence brought it to the attention of geologists by breaking about 5 kilometers of the total length of this fault at the surface. Once this discovery was made, subsequent mapping determined the existence of roughly 16 kilometers more surface trace. While the offset displayed along the Burnt Mountain fault in 1992 was only about 6 cm (and nearby Eureka Peak fault was offset only 21 cm), these faults are probably quite significant over geologic time in transferring slip from the San Andreas Fault zone to the Eastern California Shear Zone.

Eureka Peak Fault

The Eureka Peak fault is located in the southeast corner of the Town. The Eureka Peak fault is a fairly short fault with a few significant claims to fame. First, the southernmost surface rupture during the Landers earthquake of 1992 occurred on this fault, breaking about 10 kilometers of the fault with a maximum surface offset of 21 centimeters. While a seemingly trivial point to note (compared to the offsets of several meters experienced elsewhere), this rupture actually marked the discovery of the Eureka Peak fault, as similar rupture revealed the existence of the nearby Burnt Mountain fault. Second, this fault probably handles a significant portion of the slip transferred from the San Andreas fault zone -- the Pacific/North American plate boundary -- to the Eastern California Shear Zone, northward across the Mojave, and may have been the fault responsible for the Joshua Tree earthquake in April 1992, which almost certainly prompted the Landers rupture to occur in June 1992. Seismic activity on the Eureka Peak Fault is expected to have a maximum magnitude of 6.8, potentially larger when combined with other faults.

Map: Seismic Hazards
(Source: Town of Yucca Valley General Plan – Safety Element, 2013)



Q&A | ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT | B3

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

A: See **Impact of Earthquakes in the Town of Yucca Valley** below.

Impact of Earthquakes in the Town of Yucca Valley

Based on the risk assessment, it is evident that earthquakes will continue to have potentially devastating economic impacts to certain areas of the Town. Impacts that are not quantified, but can be anticipated in future events, include:

- ✓ Injury and loss of life;
- ✓ Commercial and residential structural damage;
- ✓ Disruption of and damage to public infrastructure;
- ✓ Secondary health hazards e.g. mold and mildew;
- ✓ Damage to roads/bridges resulting in loss of mobility;
- ✓ Significant economic impact (jobs, sales, tax revenue) upon the community;
- ✓ Negative impact on commercial and residential property values; and
- ✓ Significant disruption to students and teachers as temporary facilities and relocations would likely be needed.

Earthquake-Induced Landslides

Earthquake-induced landslides are secondary earthquake hazards that occur from ground shaking. They can destroy the roads, buildings, utilities, and other critical facilities necessary to respond and recover from an earthquake. Many communities in Southern California have a high likelihood of encountering such risks, especially in areas with steep slopes.

Rock falls may happen suddenly and without warning, but are more likely to occur in response to earthquake induced ground shaking, during periods of intense rainfall, or as a result of human activities, such as grading and blasting. Ground acceleration of at least 0.10g in steep terrain is necessary to induce earthquake-related rock falls. Such ground acceleration is anticipated in the Saw Tooth Mountains when the Pinto Mountain fault ruptures next.

Map: Seismic Hazards shows the moderate risk of earthquake-induced landslide risk within the Town.

Liquefaction

Liquefaction is a phenomenon in which the strength and stiffness of a soil is reduced by earthquake shaking or other events. Liquefaction occurs in saturated soils, which are soils in which the space between individual soil particles is completely filled with water. This water exerts a pressure on the soil particles that influences how tightly the particles themselves are pressed together. Prior to an earthquake, the water pressure is relatively low. However, earthquake shaking can cause the water pressure to increase to the point where the soil particles can readily move with respect to each other. Because liquefaction only occurs in saturated soil, its effects

are most commonly observed in low lying areas. Typically, liquefaction is associated with shallow groundwater, which is less than 50 feet beneath the earth's surface.
Water-saturated sediments within about 50 feet of the surface has not been reported historically in the Yucca Valley area, and as a result, the hazard of liquefaction occurring in the alluvial sediments underlying the valley portion of the Town is currently considered low to very low.

Unchecked groundwater recharge in the area could increase liquefaction susceptibility in the future. However, personnel from both the USGS and the Hi-Desert Water District (HDWD) are aware of this issue, and as reclaimed water is recharged into some of the sub basins in the area, they will reportedly monitor and maintain groundwater levels below the critical 50-foot depth to avoid developing susceptibility to liquefaction.

Exposure

The data in this section was generated using the HAZUS-MH program for earthquakes. Once the location and size of a hypothetical earthquake are identified, HAZUS-MH estimates the intensity of the ground shaking, the number of buildings damaged, the number of casualties, the amount of damage to transportation systems and utilities, the number of people displaced from their homes, and the estimated cost of repair and clean up.

Building Inventory

HAZUS estimates approximately 93% of the building stock within the Town of Yucca Valley is residential housing consisting of wood frame construction.

Critical Facility Inventory

HAZUS breaks critical facilities into two (2) groups: essential facilities and high potential loss facilities (HPL). Essential facilities include hospitals, medical clinics, schools, fire stations, police stations and emergency operations facilities. High potential loss facilities include dams, levees, military installations, nuclear power plants and hazardous material sites.

Table: Critical Facility Inventory – HAZUS

Essential Facilities	Count
Hospitals	0
Schools	11
Fire Stations	1
Police Stations	0
Emergency Operations Facilities	0

High Potential Loss (HPL) Facilities	Count
Dams	0
Levees	0
Military Installations	0
Nuclear Power Plants	0
Hazardous Material Sites	0

Transportation and Utility Lifeline Inventory

Within HAZUS, the lifeline inventory is divided between transportation and utility lifeline systems. Transportation systems include highways, railways, light rail, bus, ports, ferry and airports. Utility systems include potable water, wastewater, natural gas, crude & refined oil, electric power and communications.

Casualties

HAZUS estimates the number of people that will be injured and killed by the earthquake. The casualties are broken down into four (4) severity levels that describe the extent of the injuries. The levels are described as follows:

- ✓ **Severity Level 1:** Injuries will require medical attention but hospitalization is not needed.
- ✓ **Severity Level 2:** Injuries will require hospitalization but are not considered life-threatening
- ✓ **Severity Level 3:** Injuries will require hospitalization and can become life threatening if not promptly treated.
- ✓ **Severity Level 4:** Victims are killed by the earthquake.

The casualty estimates are provided for three (3) times of day: 2:00 AM, 2:00 PM and 5:00 PM. These times represent the periods of the day that different sectors of the community are at their peak occupancy loads. The 2:00 AM estimate considers that the residential occupancy load is maximum, the 2:00 PM estimate considers that the educational, commercial and industrial sector loads are maximum and 5:00 PM represents peak commute time.

Building-Related Losses

Building losses are broken into two categories: direct building losses and business interruption losses. The direct building losses are the estimated costs to repair or replace the damage caused to the building and its contents. The business interruption losses are the losses associated with inability to operate a business because of the damage sustained during the earthquake. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the earthquake.

HAZUS Earthquake Event Summary Results*

(* Note that HAZUS data is not available for every fault and scenario mentioned in the earlier Hazard Analysis. Should such data be available for future Mitigation Plan updates, the Planning Team will include the associated maps and findings.)

San Andreas M8.0 Earthquake Scenario

Building Damage

Table: Expected Building Damage by Occupancy – San Andreas M8.0

	None	Slight	Moderate	Extensive	Complete
	Count	Count	Count	Count	Count
Agriculture	6	2	1	0	0
Commercial	247	122	68	12	1
Education	9	4	1	0	0
Government	2	1	0	0	0
Industrial	54	33	23	5	1
Other Residential	435	409	253	26	1
Religion	17	8	4	1	0
Single Family	4,676	2,558	289	3	0
Total	5,445	3,137	640	47	3

Table: Expected Building Damage by Building Type – San Andreas M8.0

	None	Slight	Moderate	Extensive	Complete
	Count	Count	Count	Count	Count
Wood	4,898	2,662	295	2	0
Steel	70	31	23	5	1
Concrete	67	36	17	3	1
Precast	53	32	24	4	0
RM	143	46	34	5	0
URM	15	12	9	2	0
MH	200	316	238	25	1
Total	5,445	3,137	640	47	3

Transportation and Utility Lifeline Damage

Table: Expected Utility System Pipeline Damage – San Andreas M8.0

System	Total Pipelines (Length km)	Number of Leaks	Number of Breaks
Potable Water	692	505	126
Waste Water	415	362	91
Natural Gas	277	104	26
Oil	0	0	0

Table: Potable Water and Electric Power System Performance – San Andreas M8.0

	Total # of Households	Number of Households without Service				
		At Day 1	At Day 3	At Day 7	At Day 30	At Day 90
Potable Water	8,175	5,501	2,962	0	0	0
Electric Power		0	0	0	0	0

Shelter Requirement

HAZUS estimates the number of households that are expected to be displaced from their homes due to the earthquake and the number of displaced people that will require accommodations in temporary public shelters. The model estimates 11 households to be displaced due to the earthquake. Of these, 7 people (out of a total population of 20,451) will seek temporary shelter in public shelters.

Casualties

The table below represents a summary of casualties estimated for San Andreas M8.0 earthquake scenario.

Table: Casualty Estimates – San Andreas M8.0

Time	Sector	Level 1	Level 2	Level 3	Level 4
2AM	Commercial	0	0	0	0
	Commuting	0	0	0	0
	Educational	0	0	0	0
	Hotels	0	0	0	0
	Industrial	0	0	0	0
	Other-Residential	2	0	0	0
	Single-Family	5	1	0	0
	TOTAL	7	1	0	0
2PM	Commercial	7	1	0	0
	Commuting	0	0	0	0
	Educational	3	0	0	0
	Hotels	0	0	0	0
	Industrial	2	0	0	0
	Other-Residential	1	0	0	0
	Single-Family	1	1	0	0
	TOTAL	13	2	0	0
5PM	Commercial	5	1	0	0
	Commuting	0	0	0	0
	Educational	0	0	0	0
	Hotels	0	0	0	0
	Industrial	1	0	0	0
	Other-Residential	1	0	0	0
	Single-Family	2	0	0	0
	TOTAL	9	1	0	0

Economic Losses

The total economic loss estimated for the San Andreas M8.0 earthquake scenario is **$68.97 million dollars** which includes building and lifeline related losses based on the region's available inventory. The following tables provide more detailed information about these losses.

Table: Building-Related Economic Losses ($ Dollars) – San Andreas M8.0

Category	Area	Single Family	Other Residential	Commercial	Industrial	Others	Total
Income Losses	Wage	$0	$65,100	$1,846,000	$32,300	$46,700	$1,990,100
	Capital-Related	$0	$27,600	$1,242,500	$18,000	$15,300	$1,303,400
	Rental	$399,100	$265,900	$838,300	$5,900	$20,700	$1,529,900
	Relocation	$1,284,600	$476,500	$1,234,400	$67,000	$201,200	$3,263,700
	Subtotal	$1,683,700	$835,100	$5,161,200	$123,200	$283,900	$8,087,100
Capital Stock Losses	Structural	$4,268,600	$914,100	$1,797,200	$236,700	$275,500	$7,492,100
	Non-Structural	$23,940,900	$4,203,800	$6,052,200	$764,700	$963,000	$35,924,600
	Content	$8,040,700	$950,600	$3,063,600	$412,400	$465,400	$12,932,700
	Inventory	$0	$0	$69,700	$72,000	$3,600	$145,300
	Subtotal	$36,250,200	$6,068,500	$10,982,700	$1,485,800	$1,707,500	$56,494,700
	TOTAL	$37,933,900	$6,903,600	$16,143,900	$1,609,000	$1,991,400	$64,581,800

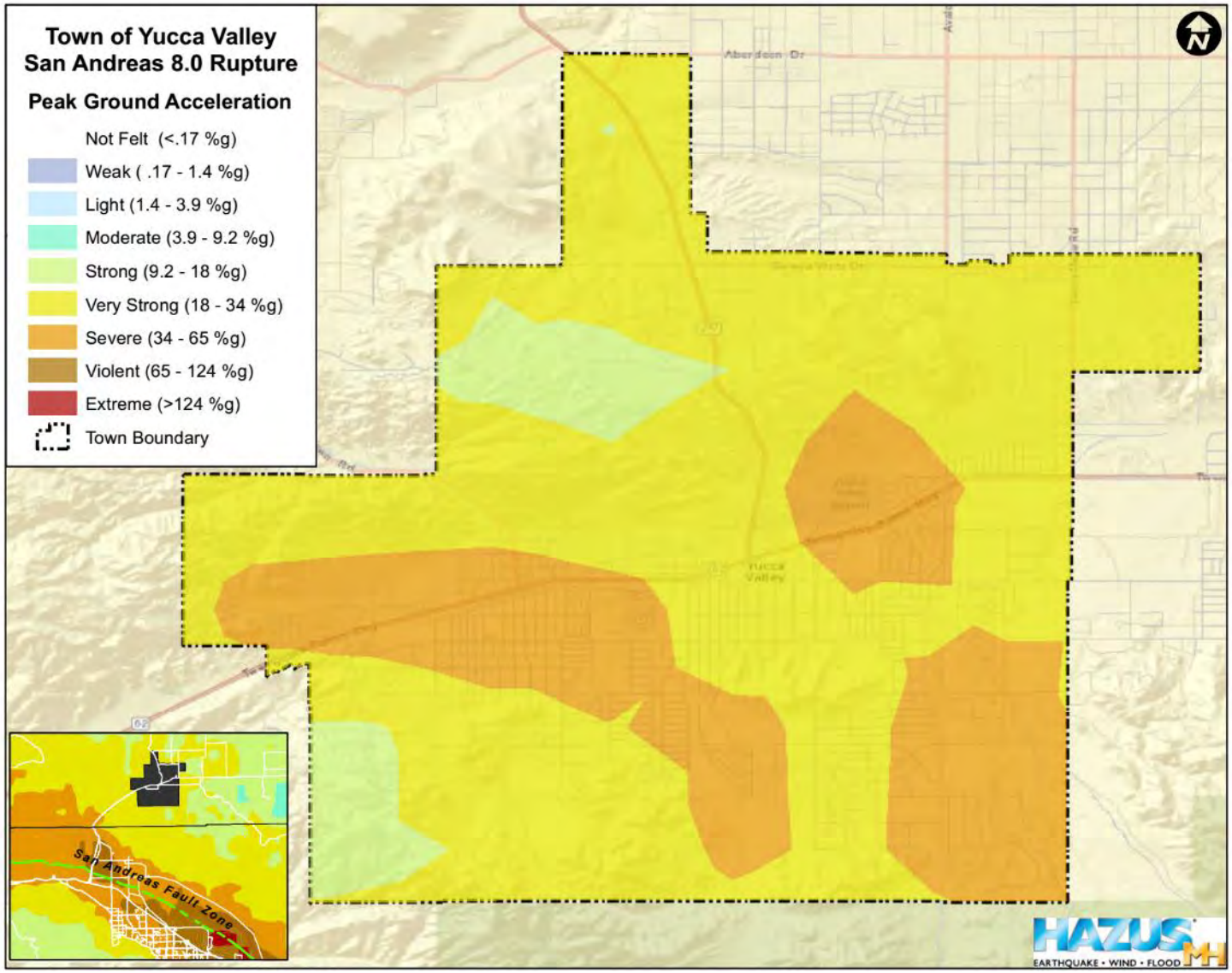
Table: Transportation System Economic Losses ($ Dollars) – San Andreas M8.0

System	Component	Total Inventory Value	Economic Loss	Loss Ratio %
Highway	Segments	$184,441,800	$0	0%
	Bridges	$409,800	$5,300	1%
	Tunnels	$0	$0	0%
Railways	Segments	$0	$0	0%
	Bridges	$0	$0	0%
	Tunnels	$0	$0	0%
	Facilities	$0	$0	0%
Light Rail	Segments	$0	$0	0%
	Bridges	$0	$0	0%
	Tunnels	$0	$0	0%
	Facilities	$0	$0	0%
Bus	Facilities	$0	$0	0%
Ferry	Facilities	$0	$0	0%
Port	Facilities	$0	$0	0%
Airport	Facilities	$0	$0	0%
	TOTAL	$184,851,600	$5,300	

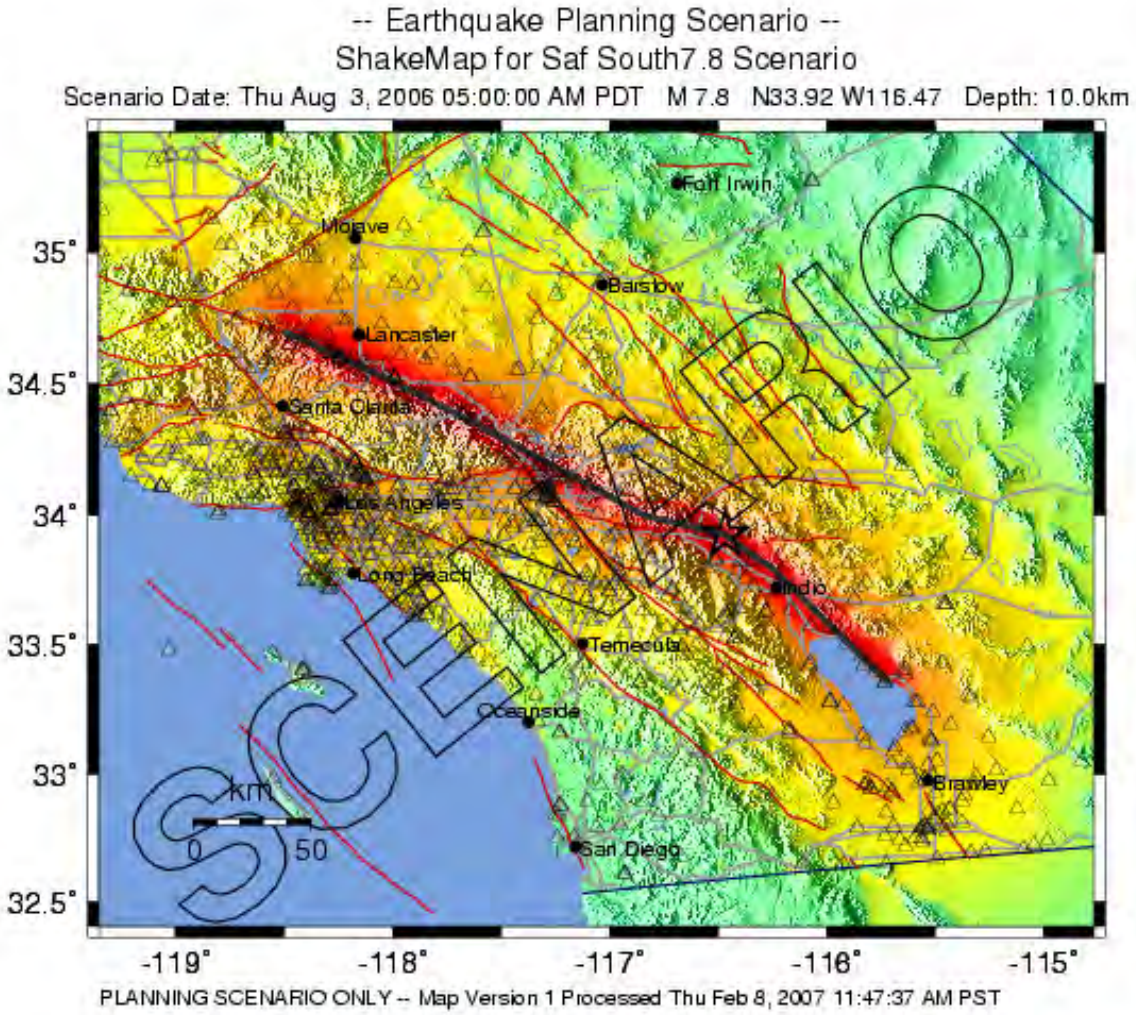
Table: Utility System Economic Losses ($ Dollars) – San Andreas M8.0

System	Component	Total Inventory Value	Economic Loss	Loss Ratio %
Potable Water	Pipelines	$0	$0	0%
	Facilities	$0	$0	0%
	Distribution Lines	$13,841,600	$2,273,300	16%
Waste Water	Pipelines	$0	$0	0%
	Facilities	$0	$0	0%
	Distribution Lines	$8,304,900	$1,629,200	20%
Natural Gas	Pipelines	$0	$0	0%
	Facilities	$0	$0	0%
	Distribution Lines	$5,536,600	$467,300	8%
Oil Systems	Pipelines	$0	$0	0%
	Facilities	$0	$0	0%
Electrical Power	Facilities	$0	$0	0%
Communication	Facilities	$118,000	$12,400	0%
	TOTAL	$27,801,100	$4,382,200	

Map: Shake Intensity Map – San Andreas M8.0
(Source: Emergency Planning Consultants, 2017)



Map: Seismic Shaking Intensities for the San Andrea Fault M7.8
(Source: State of California Department of Conservation, 2007)



PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Moderate/Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	*<.17*	*.17-1.4*	*1.4-3.9*	*3.9-9.2*	*9.2-18*	18-34	34-65	65-124	>124
PEAK VEL.(cm/s)	<0.1	0.1-1.1	1.1-3.4	3.4-8.1	*8.1-16*	*16-31*	*31-60*	*60-116*	*>116*
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Landers M7.2 Earthquake Scenario

Building Damage

Table: Expected Building Damage by Occupancy – Landers M7.2

	None	Slight	Moderate	Extensive	Complete
	Count	Count	Count	Count	Count
Agriculture	2	2	3	1	1
Commercial	113	107	131	70	28
Education	5	4	3	1	0
Government	1	1	1	1	0
Industrial	25	26	35	20	8
Other Residential	166	235	330	265	129
Religion	9	8	8	4	1
Single Family	2,917	3,038	1,390	1414	39
Total	3,239	3,421	1,901	503	207

Table: Expected Building Damage by Building Type – Landers M7.2

	None	Slight	Moderate	Extensive	Complete
	Count	Count	Count	Count	Count
Wood	3,026	3,182	1,463	146	42
Steel	28	25	41	26	10
Concrete	32	32	34	19	7
Precast	22	22	37	22	9
RM	74	45	62	36	10
URM	6	7	12	8	6
MH	51	108	253	245	122
Total	3,239	3,421	1,901	503	207

Transportation and Utility Lifeline Damage

Table: Expected Utility System Pipeline Damage – Landers M7.2

System	Total Pipelines (Length km)	Number of Leaks	Number of Breaks
Potable Water	692	186	47
Waste Water	415	133	33
Natural Gas	277	38	10
Oil	0	0	0

Table: Potable Water and Electric Power System Performance – Landers M7.2

	Total # of Households	Number of Households without Service				
		At Day 1	At Day 3	At Day 7	At Day 30	At Day 90
Potable Water	8,175	694	0	0	0	0
Electric Power		2,178	1,501	718	162	3

Shelter Requirement

HAZUS estimates the number of households that are expected to be displaced from their homes due to the earthquake and the number of displaced people that will require accommodations in temporary public shelters. The model estimates 166 households to be displaced due to the earthquake. Of these, 105 people (out of a total population of 20,451) will seek temporary shelter in public shelters.

Casualties

The table below represents a summary of casualties estimated for the Landers M7.2 earthquake scenario.

Table: Casualty Estimates – Landers M7.2

Time	Sector	Level 1	Level 2	Level 3	Level 4
2AM	Commercial	1	0	0	0
	Commuting	0	0	0	0
	Educational	0	0	0	0
	Hotels	0	0	0	0
	Industrial	1	0	0	0
	Other-Residential	21	5	1	1
	Single-Family	19	3	0	0
	TOTAL	42	8	1	1
2PM	Commercial	46	12	2	4
	Commuting	0	0	0	0
	Educational	15	4	1	1
	Hotels	0	0	0	0
	Industrial	8	2	0	1
	Other-Residential	6	1	0	0
	Single-Family	5	1	0	0
	TOTAL	80	20	3	6
5PM	Commercial	33	9	1	3
	Commuting	0	0	1	0
	Educational	1	0	0	0
	Hotels	0	0	0	0
	Industrial	5	1	1	1
	Other-Residential	8	2	0	0
	Single-Family	7	1	0	0
	TOTAL	54	13	3	4

Economic Losses

The total economic loss estimated for the Landers M7.2 scenario earthquake is **$250.63 million dollars** which includes building and lifeline related losses based on the region's available inventory. The following tables provide more detailed information about these losses.

Table: Building-Related Economic Losses ($ Dollars) – Landers M7.2

Category	Area	Single Family	Other Residential	Commercial	Industrial	Others	Total
Income Losses	Wage	$0	$376,400	$7,369,800	$123,600	$166,100	$8,035,900
	Capital-Related	$0	$162,500	$6,043,600	$69,100	$46,600	$6,321,800
	Rental	$2,007,800	$1,566,500	$3,334,400	$21,900	$67,300	$6,997,900
	Relocation	$7,652,200	$2,380,600	$4,926,300	$183,200	$689,100	$15,831,400
	Subtotal	$9,660,000	$4,486,000	$21,674,100	$397,800	$969,100	$37,187,000
Capital Stock Losses	Structural	$13,842,000	$4,780,300	$9,306,600	$900,200	$1,048,600	$29,877,700
	Non-Structural	$73,984,300	$22,093,300	$29,566,300	$3,356,200	$3,348,400	$132,348,500
	Content	$25,435,800	$5,087,400	$14,606,200	$1,924,000	$1,716,500	$48,769,900
	Inventory	$0	$0	$419,000	$329,600	$20,200	$768,800
	Subtotal	$113,262,100	$31,961,000	$53,898,100	$6,510,000	$6,133,700	$211,764,900
	TOTAL	$122,922,100	$36,447,000	$75,572,200	$6,907,800	$7,102,800	$248,951,900

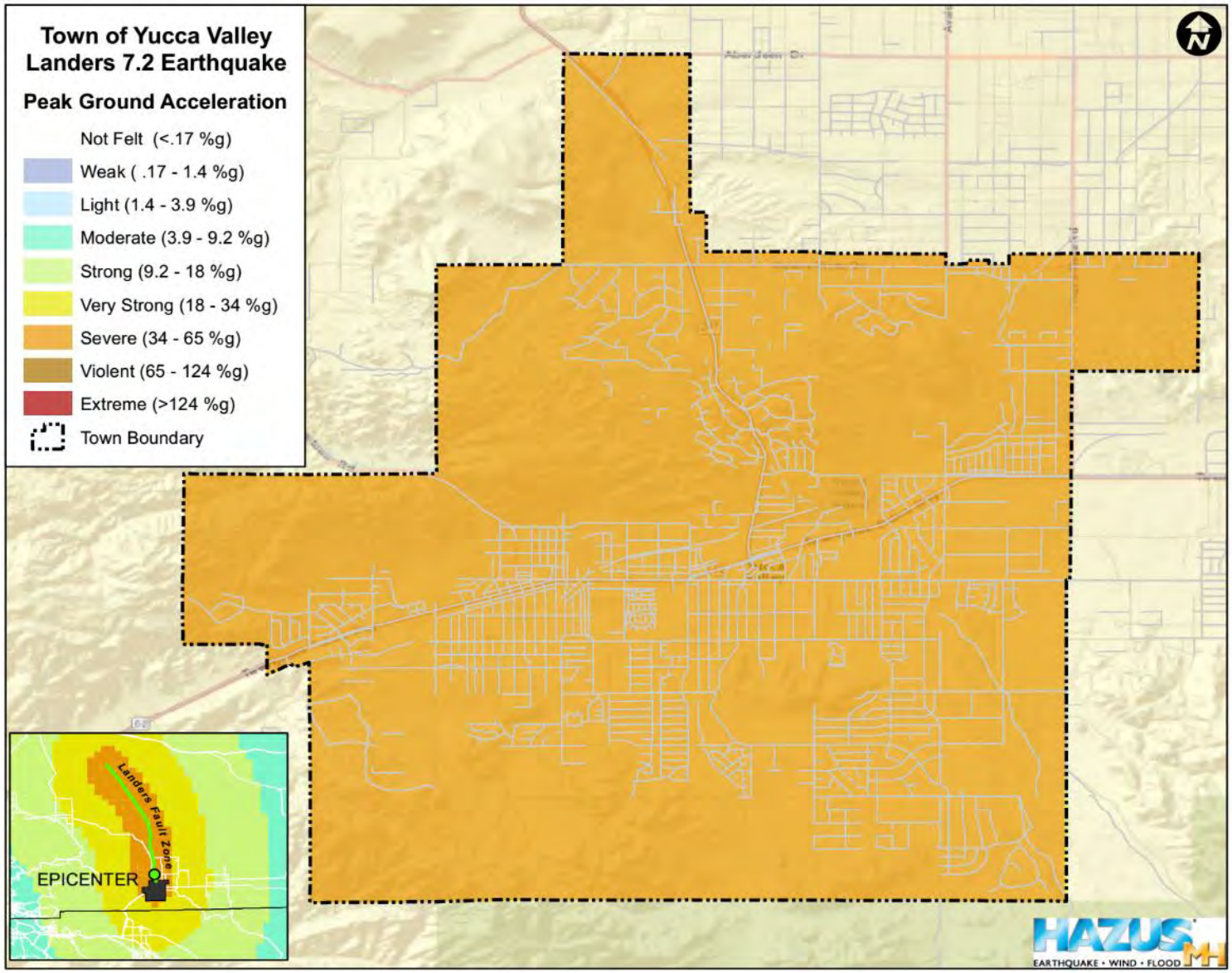
Table: Transportation System Economic Losses ($ Dollars) – Landers M7.2

System	Component	Total Inventory Value	Economic Loss	Loss Ratio %
Highway	Segments	$184,441,800	$0	0%
	Bridges	$409,800	$33,100	8%
	Tunnels	$0	$0	0%
Railways	Segments	$0	$0	0%
	Bridges	$0	$0	0%
	Tunnels	$0	$0	0%
	Facilities	$0	$0	0%
Light Rail	Segments	$0	$0	0%
	Bridges	$0	$0	0%
	Tunnels	$0	$0	0%
	Facilities	$0	$0	0%
Bus	Facilities	$0	$0	0%
Ferry	Facilities	$0	$0	0%
Port	Facilities	$0	$0	0%
Airport	Facilities	$0	$0	0%
	TOTAL	$181,851,600	$33,100	

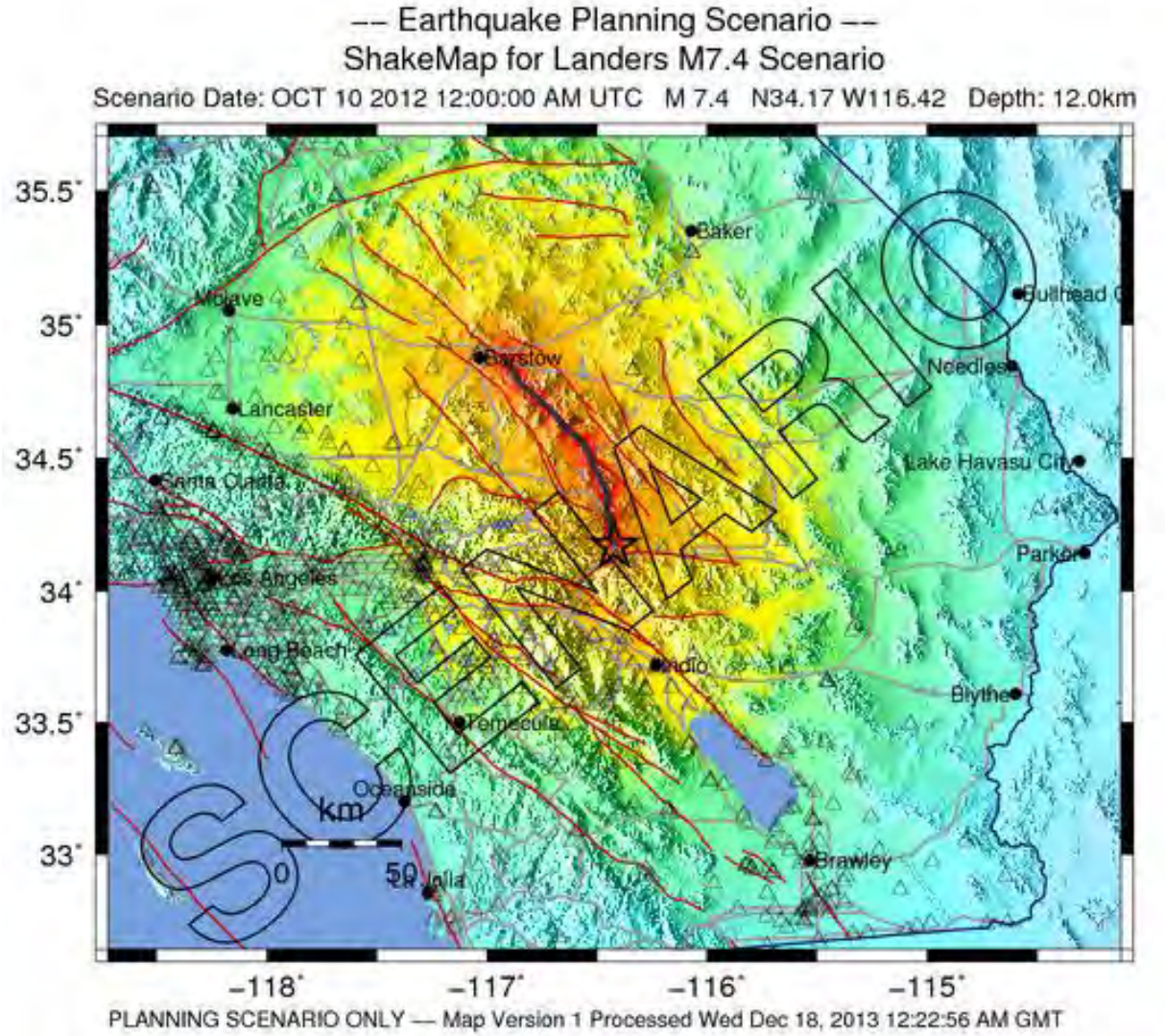
Table: Utility System Economic Losses ($ Dollars) – Landers M7.2

System	Component	Total Inventory Value	Economic Loss	Loss Ratio %
Potable Water	Pipelines	$0	$0	0%
	Facilities	$0	$0	0%
	Distribution Lines	$13,841,600	$837,600	6%
Waste Water	Pipelines	$0	$0	0%
	Facilities	$0	$0	0%
	Distribution Lines	$8,304,900	$600,300	7%
Natural Gas	Pipelines	$0	$0	0%
	Facilities	$0	$0	0%
	Distribution Lines	$5,536,600	$172,200	3%
Oil Systems	Pipelines	$0	$0	0%
	Facilities	$0	$0	0%
Electrical Power	Facilities	$0	$0	0%
Communication	Facilities	$118,000	$31,500	27%
	TOTAL	$27,801,100	$1,641,600	

Map: Shake Intensity Map – Landers M7.2
(Source: Emergency Planning Consultants, 2017)



Map: Seismic Shaking Intensities for the Landers M7.4
(Source: State of California Department of Conservation, 2013)



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

Structures and Building Code

The built environment is susceptible to damage from earthquakes. Buildings that collapse can trap and bury people. Lives are at risk, and the cost to clean up the damages is great. In most California communities, including the Town of Yucca Valley, many buildings were built before 1993 when building codes were not as strict. In addition, retrofitting is not required except under certain conditions and can be expensive. Therefore, the number of buildings at risk remains high. The California Seismic Safety Commission makes annual reports on the progress of the retrofitting of unreinforced masonry buildings. According to the Town of Yucca Valley General Plan, all URM buildings within the Town have been identified and upgraded to meet current requirements.

Implementation of earthquake mitigation policy most often takes place at the local government level. The Town of Yucca Valley Community Development Department enforces building codes pertaining to earthquake hazards.

Generally, these codes seek to discourage development in areas that could be prone to flooding, landslide, wildfire and/or seismic hazards; and where development is permitted, that the applicable construction standards are met. Developers in hazard-prone areas may be required to retain a qualified professional engineer to evaluate level of risk on the site and recommend appropriate mitigation measures.

Wildfire Hazards

Q&A | ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT | B2

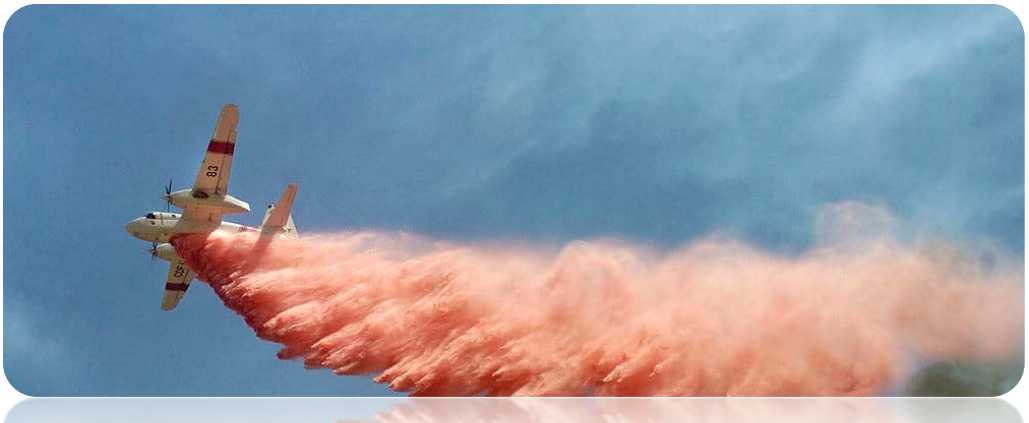
Q: B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))

A: See **Previous Occurrences of Wildfire in the Town of Yucca Valley** below.

Previous Occurrences of Wildfire in the Town of Yucca Valley

Several historical wildland fires have impacted Yucca Valley, including the Acoma Fire of 2008, which burned 356 acres but only destroyed one outbuilding in Town. The largest wildland fire, the 2006 Sawtooth-Millard-Heart Complex fire, was started by lightning and was the result of a merger of three separate wildland fires. It burned approximately 85,700 acres between Yucca Valley and San Gorgonio. In the Yucca Valley region, the fire destroyed 50 homes, 171 outbuildings, and 194 vehicles. It also caused a significant amount of damage to homes, businesses, and property. Seventeen individuals were injured and one civilian died.

Since the writing of the 2012 Mitigation Plan, the 2015 Lake Fire impacted the Town of Yucca Valley with ash and serving as a host community for regionally displaced residents. The fire started on June 17, 2015 and burned over 31,359 acres before it was fully contained on July 21, 2015.



Previous Occurrences of Wildfire in San Bernardino County

Due to its weather, topography, and native vegetation, the majority of San Bernardino County is at risk from wildland fires. The extended droughts characteristic of California's Mediterranean climate result in large areas of dry vegetation that provide fuel for wildland fires. Furthermore, the native vegetation typically has a high oil content that makes it highly flammable. The area is also intermittently impacted by Santa Ana winds, the hot, dry winds that blow across southern California in the spring and late fall.

The most recent significant wildfire event to impact the County of San Bernardino was the Blue Cut Fire in 2016. The Blue Cut fire destroyed 105 homes, 216 minor structures and burned a total of 36,274 acres within San Bernardino County. According to the United States Forest Service, more than 82,000 people were under mandatory evacuation orders.

Q&A | ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT | B1

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

A: See **Local Conditions** below.

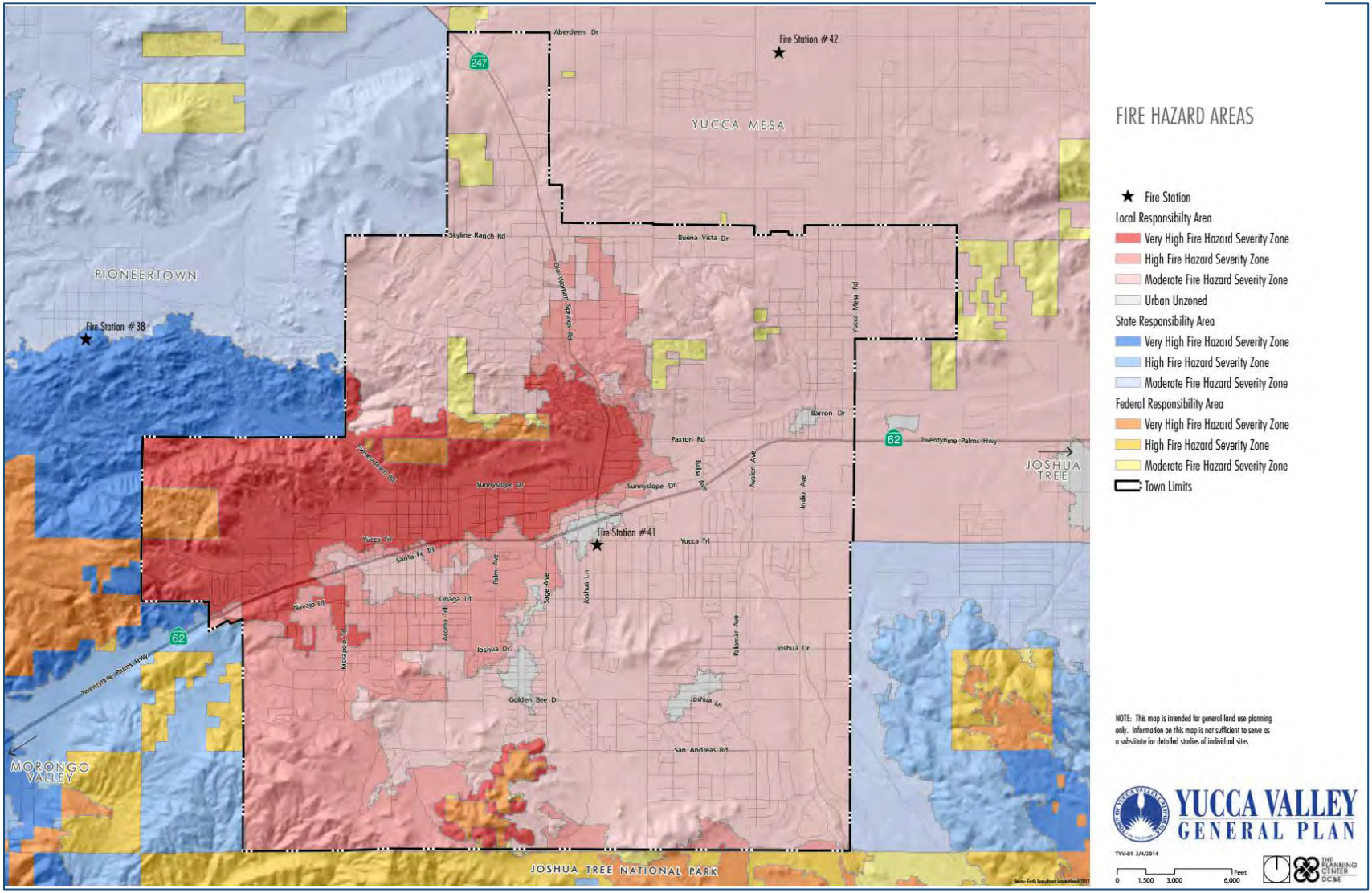
Local Conditions

Yucca Valley is in the lower Mojave section of the Southeastern Deserts Bioregion, an area characterized by isolated, steep-sided mountain ranges separated by broad alluvial basins. Lower elevation areas of the region feature desert scrub or are barren of vegetation. The limited amount of vegetation and low surface fuel loads typically hinder the spread of fire. Higher elevations both inside and outside the Town, including areas such as Joshua Tree National Park, feature a variety of vegetation types. Because of the increased diversity of surface fuel and relatively higher loads and continuity of vegetation, the spread of fire in these regions is higher than on the desert floor. This is reflected in the higher number of fires reported historically in Joshua Tree National Park and in the mountains to the northwest, compared with the Yucca Valley area proper. In addition to vegetation, weather also impacts the risk of wildfires in Yucca Valley. Drought conditions that further reduce the low level of precipitation and summer thunderstorms that produce lightning are both factors that increase the likelihood of wildland fires in the community.

Wildland fires pose a significant threat to large areas of Yucca Valley, mostly in the west-northwest and south parts of Town. The California Department of Forestry and Fire Protection identified the hillside areas of Yucca Valley as having a high to very high fire threat, as shown on **Map: Fire Hazard Severity Zones**. In addition to providing fire safety standards in Yucca Valley, the San Bernardino County Fire Department also provides fire prevention and protection services.

The continued development of defensible spaces, free of combustible vegetation, will help reduce the potential for fire to harm lives and property.

Map: Fire Hazard Severity Zones
(Source: Town of Yucca Valley General Plan – Safety Element, 2013)



Q&A | ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT | B3

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

A: See **Impact of Wildfire in the Town of Yucca Valley** below.

Impact of Wildfire in the Town of Yucca Valley

Wildfires and their impact varies by location and severity of any given wildfire event, and will likely only affect certain areas of the county during specific times. Based on the risk assessment, it is evident that wildfires will have a potentially devastating economic impact to certain areas of the Town.

Impact that is not quantified, but anticipated in future events includes:

- ✓ Injury and loss of life
- ✓ Commercial and residential structural damage
- ✓ Disruption of and damage to public infrastructure
- ✓ Secondary health hazards e.g. mold and mildew
- ✓ Damage to roads/bridges resulting in loss of mobility
- ✓ Significant economic impact (jobs, sales, tax revenue) upon the community
- ✓ Negative impact on commercial and residential property values
- ✓ Significant disruption to students and teachers as temporary facilities and relocations would likely be needed

Flood Hazards

Q&A | ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT | B2

Q: B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))

A: See **Previous Occurrences of Flooding in the Town of Yucca Valley** below.

Previous Occurrences of Flooding in the Town of Yucca Valley

Yucca Valley averages less than 10 inches of rainfall per year. While this amount may not sound significant, parts of the community are susceptible to flooding during heavy downpours. The primary drainage facility in the Town is Yucca Wash, a graded-earth flood control channel flowing from west to east and connecting to several natural tributaries. Many existing drainage courses in the Yucca Valley are unimproved. Brief but intense storms can overwhelm these drainage channels, pushing water and sediment over low-lying areas and making dirt roads impassable.

During the writing of this plan, in January 2017 the Town experienced three severe rain and wind storms over the course of 4 days that caused significant flooding and mudflows. Crews removed 720 tons of mud and debris from town streets.

Additional flooding events that have impacted Yucca Valley are listed below.

Date	Description
July 1954	Heavy thunderstorms cause flash flooding
August 1961	Heavy thunderstorm causes flash floods south of Yucca Valley and also blocked Hwy. 62 with mud and debris up to two feet deep.
July 1999	Heavy thunderstorms cause flooding in Yucca Valley area. Several roadways closed.
August 2000	Desert thunderstorms cause flash floods. Mud and debris cover roads in Yucca Valley.
August 2003	Thunderstorm causes flash flooding. 5 residences flooded in Yucca Valley.

Previous Occurrences of Flooding in San Bernardino County

The desert areas of San Bernardino County contain many mountain ranges that are steep and experience summer thunder storms causing flash floods in many dry washes on the desert floor. The water collects in dry lake beds throughout the desert area.

Flash flooding causes road and bridge wash outs and erosion of earthen channels and basins when they occur near these facilities. Cities and towns often experience street closures for several days due to sediment transport and road damage. Because of the sheet flow character of the desert, many private properties experience erosion and sediment deposits.

The urban valley also can experience flash flooding in its narrow canyons and within the many unimproved creeks and interim channels feeding the Santa Ana River. The valley floor in many areas is very flat so even minor rain events can produce flooding of roads and private property.

In coordination with local jurisdictions, the County of San Bernardino Flood Control District has prepared Master Drainage plans for many cities and towns to provide a plan for reducing flooding due to minor storms. However, local resources are not sufficient to cover the cost of the construction of the drainage systems. The densely populated (75% of the county population) urban valley region contains the headwaters of the Santa Ana River. The San Gabriel and San Bernardino Mountains border the North side of the valley are steep reaching 5,000 feet with alluvial fans which are developed and densely populated. As cited in the County General Plan, the County has experienced severe and widespread flooding throughout its history. Several major drainage basins have the potential to subject residents and structures to a high risk of flooding.

Q&A | ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT | B1

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

A: See **Local Conditions** below.

Local Conditions

Traversed by numerous ephemeral natural drainage courses and because Yucca Valley is subject to high intensity rain storms, flooding is a significant hazard. Within Yucca Valley the Federal Emergency Management Agency (FEMA) identified the following areas in a 100- year flood zone: Yucca Wash, Water Canyon, Old Woman Springs Creek, Covington Wash, East and West Burnt Mountain Creeks, Long Canyon, Hospital Canyon, and Piñon Creek. It is estimated that there are more areas affected by this flood zone that have yet to be identified by FEMA. Most of the 100-year flood zones are concentrated around Yucca Wash, which crosses the center of community east to west, making flood control an important safety issue. This and other flood zones in Yucca Valley are shown in proceeding flood maps.

100-year events are not the only storms to cause flooding. Smaller storms can also result in property damage or flooded and damaged roadways, especially when public and private floodways are not properly maintained. Floods are not only destructive to residential and commercial properties, but they can cause significant erosion of the natural landform.

Most of the existing development in Yucca Valley has been completed without significant alteration to the natural terrain. As a result, natural drainage courses pass through developed or semi developed areas. Small channels pass through private yards, and some structures are built within the flow paths of shallow drainages. Most streets, many of which are unpaved, follow the natural contours of the land, crossing arroyos and gullies without the benefit of culverts or bridges. These crossings can quickly become filled with high velocity floodwaters, trapping vehicles or washing them downstream.

The Town can take precautions to prepare for and respond to a flood event and minimize severe damage to structures and facilities. Emergency preparedness planning is one of the primary ways the town can alleviate the dangers and risks associated with flood hazards. Implementing evacuation plans for the Town and critical care facilities as well as maintaining regional floodways will help to ensure that residents, businesses, and visitors remain safe during heavy rain storms.

Q&A | ELEMENT C. MITIGATION STRATEGY | C2

Q: 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))

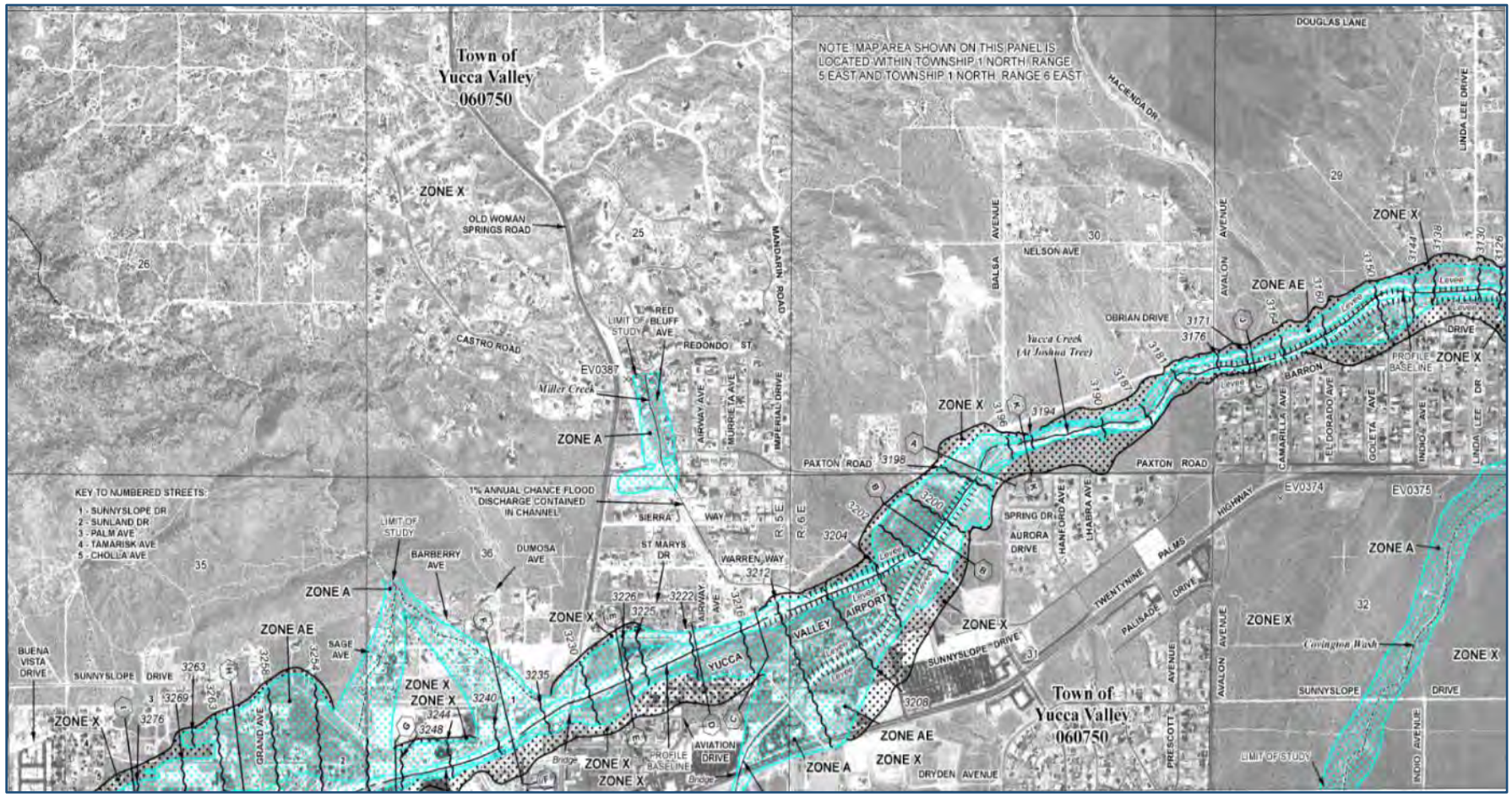
A: See **National Flood Insurance Program** below.

National Flood Insurance Program

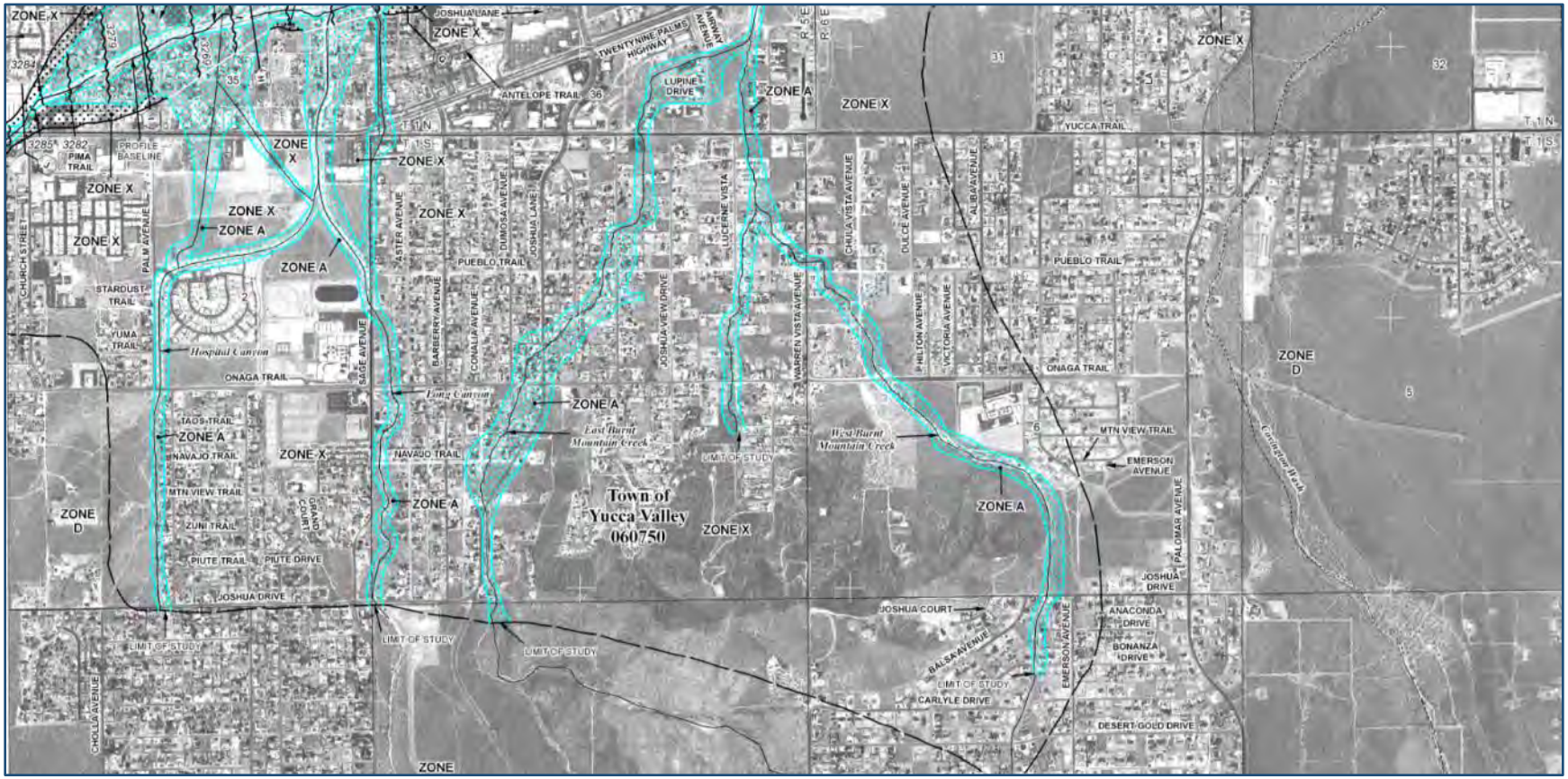
The Town participates in the National Flood Insurance Program (NFIP). Created by Congress in 1968, the NFIP makes flood insurance available in communities that enact minimum floodplain management rules consistent with the Code of Federal Regulations §60.3.

According to **Map: Flood Insurance Rate Map**, the built areas of the Town are in "Flood Zone X" and "Flood Zone A". Zone X is defined as the area outside the 500-year flood and protected by levee from 100-year flood. Zone A is defined as Areas subject to inundation by the 1-percent-annual-chance flood event.

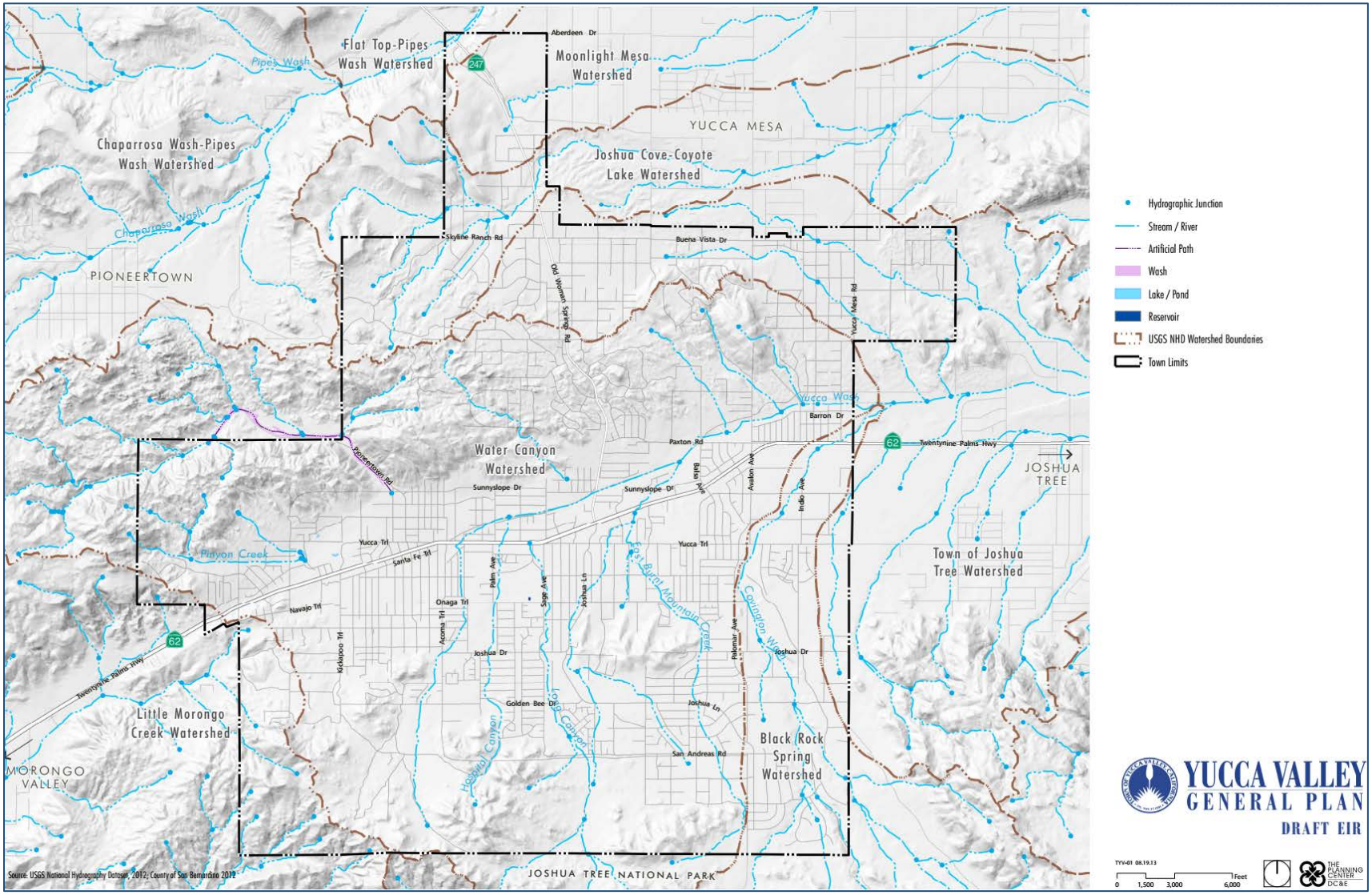
Map: Flood Insurance Rate Map #1
(Source: FEMA Flood Map Service Center, 2008)



Map: Flood Insurance Rate Map #2
(Source: FEMA Flood Map Service Center, 2008)



Map: Watersheds and Streams
(Source: Town of Yucca Valley General Plan – Safety Element, 2013)



Yucca Valley 500-Year Flood Scenario

Building Damage

Table: Expected Building Damage by Occupancy – Yucca Valley 500-Year Flood

	Slight	Moderate	Extensive	Complete
	Count	Count	Count	Count
Agriculture	0	0	0	0
Commercial	3	0	0	1
Education	0	0	0	0
Government	0	0	0	0
Industrial	0	0	0	0
Other Residential	0	0	0	0
Religion	0	0	0	0
Single Family	2	52	46	4
Total	5	52	46	5

Table: Expected Building Damage by Building Type – Yucca Valley 500-Year Flood

	Slight	Moderate	Extensive	Complete
	Count	Count	Count	Count
Concrete	0	0	0	0
MH	0	0	0	0
Masonry	1	0	0	0
Steel	1	0	0	0
Wood	3	52	46	5
Total	5	52	46	5

Shelter Requirement

HAZUS estimates the number of households that are expected to be displaced from their homes due to the flood and the number of displaced people that will require accommodations in temporary public shelters. The model estimates 266 households to be displaced due to the flood. Displacement includes households evacuated from within or very near to the inundated area. Of these, 499 people (out of a total population of 20,664) will seek temporary shelter in public shelters.

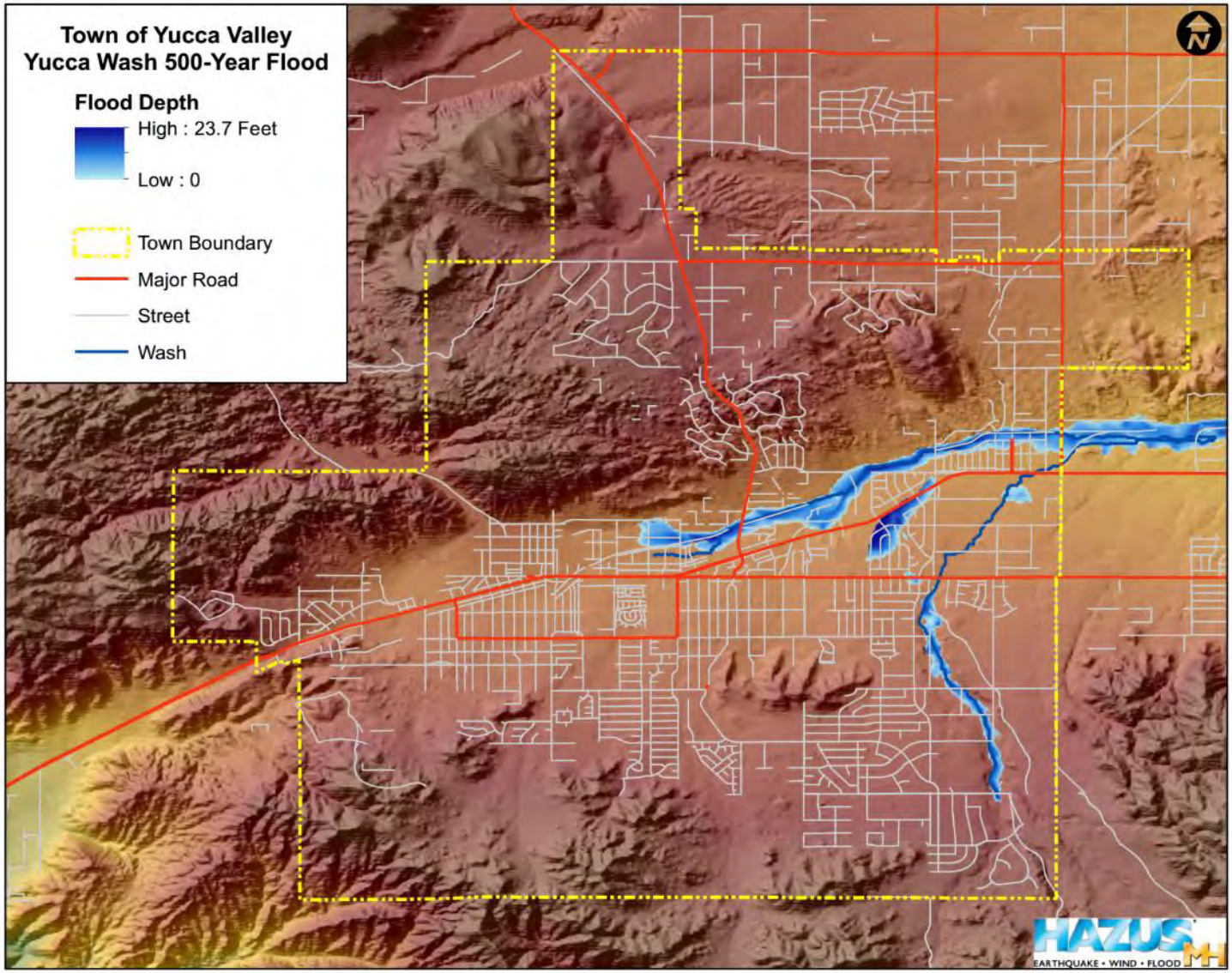
Economic Losses

The total economic loss estimated for the Yucca Valley 500-Year Flood scenario is **$47.63 million dollars** which includes building and lifeline related losses based on the region's available inventory. The following tables provide more detailed information about these losses.

Table: Building-Related Economic Losses ($ Dollars) – Yucca Valley 500-Year Flood

Category	Area	Residential	Commercial	Industrial	Others	Total
Building Loss	Building	$15,010,000	$5,525,000	$486,000	$106,000	$21,127,000
	Content	$9,250,000	$15,282,000	$793,000	$583,000	$25,908,000
	Inventory	$0	$281,000	$100,000	$0	$381,000
	Subtotal	$24,260,000	$21,088,000	$1,379,000	$689,000	$47,416,000
Business Interruption	Income	$0	$60,000	$0	$0	$60,000
	Relocation	$11,000	$10,000	$0	$0	$21,000
	Rental Income	$0	$6,000	$0	$0	$6,000
	Wage	$0	$81,000	$0	$46,000	$127,000
	Subtotal	$11,000	$157,000	$0	$46,000	$214,000
	TOTAL	$24,271,000	$21,245,000	$0	$735,000	$47,630,000

Map: Yucca Valley 500-Year Flood Scenario
(Source: Emergency Planning Consultants, 2017)



Q&A | ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT | B3

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

A: See **Impact of Flooding in the Town of Yucca Valley** below.

Impact of Flooding in the Town of Yucca Valley

Floods and their impacts vary by location and severity of any given flood event, and likely only affect certain areas of the County during specific times. Based on the risk assessment, it is evident that floods will continue to have devastating economic impact to certain areas of the Town.

Impact that is not quantified, but anticipated in future events includes:

- ✓ Injury and loss of life;
- ✓ Commercial and residential structural damage;
- ✓ Disruption of and damage to public infrastructure;
- ✓ Secondary health hazards e.g. mold and mildew
- ✓ Damage to roads/bridges resulting in loss of mobility
- ✓ Significant economic impact (jobs, sales, tax revenue) upon the community
- ✓ Negative impact on commercial and residential property values and
- ✓ Significant disruption to students and teachers as temporary facilities and relocations would likely be needed.

Extreme Weather (Wind & Extreme Cold)

Q&A | ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT | B2

Q: B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))

A: See **Previous Occurrences of Extreme Weather in the Town of Yucca Valley** below.

Previous Occurrences of Extreme Weather in the Town of Yucca Valley

Severe weather conditions can cause substantial damage to property and infrastructure. Like other natural hazards, weather can also negatively impact daily economic activity and potentially result in injuries and/or loss of life. The Town of Yucca Valley is susceptible to high winds, thunderstorms, extreme temperatures, and winter storms resulting in hail, heavy snow, and/or ice. An additional risk with extreme weather conditions is that they can also trigger other types of hazards, such as floods, landslides, or wildland fires.

The most recent, significant extreme weather incident occurred in 2016 involving 80 miles per hour winds over several days. Previously in 2008 snow storms significantly impacted the community

Q&A | ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT | B1

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

A: See **Local Conditions** below.

Local Conditions

Windstorms

Windstorms are chronic events in Yucca Valley that cause extensive damage. Windstorms can occur in Yucca Valley almost any time during the year, but primarily in January, July, August, and December, it is estimated that the Town is impacted by windstorms approximately five times per year. Windstorms may travel in any direction and are only partly affected by terrain. These storms can potentially damage trees, power lines, and property. They also increase the chance of wildland fires. Windstorms, where winds can reach in excess of 65 miles per hour, frequently cause power outages in Town. Power outages may affect economic activity in Yucca Valley, although many businesses are prepared and use backup generators when needed.

Winter Storms and Extreme Cold

Given its location, the Town of Yucca Valley occasionally receives sufficient snow and/or ice to interfere with commuting and other activities. Historically heavy snowstorms are more common in the areas of higher elevation and can result in the accumulation of a few inches or a few feet of snow. Winter storms occur on a yearly basis between December and March. Heavy snow and ice accumulation on rooftops, overhead utility lines, and tree branches are the primary cause of property damage. These storms can also bring extreme cold below 32° Fahrenheit. Populations that are more vulnerable to cold temperatures include the elderly, persons with medical conditions, infants, and small children. Caring for sensitive residents and visitors can be more challenging with snowy or icy road conditions.

Extreme Heat

Although summer temperatures in Yucca Valley can reach up to 119 degrees, the Planning Team felt there was no justification or history of extreme heat ever creating a significant threat (e.g. declare a disaster), and therefore did not choose to expand upon it further as a significant hazard.

Q&A | ELEMENT B: HAZARD IDENTIFICATION AND RISK ASSESSMENT | B3

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

A: See **Impacts of Extreme Weather in the Town of Yucca Valley** below.

Impacts of High Winds in the Town of Yucca Valley

Based on the risk assessment, it is evident that High Wind conditions will continue to have potentially devastating economic impact to the Town.

Impact that is not quantified, but can be anticipated in future events, include:

- ✓ Injury and loss of life
- ✓ Commercial and residential structural damage
- ✓ Disruption of and damage to public infrastructure
- ✓ Secondary Health hazards e.g. dust and allergens
- ✓ Blockage or damage to roads/bridges resulting in loss of mobility
- ✓ Resulting power outages occurring during the summer could pose significant threat to health and comfort

Impacts of Winter Storms in the Town of Yucca Valley

Based on the risk assessment, it is evident that Winter Storm conditions will continue to have potentially devastating economic impact to the Town.

Impact that is not quantified, but can be anticipated in future events, include:

- ✓ Injury and loss of life
- ✓ Commercial and residential structural damage due to roof loads
- ✓ Disruption of and damage to public infrastructure particularly when snow melts and storm drains systems are overloaded
- ✓ Secondary Health hazards e.g. mold and mildew
- ✓ Damage to roads/bridges resulting in loss of mobility
- ✓ Significant economic impact (jobs, sales, tax revenue) upon the community due to business closures
- ✓ Significant disruption to students and teachers due to temporary closures

PART III: MITIGATION STRATEGIES

Mitigation Strategies

Overview of Mitigation Strategy

As the cost of damage from natural disasters continues to increase nationwide, the Town of Yucca Valley recognizes the importance of identifying effective ways to reduce vulnerability to disasters. Mitigation Plans assist communities in reducing risk from natural hazards by identifying resources, information and strategies for risk reduction, while helping to guide and coordinate mitigation activities throughout the Town.

The plan provides a set of action items to reduce risk from natural hazards through education and outreach programs, and to foster the development of partnerships. Further, the plan provides for the implementation of preventative activities, including programs that restrict and control development in areas subject to damage from natural hazards.

The resources and information within the Mitigation Plan:

1. Establish a basis for coordination and collaboration among agencies and the public in the Town of Yucca Valley;
2. Identify and prioritize future mitigation projects; and
3. Assist in meeting the requirements of federal assistance programs

The Mitigation Plan is integrated with other Town plans including the Town of Yucca Valley Emergency Operations Plan, General Plan as well as department-specific standard operating procedures.

Mitigation Measure Categories

Following is FEMA's list of mitigation categories. The activities identified by the Planning Team are consistent with the six broad categories of mitigation actions outlined in FEMA publication 386-3 *Developing the Mitigation Plan: Identifying Mitigation Actions and Implementing Strategies*.

- ✓ **Prevention:** Government administrative or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities to reduce hazard losses. Examples include planning and zoning, building codes, capital improvement programs, open space preservation, and storm water management regulations.
- ✓ **Property Protection:** Actions that involve modification of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples include acquisition, elevation, relocation, structural retrofits, storm shutters, and shatter-resistant glass.
- ✓ **Public Education and Awareness:** Actions to inform and educate citizens, property owners, and elected officials about hazards and potential ways to mitigate them.

  Such actions include outreach projects, real estate disclosure, hazard information centers, and school-age and adult education programs.

- ✓ **Natural Resource Protection:** Actions that, in addition to minimizing hazard losses preserve or restore the functions of natural systems. Examples include sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, and wetland restoration and preservation.
- ✓ **Emergency Services:** Actions that protect people and property during and immediately following a disaster or hazard event. Services include warning systems, emergency response services, and protection of critical facilities.
- ✓ **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Such structures include dams, levees, floodwalls, retaining walls, and safe rooms.

Q&A | ELEMENT C. MITIGATION STRATEGY | C3

Q: C3. Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i))

A: See **Goals** below.

Goals

The Planning Team developed mitigation goals to avoid or reduce long-term vulnerabilities to hazards. These general principles clarify desired outcomes.

The goals are based on the risk assessment and Planning Team input, and represents a long-term vision for hazard reduction or enhanced mitigation capabilities. They are compatible with community needs and goals expressed in other planning documents prepared by the Town.

Each goal is supported by mitigation action items. The Planning Team developed these action items through its knowledge of the local area, risk assessment, review of past efforts, identification of mitigation activities, and qualitative analysis.

The five mitigation goals and descriptions are listed below.

FEMA defines Goals as general guidelines that explain what you want to achieve. They are usually broad policy-type statements, long-term, and represent global visions.

FEMA defines Mitigation Activities as specific actions that help you achieve your goals and objectives.

Protect Life and Property

Implement activities that assist in protecting lives by making homes, businesses, infrastructure, critical facilities, and other property more resistant to losses from natural, human-caused, and technological hazards.

Improve hazard assessment information to make recommendations for avoiding new development in high hazard areas and encouraging preventative measures for existing development in areas vulnerable to natural, human-caused, and technological hazards.

Enhance Public Awareness

Develop and implement education and outreach programs to increase public awareness of the risks associated with natural, human-caused, and technological hazards.

Provide information on tools; partnership opportunities, and funding resources to assist in implementing mitigation activities.

Preserve Natural Systems

Support management and land use planning practices with hazard mitigation to protect life.

Preserve, rehabilitate, and enhance natural systems to serve hazard mitigation functions.

Encourage Partnerships and Implementation

Strengthen communication and coordinate participation with public agencies, citizens, non-profit organizations, business, and industry to support implementation.

Encourage leadership within the Town and public organizations to prioritize and implement local and regional hazard mitigation activities.

Strengthen Emergency Services

Establish policy to ensure mitigation projects for critical facilities, services, and infrastructure.

Strengthen emergency operations by increasing collaboration and coordination among public agencies, non-profit organizations, business, and industry.

Coordinate and integrate hazard mitigation activities where appropriate, with emergency operations plans and procedures.

The Planning Team also developed hazard-specific mitigation goals, which appear in the **Mitigation Strategies Section**.

Q&A | ELEMENT C. MITIGATION STRATEGY | C5

Q: C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))

A: See **How are the Mitigation Action Items Organized?** below.

Q&A | ELEMENT C. MITIGATION STRATEGY | C6

Q: C6. Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6(c)(4)(ii))

A: See **How are the Mitigation Action Items Organized?** below.

How are the Mitigation Action Items Organized?

The action items are a listing of activities in which Town agencies and citizens can be engaged to reduce risk. Each action item includes an estimate of the timeline for implementation.

The action items are organized within the following **Mitigation Actions Matrix**, which lists all of the multi-hazard (actions that reduce risks for more than one specific hazard) and hazard-specific action items included in the mitigation plan. Data collection and research and the public participation process resulted in the development of these action items. The Matrix includes the following information for each action item:

Coordinating Organization

The Mitigation Actions Matrix assigns primary responsibility for each of the action items. The hierarchies of the assignments vary – some are positions, others are departments, and other committees. The primary responsibility for implementing the action items falls to the entity shown as the "Coordinating Organization". The coordinating organization is the agency with regulatory responsibility to address hazards, or that is willing and able to organize resources, find appropriate funding, or oversee activity implementation, monitoring, and evaluation. Coordinating organizations may include local, County, or regional agencies that are capable of or responsible for implementing activities and programs.

Timeline

The Mitigation Plan is in effect for a period of 5 years at which time a FEMA-mandated update will be funded, scheduled, and completed. Each of the action items is assigned a timeline (months, years) within the 5-year span of the Plan however it's perfectly acceptable for long-range action items like capital improvements to run well beyond the 5-year life of the Plan. Also note that many action items indicate "ongoing" which indicates it is a continuing practice of the Town and that it will continue into the future. Additionally, certain action items will be shown as "completed" because the Planning Team chose to keep those accomplishments in the Plan.

Plan Goals Addressed

The plan goals addressed by each action item are included as a way to monitor and evaluate how well the mitigation plan is achieving its goals once implementation begins.

The plan goals are organized into the following five areas as addressed earlier in this section:

- ✓ Protect Life and Property
- ✓ Enhance Public Awareness
- ✓ Preserve Natural Systems

- ✓ Encourage Partnerships and Implementation
- ✓ Strengthen Emergency Services

Building and Infrastructure

This addresses the issue of whether or not a particular action item results in the reduction of the effects of hazards on new and existing buildings and infrastructure.

Funding Source

The action items can be funded through a variety of sources, possibly including: General Fund, Community Development Block Grant (CDBG), Hazard Mitigation Grant Program (HMGP), other Grants, private funding, Capital Improvement Program, and other funding opportunities.

Planning Mechanism

It's important that each action item be implemented. Perhaps the best way to ensure implementation is through integration with one or many of the Town's existing "planning mechanisms" including the General Plan, Capital Improvement Program, General Fund and Grants. Opportunities for integration will be simple and easy in cases where the action item is already compatible with the content of the planning mechanism. As an example, if the action item calls for the creation of a floodplain ordinance and the same action is already identified in the General Plan's policies, then the General Plan will assist in implementation. On the contrary, if preparation of a floodplain ordinance is not already included in the General Plan policies then the item will need to be added during the next update to the General Plan. The General Plan was just updated in the Town of Yucca Valley in 2014 and was used as a resource throughout the Mitigation Plan. The next General Plan update will likely not take place for another 20 years.

The Capital Improvement Program, depending on the budgetary environment, is updated every 5 years. The CIP includes infrastructure projects built and owned by the Town of Yucca Valley. As such, the CIP is an excellent medium for funding and implementing action items from the Mitigation Plan. The Mitigation Actions Matrix includes several items from the existing CIP. The authors of the CIP served on the Planning Team and are already looking to funding addition Mitigation Plan action items in future CIPs.

The General Fund is the budget document that guides all of the Town's expenditures and is updated on an annual basis. Although primarily a funding mechanism, it also includes descriptions and details associated with tasks and projects.

Grants come from a wide variety of sources – some annually and other triggered by events like disasters. Whatever the source, the Town uses the General Fund to identify successful grants as funding sources.

Q&A | ELEMENT C. MITIGATION STRATEGY | C5

Q: C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))

A: See **Benefit/Cost Ratings** and **Priority Rating** below.

Benefit/Cost Ratings

The benefits of proposed projects were weighed against estimated costs as part of the project prioritization process. The benefit/cost analysis was not of the detailed variety required by FEMA for project grant eligibility under the Hazard Mitigation Grant Program (HMGP) and Pre-Disaster Mitigation (PDM) grant program. A less formal approach was used because some projects may not be implemented for up to 10 years, and associated costs and benefits could change dramatically in that time. Therefore, a review of the apparent benefits versus the apparent cost of each project was performed. Parameters were established for assigning subjective ratings (high, medium, and low) to the costs and benefits of these projects.

Cost ratings were defined as follows:

High: Existing jurisdictional funding will not cover the cost of the action item so other sources of revenue would be required.

Medium: The action item could be funded through existing jurisdictional funding but would require budget modifications.

Low: The action item could be funded under existing jurisdictional funding.

Benefit ratings were defined as follows:

High: The action item will provide short-term and long-term impacts on the reduction of risk exposure to life and property.

Medium: The action item will have long-term impacts on the reduction of risk exposure to life and property.

Low: The action item will have only short-term impacts on the reduction of risk exposure to life and property.

Priority Rating

The Planning Team adopted the following process for rating the "priority" of each mitigation action item. Designations of "High", "Medium", and "Low" priority have been assigned to each action item using the following criteria:

Does the Action:
- solve the problem?
- address Vulnerability Assessment?
- reduce the exposure or vulnerability to the highest priority hazard?
- address multiple hazards?
- benefits equal or exceed costs?
- implement a goal, policy, or project identified in the General Plan or Capital Improvement Plan?

Can the Action:
- be implemented with existing funds?
- be implemented by existing state or federal grant programs?
- be completed within the 5-year life cycle of the LHMP?
- be implemented with currently available technologies?

Will the Action:
- be accepted by the community?
- be supported by community leaders?
- adversely impact segments of the population or neighborhoods?
- require a change in local ordinances or zoning laws?
- positive or neutral impact on the environment?
- comply with all local, state and federal environmental laws and regulations?

Is there:
- sufficient staffing to undertake the project?
- existing authority to undertake the project?

As mitigation action items were updated or written the Planning Team, representatives were provided worksheets for each of their assigned action items. Answers to the criteria above determined the priority according to the following scale.

- 1-6 = Low priority
- 7-12 = Medium priority
- 13-18 = High priority

Comments

The purpose of the "Comments" is to capture the notes and status of the various action items. Since Planning Team members frequently change between plan updates and annual reviews, the Comments provide a sort of history to help in tracking the progress and status of each action. Comments are expressed in terms of Completed, Revised, Deleted, New, Deferred, and Notes.

Q&A | ELEMENT C. MITIGATION STRATEGY | C1

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

A: See **Mitigation Actions Matrix** below.

Q&A | ELEMENT C. MITIGATION STRATEGY | C4

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

A: See **Mitigation Actions Matrix** below.

Q&A | ELEMENT C. MITIGATION STRATEGY | C5

Q: C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))

A: See **Mitigation Actions Matrix** below.

Q&A | ELEMENT D. MITIGATION STRATEGY | D2

Q: D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement §201.6(d)(3))

A: See **Mitigation Actions Matrix** below.

Q&A | ELEMENT D. MITIGATION STRATEGY | D3

Q: D3. Was the plan revised to reflect changes in priorities? (Requirement §201.6(d)(3))

A: See **Mitigation Actions Matrix** below.

Mitigation Actions Matrix

Following is **Table: Mitigation Actions Matrix** which identifies the existing and future mitigation activities developed by the Planning Team.

Table: Mitigation Actions Matrix

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
MULTI-HAZARD ACTION ITEMS														
MH-1 Acquire and install emergency generator for the Town Hall Complex including Community Services and Animal Shelter.	Grant Resources, Disaster Preparedness	Pending	X			X	X	Y	GR	GR	H	M	H	Revised – coordinating agency, timeline (awaiting DR-4240 PDM Grant)
MH-2 Identify the HMP in the next General Plan Safety Element Update	Community Development – Planning Division	Completed	X	X	X			Y	GF	GP	H	L	H	Completed 2014
MH-3 Utilize County's TENS service for emergency notifications.	SBC Sheriff	Ongoing	X	X	X	X	X		n/a	GF	H	L	H	Revised – Action Item - replaced Reverse 911 with County's TENS and revised funding

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
														mechanism, coordinating agency. New – planning mechanism, benefit, cost, priority.
MH-4 Development Code Update	Community Development	Completed	X	X	X	X		Y	GF	GF	H	M	H	Completed - 2014
MH-5 Tract Map Standards for fuel modification landscape standards	Community Development	Completed	X	X	X	X		Y	GF	GF	H	L	M	Completed - 2014
MH-6 Prepare Evacuation Plans	SBC Fire, SBC Sheriff	Ongoing	X	X		X	X		*		H	L	H	Revised – Timeline and funding. New – planning mechanism, benefit, cost, priority.
MH-7 Update to State Building Code	Community Development	Ongoing	X	X	X	X		Y	GF	GF	H	L	M	Revised – Action item, timeline. New

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
														– planning mechanism, benefit, cost, priority.
MH-8 Establish Memorandums of Understanding (MOU) for sharing of resources with Marine Corps Base – City of 29 Palms, Copper Mountain College.	Administrative Services	1-2 years	X	X		X	X		GF	GF	H	L	H	Revised – Action item, coordinating agency, funding. New – planning mechanism, benefit, cost, priority.
MH-9 Continue to support CERT Program	Disaster Preparedness	Ongoing	X	X		X	X		GF	GF	H	L	M	Revised – Action item, funding. New – planning mechanism, benefit, cost, priority.
MH-10 Add emergency preparedness information to Town's website.	Disaster Preparedness	1 year	X	X		X	X		GF	GF	H	L	M	Revised – Action item, funding. New – planning

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
														mechanism, benefit, cost, priority.
MH-11 Review all industrial development proposals with a focus on public health and safety issues to ensure that the type and intensity of the use is appropriate for the proposed location and compatible with surrounding land uses.	Community Development	Ongoing	X					Y	GF	GF	H	L	M	Revised – Funding. New – planning mechanism, benefit, cost, priority.
MH-12 Restrict higher intensity uses from areas subject to flooding, seismic hazards, airport safety hazards and wildland fires.	Community Development, Planning	Ongoing	X					Y	GF	GF	H	L	H	Revised – Action item, funding. New – planning mechanism, benefit, cost, priority.
MH-13 Reconstruction with 4-inch asphalt	Public Works	Completed	X					Y	CIP	CIP	H	M	H	Completed – 2013. Revised –

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
concrete including 6-inch asphalt concrete dikes, pulverization of existing pavement, grading and related work necessary for the rehabilitation of Church Street from Onaga Trail to Joshua Drive.														coordinating agency, timeline, funding. New – planning mechanism, benefit, cost, priority.
MH-14 Install traffic signal at SR62/Camino del Cielo intersection and construct raised landscaped median island.	Public Works, CalTrans	Completed					X	Y	CIP	CIP	H	M	H	Completed – 2009. Revised – coordinating agency, timeline, funding. New – planning mechanism, benefit, cost, priority.
MH-15 Remodel police substation and/or permanent facilities as	Facilities	Completed	X				X	Y	CIP	CIP	H	H	H	Revised – action item, timeline, funding. New –

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
replacement for existing sub-standard structure.														planning mechanism, benefit, cost, priority. Completed – Remodeled 2016.
MH-16 Construction of new animal shelter per master plan and JPA actions.	Public Works, County JPA	Completed	X			X	X	Y	CIP	CIP	H	M	H	Completed – 2014. Revised – timeline, funding. New – planning mechanism, benefit, cost, priority.
MH-17 Foster and maintain relationships with CalTrans to facilitate the establishment of emergency evacuation routes, and to provide for the development of an emergency response plan that assures the timely	Town Manager and Community Development Department	Ongoing	X			X			GF	GP	H	L	H	Revised – action item, goals, funding. New – planning mechanism, benefit, cost, priority.

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
repair of state highways damaged by earthquakes, flooding or other disasters. Consult with CalTrans, the Federal Highway Administration, FEMA and the US Department of Defense regarding funding assistance for the construction, repair and/or upgrading of bridges, floodway crossings, cut slopes and other structures to minimize the potential isolation of the community and surrounding facilities from ground-based assistance.														

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
MH-18 The Town shall periodically review and update the Safety Element of the General Plan with the latest information and data available on the various seismic and flooding threats. This process shall ensure that additional or refined measures are systematically incorporated into these elements to protect lives and property. Also, next update should ensure compliance with AB 2140	Planning	Ongoing	X	X	X	X	X	Y	GF	GP	H	M	H	Notes – last updated in 2014. Revised – action item, goals, funding. New – planning mechanism, benefit, cost, priority.
MH-19 Cooperate and coordinate with San Bernardino County, the	Disaster Preparedness	Ongoing		X		X			GF	GP	M	L	M	Revised – coordinating agency, funding.

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
Hi-Desert Water District and other agencies and utilities in the preparation of public information materials to assist residents and business owners in responding to local disasters.														New – planning mechanism, benefit, cost, priority.
MH-20 Coordinate with and integrate both commercial and private radio operators, including ham radio operators, to establish a Radio Amateur Civil Emergency Service.	San Bernardino County OES/Disaster Preparedness	Ongoing		X			X		GF	GP	M	L	M	Revised – coordinating agency, funding. New – planning mechanism, benefit, cost, priority.
MH-21 Continue to examine vulnerability to natural and man-made disasters when reviewing proposals for the siting	Community Development	Ongoing	X	X			X	Y	GF/GR	GP	H	L	H	Revised – action item, goals, funding. New – planning mechanism,

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
and development of critical and essential public/quasi-public facilities.														benefit, cost, priority.
MH-22 Purchase and maintain emergency power generators in essential Town facilities for fuel extraction and power. Also, encourage the purchase and maintenance of emergency power generators at other important public and private facilities.	Disaster Preparedness	1 year	X	X	X		X	Y	GF/GR	GP	H	M	H	Revised – action item, goals, funding. New – planning mechanism, benefit, cost, priority.
MH-23 Promote hazard mitigation as a public value in recognition of its importance to the health,	Disaster Preparedness	Ongoing		X		X			GF	GF	M	L	M	Revised – coordinating agency, goals, funding. New – planning

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
safety, and welfare of the population.														mechanism, benefit, cost, priority.
MH-24 Compile a directory of out-of-area contractors to help with repairs/reconstruction so that restoration occurs in a timely manner.	Public Works	Ongoing	X			X	X		GF/GR	GF	M	L	M	Revised – coordinating agency, funding. New – planning mechanism, benefit, cost, priority.
MH-25 Coordinate and integrate hazard mitigation activities, where appropriate, with Emergency Operations Plan and procedures.	Disaster Preparedness	Ongoing	X	X	X		X		GF	GF	M	L	M	Revised – action item, coordinating agency, funding. New – planning mechanism, benefit, cost, priority.
MH-26 Continue to enforce hazard-resistant building construction.	Community Development	Ongoing	X	X			X	Y	GF	GF	H	L	H	Revised – action item, coordinating agency, timeline, funding. New –

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
														planning mechanism, benefit, cost, priority.
MH-27 Require that new structures or structures undergoing significant renovation meet code requirements in accordance with the State Building Code.	Building & Safety	Ongoing	X	X				Y	GF	GF	H	L	H	Revised – action item, coordinating agency, timeline, funding. New – planning mechanism, benefit, cost, priority.
MH-28 Identify and inspect critical infrastructure -reinforce identified weaknesses -Ensure reserve water supply for drinking and firefighting	Disaster Preparedness	5 years	X			X	X	Y	GF/GR/CIP	GF/CIP	M	M	M	Revised – action item, coordinating agency, funding. New – planning mechanism, benefit, cost, priority.

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
-I.D. risks to transportation corridors														
MH-29 Utilize local radio, print media, and social media to spread hazard awareness.	Disaster Preparedness	Ongoing	X	X		X			GF	GF	H	L	H	Revised – action item, coordinating agency, funding. New – planning mechanism, benefit, cost, priority.
MH-30 Conduct a study of Town-owned critical facilities and determine if the facilities should be redesigned or relocated to avoid future service disruptions.	Community Development, Engineering, Disaster Preparedness	5 years	X				X	Y	GR	GF	H	M	M	Revised – action item, coordinating agency, funding. New – planning mechanism, benefit, cost, priority.
MH-31 Investigate, apply, and implement the National Weather Service designation of	Disaster Preparedness	2 years	X				X		GF	GF	H	L	H	Revised – action item, coordinating agency, timeline, funding. New – planning

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
StormReady or Weather Ready Nation programs.														mechanism, benefit, cost, priority.
MH-32 Monitor trees and branches in public areas at risk of breaking or falling in wind and sand storms. Prune or thin trees or branches when they would pose an immediate threat to property, utility lines or other significant structures or critical facilities in the Community.	Public Works	Ongoing	X					Y	GF/GR/CIP	GF/CIP	H	M	H	Revised – coordinating agency, funding. New – planning mechanism, benefit, cost, priority.
MH-33 Integrate the Mitigation Plan into future Capital Improvement Plans and General Plan updates to ensure that	Community Development, Disaster Preparedness, Engineering	Annual	X	X	X		X	Y	GF/GR	GF	M	M	H	Revised – coordinating agency, funding. New – planning mechanism,

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
development does not encroach on known hazard areas.														benefit, cost, priority.
MH-34 Seek funding to prepare a Pre-Disaster Recovery Plan including priorities for changes in land use and restoration of the community's infrastructure and vital public facilities following a disaster.	Disaster Preparedness, Public Works, Community Development	1-5 years	X	X			X	Y	GR	GF	M	M	M	Revised – action item, coordinating agency, timeline, funding. New – planning mechanism, benefit, cost, priority.
MH-35 Seek funding and prepare Continuity of Operations Plan (COOP).	Disaster Preparedness	1-5 years				X			GF/GR	GF	H	L	H	New
MH-36 Explore alternatives for storing emergency water at Town Hall Complex.	Disaster Preparedness, Public Works	1-5 years	X				X	Y	GF/GR	GF	H	M	H	New

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
MH-37 Seek grant funding for next update to Hazard Mitigation Plan.	Disaster Preparedness	4 years	X	X	X	X	X		GR	GF	M	L	M	New
MH-38 Seek grant funding for establishing GIS capabilities (software, equipment, etc.)	Disaster Preparedness	1 year	X	X	X	X	X		GR	GF	H	H	H	New
MH-39 Identify and pursue funding opportunities to develop and implement local mitigation activities.	All Coordinating Agencies	Ongoing	X	X	X	X	X		GF, GR, CIP	GF, CIP	H	M	H	New - Moved from Flood. Revised action item, funding. New – planning mechanism, benefit, cost, priority.
MH-40 Seek funding for development of a Personal Mitigation Outreach Program. Possible components	Disaster Preparedness, Community Services	Ongoing	X	X	X	X	X		GF, GR, CIP	GF, CIP	H	M	H	New – all information.

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
could include home risk/mitigation assessments and broker available free/subsidized resources to participating residents. Initial Program should be delivered at the Senior Center.														
MH-41 Seek funding for upgrades to the existing EOC locations (Town Hall Complex, Community Development)	Public Works, Facilities, Disaster Preparedness	1-5 years	X			X	X	Y	GF, GR, CIP	GF, CIP	H	H	H	New – all information.
EARTHQUAKE ACTION ITEMS														
EQ-1 Continuous evaluation of seismic building codes and updates to ensure that new buildings conform to latest standards.	Community Development	Ongoing	X					Y	GF	GF	H	L	H	Revised – action item, funding. New – planning mechanism, benefit, cost, priority.

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
EQ-2 Maintain lines of communication between the Town and the US Geological Survey to assure the provision of earthquake predictions which may impact the Town and surrounding area.	San Bernardino County OES, Disaster Preparedness	Ongoing	X	X		X		Y	GF	GF	H	L	H	Revised – action item, coordinating agency, funding. New – planning mechanism, benefit, cost, priority.
EQ-3 Periodically contact the California Division of Mines and Geology to develop and maintain updated Alquist-Priolo Earthquake Fault Zoning maps and other information on seismic and other geological hazards affecting the community. Consult and cooperate with San	Community Development Department and State and Federal Agencies	Ongoing	X	X		X		Y	GF	GP	H	L	H	Revised – funding. New – planning mechanism, benefit, cost, priority.

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
Bernardino County, surrounding unincorporated communities and applicable State and Federal agencies, in an on-going program to improve and update the database and other information on regional geologic/seismic conditions.														
EQ-4 Continue to monitor suitability of future development in areas subject to a rock fall or landslide hazards.	Community Development, Engineering	Ongoing	X				X	Y	GF	GF	H	L	H	Revised – action item, timeline, funding. New – planning mechanism, benefit, cost, priority.

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
EQ-5 Continue to install non-structural mitigation (strap or secure) Town Hall Complex cabinets, bookcases, and shelving.	Disaster Preparedness, Facilities	Ongoing	X				X	Y	GF	GF	H	L	H	New – moved from Multi-Hazard action items. New – planning mechanism, benefit, cost, priority.
EQ-6 Update Emergency Kits and Grab-N-Go bags at all Town office locations.	Disaster Preparedness	1 – 3 years	X						GF	GF, GR	M	M	M	New
WILDFIRE ACTION ITEMS														
WF-1 Educate the public regarding defensible space for wildfire safety.	SB County FD, Disaster Preparedness	Ongoing	X	X		X	X	Y	GF	GF	H	L	H	Revised – action item, coordinating agency, funding. New – planning mechanism,

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
														benefit, cost, priority.
WF-2 Continue with code compliance for weed, fire/fuel module abatement proactive outreach.	Code Enforcement	Ongoing	X	X		X		Y	GF	GF	H	L	H	Revised – action item, coordinating agency, funding. New – planning mechanism, benefit, cost, priority.
WF-3 Coordinate with the appropriate agencies and service providers to assure that emergency preparedness plans include contingencies for large-scale urban and wildland fires.	SB County Fire, Disaster Preparedness	Ongoing	X			X	X		GF	GF	H	L	H	Revised – coordinating agency, funding. New – planning mechanism, benefit, cost, priority.
WF-4 Retrofit Town Clerk's Office with 2-hour fire safe room, fire-rated	Public Works	Completed	X					Y	GF	GF	H	M	H	Completed - 2016

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
vents and magnetic door system (auto close).														
FLOODING ACTION ITEMS														
FLD-1 Code Compliance – Proactive clearing of wash debris to allow free flow of runoff in contained channels.	Code Enforcement	Ongoing	X					Y	GF	GF	H	L	M	Revised – action item, coordinating agency, funding. New – planning mechanism, benefit, cost, priority.
FLD-2 Drainage Improvement Projects in Long Canyon Channel. As identified in the 2016 5-year Unfunded CIP, following is a description of the desired improvements: It is recommended the existing Long Canyon	Community Development	1-2 years	X		X		X	Y	CIP	CIP	H	M	H	Revised – action item, coordinating agency, funding. New – planning mechanism, benefit, cost, priority.

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
Detention Basin be enlarged to control the runoff from all of the upper Long Canyon area. Runoff from the portion of the tributary drainage area currently bypasses the basin to the west will be routed through the basin substantially reducing the flood peak downstream. All of the basin outflow will discharge into the Long Canyon Channel. From the existing basin upstream to Golden Bee, it is recommended Long Canyon be a rock lined channel. From this point upstream, it is														

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
recommended the drainage course be managed floodplain. A rock lined channel is also recommended for Long Canyon Channel between the basin and its confluence with High School Channel. Long Canyon Channel from its confluence with High School Channel to Yucca Wash is currently a concrete lined channel.														
FLD-3 Drainage Improvement Projects in Long Canyon Basin. As identified in the 2016 5-year Unfunded CIP, following is a description	Community Development, SB County, Army Corps of Engineers	1-2 years	X		X		X	Y	CIP	CIP	H	M	H	Revised – action item, coordinating agency, funding. New – planning mechanism, benefit, cost, priority.

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
of the desired improvements: The intent is to expand the existing Long Canyon Basin easterly, westerly and southerly to achieve the required capacity. The purpose of these basins is to reduce peak 100-year peak inflows and manage sediment. The basins allow the use of smaller drainage facilities downstream because of reduced flow rates and the elimination of the need to apply debris bulking factors. Physical and hydrologic characteristics of the expansion are: Tributary														

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
area-3.4 miles; storage capacity-130 acre-feet; debris capacity-108,000 cubic yards; peak inflow-4846 cfs; peak outflow-1462 cfs; percent peak reduction-70; basin footprint-15 acres; embankment height-26 feet.														
FLD-4 Construct Brehm Park as a component of the Town's Flood Control Master Plan to prevent downstream and upstream flood potential. As identified in the 2016 5-year Unfunded CIP, following is a description of the desired improvements:	Public Works	3-5 years	X			X		Y	CIP	CIP	H	M	H	Revised – action item, coordinating agency, funding. New – planning mechanism, benefit, cost, priority.

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
Replace the existing Boys & Girls Club with a new facility containing a gym, computer room, game room, meeting rooms, reading room/study area and administrative offices including the expansion of Brehm Park with turf areas to accommodate multi-use fields for practice and play. In the area of the existing Boys & Girls Club the development of a neighborhood park incorporating the existing Little League baseball fields and soccer field and adding picnic facilities, tot lot, commercial batting														

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
cage and food concession.														
FLD-6 Construct Kickapoo Drain and Basin in coordination with flood planning at Blue Skies area. As identified in the 2016 5-year Unfunded CIP, following is a description of the desired improvements: The Kickapoo Drain will carry the runoff that currently flows in and adjacent to Kickapoo Trail. A detention/debris basin is recommended at the inlet to the drain to reduce the peak flow rate and remove the debris. The Kickapoo Storm	Town of Yucca Valley	5 years	X				X	Y	CIP	CIP	H	H	H	

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
Drain will confluence with the La Honda Drain and carry the flow under SR62 and discharge near the Blue Skies Country Club. These facilities along with the La Honda Drain will reduce the flooding of SR62 and protect the development near the Blue Skies Country Club. Kickapoo Basin is in need of five new detention and/or debris basins are included in the recommended MPD. The purpose of these basins is to reduce peak 100-year peak inflows and manage sediment. The basins allow the use of														

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
smaller drainage facilities downstream because of reduced flow rates and the elimination of the need to apply debris bulking factors. Physical and hydrologic characteristics are: Tributary area-0.8 miles; storage capacity-32 acre-feet; debris capacity-26,500 cubic yards; peak inflow-1178 cfs; peak outflow-290 cfs; percent peak reduction-75; basin footprint-8 acres; embankment height-22 feet.														
FLD-7 Continue to implement National Flood	Community Development	Ongoing	X				X	Y	GF	GF, GP	H	H	H	Revised – action item, funding. New

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
Insurance Program (NFIP) requirements for new construction and substantially improved buildings.														– planning mechanism, benefit, cost, priority.
FLD-8 Following a disaster, revise codes to help ensure mitigating against future disasters.	Community Development, Public Works	Ongoing	X			X	X	Y	GF	GF	H	L	H	Revised – action item, coordinating agency, funding. New – planning mechanism, benefit, cost, priority.
FLD-9 Revise the Zoning and Subdivision Ordinance to require the utilization of various pervious surfaces within the floodplain in order to reduce storm water runoff. This should include encouragement to	Community Development	Ongoing	X				X	Y	GF	GF	M	L	M	Revised – coordinating agency, funding. New – planning mechanism, benefit, cost, priority.

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
developers to utilize the use of various pervious surfaces in parking lots in recreational areas near the floodplain.														
FLD-10 Continue to implement and update as necessary the Master Drainage Plan.	Community Development, SBC Transportation/Flood Control	Ongoing	X	X	X	X	X	Y	GF	GP	H	M	H	Revised – action item, goals, coordinating agency, funding. New – planning mechanism, benefit, cost, priority.
FLD-11 Proactively pursue the securing of a Conditional Letter of Map Amendment (CLOMA) and final map amendment recognizing the re-designation of the 100-	Community Development Department, FEMA, and County Flood Control	Ongoing			X	X	X	Y	GF	GP	H	L	H	Notes – cost of updating FIRM maps. New – goals, funding, benefit, cost.

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
year floodplain within the Town boundaries.														
FLD-12 As appropriate, the mandates set forth in the General Plan Safety Element shall be implemented through the Master Drainage Plan.	Community Development Department, County Flood Control, and CalTrans	Ongoing	X		X		X	Y	GF	GP	H	L	H	Revised – action item, goals, coordinating agency, funding. New – planning mechanism, benefit, cost, priority.
FLD-13 All major drainage facilities, including debris basins and flood control washes and channels, shall be designed to maximize their enhancement as wildlife habitat, consistent with the functional requirements of these facilities.	Community Development, Community Services, SBC Flood Control District	Ongoing	X		X		X	Y	GF, GR, CIP	GF	H	L	H	Revised – action item, goals, funding. New – planning mechanism, benefit, cost, priority.

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
FLD-14 Pursue all sources of funding for local and area-wide drainage improvements needed to provide flood control protection, and to achieve related General Plan goals and policies.	Community Development, SBC Flood Control District	Ongoing	X		X		X	Y	GF, GR, CIP	GF	H	L	H	Revised – action item, goals, funding. New – planning mechanism, benefit, cost, priority.
FLD-15 Promote the sensitive use of floodplains to reduce flood losses, and protect the natural and cultural resources and functions of floodplains.	Community Development	Ongoing	X	X	X	X	X		GF, GR, CIP	GF	H	L	M	Revised – action item, goals, funding. New – planning mechanism, benefit, cost, priority.
FLD-16 Acquire and implement monitoring flood warning and notification systems.	Public Works, SBC Fire, SBC Sheriff	2 years	X	X			X	Y	GF, GR, CIP	GF, GR, CIP	H	M	H	Notes – especially regarding flash floods, a monitoring system would be a significant improvement to

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
														present detection methods.
FLD-17 Hot mix asphalt repair and seal coat rehabilitation of Onaga Trail.	Public Works	Completed					X	Y	CIP	CIP	H	M	H	New - Moved from Multi-Hazard mitigation action items. Revised – timeline, funding. New – planning mechanism, benefit, cost, priority. Completed – 2010-2011.
FLD-18 SR62 widening, raised median islands, sidewalk, street lighting, drainage improvement and curb & gutter. Limited to SR62 from Palm to Airway and Fairway to Camino del.	Town of Yucca Valley/CalTrans	Completed	X				X	Y	CIP	CIP	H	M	H	New – moved from Multi-Hazard mitigation action items. Revised – timeline, funding. New – planning mechanism, benefit, cost,

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Buildings & Infrastructure: Does the Action item involve New and/or Existing Buildings and/or Infrastructure? Yes (Y)	Funding Source: GF- General Fund, GR-Grant , CIP-Capital Improvement Program	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant, Capital Improvement Program (CIP)	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status: Completed, Revised, Deleted, New, Deferred, and Notes
														priority. Completed – 2013.
FLD-19 Prepare and maintain Floodplain Ordinance.	Community Development	Ongoing	X	X	X	X	X	Y	GF	GF	H	M	H	New – completed Ordinance in 2010. New – planning mechanism, benefit, cost, priority.
EXTREME WEATHER ACTION ITEMS														
EXW-1 Purchase snow blade attachments for use on existing Town-owned vehicles.	Public Works	1 year	X	X	X	X	X		GF	GF	H	M	H	New – all information.
EXW-2 Design and construct a Town Gymnasium for use in evacuations, cooling station, and EOC backup.	Community Development, Disaster Preparedness	1 year	X	X	X	X	X		GF	GF	H	H	H	New – all information.

Plan Maintenance

The plan maintenance process includes a schedule for monitoring implementation and evaluating the Plan. Monitoring implementation of the plan and evaluating the effectiveness of the plan will take place annually. In addition, DMA 2000 regulations require a plan update every five years. This section also describes how the Town will integrate public participation throughout the plan maintenance process.

Q&A | ELEMENT A: PLANNING PROCESS | A6

Q: A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))

A: See **Method and Scheduling of Plan Implementation** below.

Method and Scheduling of Plan Implementation

The Planning Team members involved in research and writing of the Plan will also be responsible for implementation. The Planning Team will be led by the Chair of the Planning Team and will be referred to as the "Local Mitigation Officer". Following is the five-year schedule for monitoring implementation, evaluating, and updating the plan.

	Year 1	Year 2	Year 3	Year 4	Year 5
Monitoring	X	X	X	X	X
Evaluating					X
Internal Planning Team Evaluation	X	X	X	X	X
Cal OES and FEMA Evaluation					X
Updating					X

Q&A | ELEMENT A: PLANNING PROCESS | A6

Q: A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))

A: See **Monitoring Implementation** below.

Monitoring Implementation

Plan Adoption

Adoption of the Mitigation Plan by the Town's governing body is one of the prime requirements for approval of the plan. Once the plan is completed, the Town Council will be responsible for adopting the Mitigation Plan. The governing body has the responsibility and authority to promote sound public policy regarding hazards. The local agency governing body will have the authority to periodically update the plan as it is revised to meet changes in the hazard risks and exposures in the Town. At a minimum, the plan will be updated every five years as required by DMA 2000.

Once the plan has been updated, the Local Mitigation Officer will be responsible for submitting it to the State Hazard Mitigation Officer at California Office of Emergency Services (Cal OES) for review and forwarding to the Federal Emergency Management Agency (FEMA) for review and approval. The review will address the requirements set forth in 44 C.F.R. Section 201.6 (Local Mitigation Plans). Upon approval by FEMA, Town of Yucca Valley will gain eligibility for Hazard Mitigation Grant Program funds.

Under the direction of the Local Mitigation Officer, the Planning Team will take responsibility for plan maintenance and implementation. The Local Mitigation Officer will facilitate the annual Planning Team meetings and will assign tasks such as updating and presenting the Plan to the members of the Planning Team. Plan implementation and evaluation will be a shared responsibility among all the Planning Team members. The Local Mitigation Officer will coordinate with Town leadership to ensure funding for 5-year updates to Plan as required by DMA 2000.

The Planning Team will be responsible for coordinating implementation of plan action items and undertaking the formal review process. The Local Mitigation Officer will be authorized to make changes in assignments to the current Planning Team.

Q&A | ELEMENT C. MITIGATION STRATEGY | C6

Q: C6. Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6(c)(4)(ii))

A: See **Implementation through Existing Program** below.

Implementation through Existing Programs

The Town of Yucca Valley addresses statewide planning goals and legislative requirements through its General Plan, its Capital Improvement Plan, and Town Building and Safety Codes. The Mitigation Plan provides a series of recommendations - many of which are closely related to the goals and objectives of existing planning programs. The Town of Yucca Valley will implement recommended mitigation action items through existing programs and procedures.

The Town of Yucca Valley Planning Department is responsible for adhering to the State of California's Building and Safety Codes. In addition, the Planning Team will work with other agencies at the state level to review, develop and ensure Building and Safety Codes are adequate to mitigate or present damage by hazards. This is to ensure that life-safety criteria are met for new construction.

Some of the goals and action items in the Mitigation Plan will be achieved through activities recommended in the CIP. Various Town departments develop the CIP and review it on an annual basis. Upon annual review of the CIP, the Planning Team will work with the Town departments to identify areas that the Mitigation Plan action items are consistent with CIP goals and integrate them where appropriate.

As indicated in the Mitigation Actions Matrix, several action items have been added to ensure implementation through other existing planning mechanisms. Also, the Table: Capability Assessment: Existing Processes and Programs identifies the need to maintain balance and

diversify the Hazard Mitigation Planning Team to accomplish an efficient and effective implementation of the Plan. These actions have been added because during the planning process, the Planning Team recognized that some of the 2012 action items were completed by the City but not as a deliberate act to implement the Mitigation Plan. The 2018 Plan's success will be ensured by the following:

- Diversity of Planning Team membership
- Quarterly implementation meetings and reporting
- Including Planning Team in review of development projects
- Sharing Mitigation Plan with Community Development Department and Public Works Department

The 2014 update to the City's General Plan Safety Element included several references to the City's 2012 Hazard Mitigation Plan including the following description of relationship to other documents:

Relationship to Other Documents

The Safety Element is part of a comprehensive effort to address the impacts of future hazards in Yucca Valley. The Safety Element is complementary to the Town of Yucca Valley's emergency preparedness planning documents, including the Hazards Mitigation Plan and Emergency Operations Plan. The Safety Element Technical Background Report is a comprehensive study of local geologic, seismic, flooding, fire, hazardous materials, and weather conditions prepared in association with the General Plan. The Safety Element Technical Background Report is a reference document for additional information on those hazards.

Additionally, the Safety Element includes several goals and policies pertinent to hazard mitigation. Future updates to the General Plan and Hazard Mitigation Plan will include cross-references and increased integration.

Upon FEMA approval, the Planning Team will begin the process of incorporating existing planning mechanisms at the Town level. The meetings of the Planning Team will provide an opportunity for Planning Team members to report back on the progress made on the integration of mitigation planning elements into Town planning documents and procedures.

Economic Analysis of Mitigation Projects

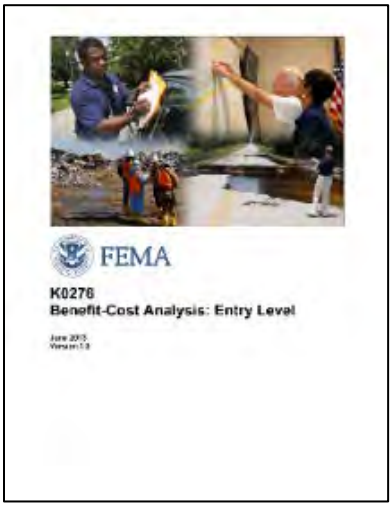
FEMA's approach to identify the costs and benefits associated with hazard mitigation strategies, measures, or projects fall into two general categories: benefit/cost analysis and cost-effectiveness analysis.

Conducting benefit/cost analysis for a mitigation activity can assist communities in determining whether a project is worth undertaking now, in order to avoid disaster-related damages later.

Cost-effectiveness analysis evaluates how best to spend a given amount of money to achieve a specific goal. Determining the economic feasibility of mitigating hazards can provide decision-makers with an understanding of the potential benefits and costs of an activity, as well as a basis upon which to compare alternative projects.

Given federal funding, the Planning Team will use a FEMA-approved benefit/cost analysis approach to identify and prioritize mitigation action items. For other projects and funding sources, the Planning Team will use other approaches to understand the costs and benefits of each action item and develop a prioritized list.

The "benefit", "cost", and overall "priority" of each mitigation action item was included in the Mitigation Actions Matrix located in Part III: Mitigation Strategies.
A more technical assessment will be required in the event grant funding is pursued through the Hazard Mitigation Grant Program. FEMA Benefit-Cost Analysis Guidelines are discussed below.



FEMA Benefit-Cost Analysis Guidelines

The Stafford Act authorizes the President to establish a program to provide technical and financial assistance to state and local governments to assist in the implementation of hazard mitigation measures that are cost effective and designed to substantially reduce injuries, loss of life, hardship, or the risk of future damage and destruction of property. To evaluate proposed hazard mitigation projects prior to funding FEMA requires a Benefit-Cost Analysis (BCA) to validate cost effectiveness. BCA is the method by which the future benefits of a mitigation project are estimated and compared to its cost. The end result is a benefit-cost ratio (BCR), which is derived from a project's total net benefits divided by its total project cost. The BCR is a numerical expression of the cost effectiveness of a project. A project is considered to be cost effective when the BCR is 1.0 or greater, indicating the benefits of a prospective hazard mitigation project are sufficient to justify the costs.

Although the preparation of a BCA is a technical process, FEMA has developed software, written materials, and training to support the effort and assist with estimating the expected future benefits over the useful life of a retrofit project. It is imperative to conduct a BCA early in the project development process to ensure the likelihood of meeting the cost-effective eligibility requirement in the Stafford Act.

The BCA program consists of guidelines, methodologies and software modules for a range of major natural hazards including:

- ✓ Flood (Riverine, Coastal Zone A, Coastal Zone V)
- ✓ Hurricane Wind
- ✓ Hurricane Safe Room
- ✓ Damage-Frequency Assessment
- ✓ Tornado Safe Room
- ✓ Earthquake
- ✓ Wildfire

The BCA program provides up to date program data, up to date default and standard values, user manuals and training. Overall, the program makes it easier for users and evaluators to conduct and review BCAs and to address multiple buildings and hazards in a single BCA module run.

Q&A | ELEMENT A: PLANNING PROCESS | A6

Q: A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))

A: See **Evaluating and Updating the Plan** below.

Monitoring the Plan

Under the direction of the Local Mitigation Officer, the Planning Team will take responsibility for plan maintenance and implementation. Quarterly meetings will be established to ensure the identified mitigation action items are being accomplished. On the fifth year of the planning cycle, the Planning Team will meet to evaluate the effectiveness of the planning process and to update the overall content of the Plan. The Local Mitigation Officer will coordinate with Town leadership to ensure funding for 5-year updates to Plan as required by FEMA.

The Planning Team will be responsible for coordinating implementation of plan by monitoring the progress of the mitigation action items and documenting progress notes for each item. It will be up to the Local Mitigation Officer to hold either a live meeting versus tasking the coordinating agencies with status updates on their own assigned mitigation action items. The monitoring meetings will take place no less than quarterly. These meetings will provide an opportunity to discuss the progress of the action items and maintain the partnerships that are essential for the sustainability of the mitigation plan. See the **Quarterly Implementation Report** discussed below which will be a valuable tool for the Planning Team to measure the success of the Hazard Mitigation Plan. The focus of the quarterly meetings will be on the progress and changes to the Mitigation Action Items.

An equally part of the monitoring process is the need to maintain a strategic planning process which needs to include funding and organizational support. In that light, at least one year in advance of the FEMA-mandated 5-year submission of an update, the Local Mitigation Officer will convene the Planning Team to discuss funding and timing of the update planning process.

On the fifth year of the planning cycles, the Planning Team will broaden its scope to include discussions and research on all of the sections within the Plan with particular attention given go goal achievement and public participation.

Quarterly Implementation Matrix

Mitigation Action Item	Coordinating Agency	Timeline	Goal: Protect Life and Property	Goal: Public Awareness	Goal: Natural Systems	Goal: Partnerships and Implementation	Goal: Emergency Services	Funding Source: GF- General Fund, GR-Grant , CIP-Capitol Improvement	Planning Mechanism: GP-General Plan, CIP, GF-General Fund, GR-Grant	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Priority: L-Low, M-Medium, H-High	2018 Comments and Status - Completed, Revised, Deleted, New, Deferred, and Notes	Annual Notes on Status
MULTI-HAZARD ACTION ITEMS														
MH-1 Acquire and install emergency generator for the Town Hall Complex including Community Services and Animal Shelter.	Grant Resources, Disaster Preparedness	Pending	X			X	X	GR	GR	H	M	H	Revised – coordinating agency, timeline (awaiting DR-4240 PDM Grant)	
MH-2 Identify the HMP in the next General Plan Safety Element Update	Community Development – Planning Division	Completed	X	X	X			GF	GP	H	L	H	Completed 2014	

Evaluating and Updating the Plan

Evaluation

The Mitigation Plan will be monitored on a quarterly basis to determine the effectiveness of mitigation action items and to reflect changes in land development or programs that may affect mitigation actions or their priorities. The evaluation process includes a firm schedule and timeline, and identifies the agencies and organizations participating in plan evaluation. The Local Mitigation Officer or designee will be responsible for contacting the Planning Team members and organizing the quarterly meeting. Planning Team members will also be responsible for participating in the formal update to the Plan every fifth year of the planning cycle.

The Planning Team will review the goals and mitigation action items to determine their relevance to changing situations in the Town, as well as changes in State or Federal policy, and to ensure they are addressing current and expected conditions. The Planning Team will also review the Plan's **Risk Assessment** portion of the Plan to determine if this information should be updated or modified, given any new available data. The **coordinating organizations** responsible for the various action items will report on the status of their projects, including the success of various implementation processes, difficulties encountered, success of coordination efforts, and which strategies should be revised. Amending will be made to the Mitigation Actions Matrix and other sections in the Plan as deemed necessary by the Planning Team.

Q&A | ELEMENT A: PLANNING PROCESS | A5

Q: A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii))

A: See **Continued Public Involvement** below.

Continued Public Involvement

The Town of Yucca Valley is dedicated to involving the public directly in the continual review and updates to the Mitigation Plan. Copies of the Plan will be catalogued and made available at Town Hall. The existence and location of these copies will be publicized in a press release and on the Town's website. This site will also contain an email address where people can direct their comments and concerns. The Management Analyst will be responsible for maintaining public involvement by utilizing the Town's website, social media and local newspapers.

PART IV: APPENDIX

General Hazard Overviews

Earthquake Hazards

Measuring and Describing Earthquakes

An earthquake is a sudden motion or trembling that is caused by a release of strain accumulated within or along the edge of the Earth's tectonic plates. The effects of an earthquake can be felt far beyond the site of its occurrence. They usually occur without warning and, after just a few seconds, can cause massive damage and extensive casualties. Common effects of earthquakes are ground motion and shaking, surface fault ruptures, and ground failure. Ground motion is the vibration or shaking of the ground during an earthquake. When a fault ruptures, seismic waves radiate, causing the ground to vibrate. The severity of the vibration increases with the amount of energy released and decreases with distance from the causative fault or epicenter. Soft soils can further amplify ground motions. The severity of these effects is dependent on the amount of energy released from the fault or epicenter. One way to express an earthquake's severity is to compare its acceleration to the normal acceleration due to gravity. The acceleration due to gravity is often called "g". A ground motion with a peak ground acceleration of 100% g is very severe. Peak Ground Acceleration (PGA) is a measure of the strength of ground motion. PGA is used to project 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. These ground motion values are used for reference in construction design for earthquake resistance. The ground motion values can also be used to assess relative hazard between sites, when making economic and safety decisions.

When a fault ruptures, seismic waves radiate, causing the ground to vibrate. The severity of the vibration increases with the amount of energy released and decreases with distance from the causative fault or epicenter.

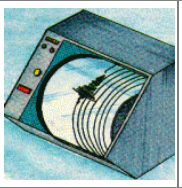
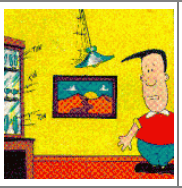
Another tool used to describe earthquake intensity is the Magnitude Scale. The Magnitude Scale is sometimes referred to as the Richter Scale. The two are similar but not exactly the same. The Magnitude Scale was devised as a means of rating earthquake strength and is an indirect measure of seismic energy released. The Scale is logarithmic with each one-point increase corresponding to a 10-fold increase in the amplitude of the seismic shock waves generated by the earthquake. In terms of actual energy released, however, each one-point increase on the Richter scale corresponds to about a 32-fold increase in energy released. Therefore, a Magnitude 7 (M7) earthquake is 100 times (10 X 10) more powerful than a M5 earthquake and releases 1,024 times (32 X 32) the energy.

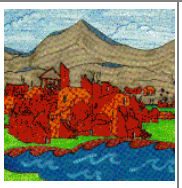
An earthquake generates different types of seismic shock waves that travel outward from the focus or point of rupture on a fault. Seismic waves that travel through the earth's crust are called body waves and are divided into primary (P) and secondary (S) waves. Because P waves move faster (1.7 times) than S waves, they arrive at the seismograph first. By measuring the time delay between arrival of the P and S waves and knowing the distance to the epicenter, seismologists can compute the magnitude for the earthquake.

The duration of an earthquake is related to its magnitude but not in a perfectly strict sense. There are two ways to think about the duration of an earthquake. The first is the length of time it takes for the fault to rupture and the second is the length of time shaking is felt at any given point (e.g. when someone says, "I felt it shake for 10 seconds", they are making a statement about the duration of shaking). (Source: www.usgs.gov)

The Modified Mercalli Scale (MMI) is another means for rating earthquakes, but one that attempts to quantify intensity of ground shaking. Intensity under this scale is a function of distance from the epicenter (the closer to the epicenter the greater the intensity), ground acceleration, duration of ground shaking, and degree of structural damage. The Modified Mercalli Intensity Scale below rates the level of severity of an earthquake by the amount of damage and perceived shaking.

Table: Modified Mercalli Intensity Scale

	MMI Value	Description of Shaking Severity	Summary Damage Description Used on 1995 Maps	Full Description
	I			Not Felt
	II			Felt by persons at rest, on upper floors, or favorably placed.
	III			Felt indoors. Hanging objects swing. Vibration like passing of light trucks. Duration estimated. May not be recognized as an earthquake.
	IV			Hanging objects swing. Vibration like passing of heavy trucks; or sensation of a jolt like a heavy ball striking the walls. Standing motorcars rock. Windows, dishes, doors rattle. In the upper range of IV, wooden walls and frame creak.
	V	Light	Pictures Move	Felt outdoors; direction estimated. Sleepers wakened. Liquids disturbed, some spilled. Small unstable objects displaced or upset. Doors swing, close, open. Shutters, pictures move. Pendulum clock stop, start, change rate.

	MMI Value	Description of Shaking Severity	Summary Damage Description Used on 1995 Maps	Full Description
	VI	Moderate	Objects Fall	Felt by all. Many frightened and run outdoors. Persons walk unsteadily. Windows, dishes, glassware broken. Knickknacks, books, etc., off shelves. Pictures off walls. Furniture moved or overturned. Weak plaster and masonry D cracked.
	VII	Strong	Nonstructural Damage	Difficult to stand. Noticed by drivers of motorcars. Hanging objects quiver. Furniture broken. Damage to masonry, including cracks. Weak chimneys broken at roofline. Fall of plaster, loose bricks, stones, tiles, cornices. Some cracks in masonry C. Small slides and caving in along sand or gravel banks. Concrete irrigation ditches damaged.
	VIII	Very Strong	Moderate Damage	Steering of motorcars affected. Damage to masonry C, partial collapse. Some damage to masonry B; none to masonry A. Fall of stucco and some masonry walls. Twisting, fall of chimneys, factory stacks, monuments, towers, and elevated tanks. Frame houses moved on foundations if not bolted down; loose panel walls thrown out. Cracks in wet ground and on steep slopes.
	IX	Violent	Heavy damage	General panic. Damage to masonry buildings ranges from collapse to serious damage unless modern design. Wood-frame structures rack, and, if not bolted, shifted off foundations. Underground pipes broken.
	X	Very Violent	Extreme Damage	Most masonry and frame structures destroyed with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes, embankments. Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land.
	XI			Rails bent greatly. Underground pipelines completely out of services.
	XII			Damage nearly total. Large rock masses displaced. Lines of sight and level distorted. Objects thrown into air.

Earthquake Related Hazards

Ground shaking, landslides, liquefaction, and amplification are the specific hazards associated with earthquakes. The severity of these hazards depends on several factors, including soil and slope conditions, proximity to the fault, earthquake magnitude, and the type of earthquake.

Ground Shaking

Ground shaking is the motion felt on the earth's surface caused by seismic waves generated by the earthquake. It is the primary cause of earthquake damage. The strength of ground shaking depends on the magnitude of the earthquake, the type of fault, and distance from the epicenter (where the earthquake originates). Buildings on poorly consolidated and thick soils will typically see more damage than buildings on consolidated soils and bedrock.

Seismic activity along nearby or more distant fault zones are likely to cause ground shaking within the Town limits.

Earthquake-Induced Landslide Potential

Generally, these types of failures consist of rock falls, disrupted soil slides, rock slides, soil lateral spreads, soil slumps, soil block slides, and soil avalanches. Areas having the potential for earthquake-induced landslides generally occur in areas of previous landslide movement, or where local topographic, geological, geotechnical, and subsurface water conditions indicate a potential for permanent ground displacements.

Liquefaction

Liquefaction occurs when ground shaking causes wet granular soils to change from a solid state to a liquid state. This results in the loss of soil strength and the soil's ability to support weight. Buildings and their occupants are at risk when the ground can no longer support these structures. Liquefaction generally occurs during significant earthquake activity, and structures located on soils such as silt or sand may experience significant damage during an earthquake due to the instability of structural foundations and the moving earth. Many communities in Southern California are built on ancient river bottoms and have sandy soil. In some cases, the soil may be subject to liquefaction, depending on the depth of the water table.

Wildfire Hazards

Definition

A wildfire is an uncontrolled fire spreading through vegetative fuels and exposing or possibly consuming structures. They often begin unnoticed and spread quickly. Naturally occurring and non-native species of grasses, brush, and trees fuel wildfires. A wildland fire is a wildfire in an area in which development is essentially nonexistent, except for roads, railroads, power lines and similar facilities. A wildland/urban interface fire is a wildfire in a geographical area where structures and other human development meet or intermingle with wildland or vegetative fuels.

People start more than 80 percent of wildfires, usually as debris burns, arson, or carelessness. Lightning strikes are the next leading cause of wildfires. Wildfire behavior is based on three primary factors: fuel, topography, and weather. The type, and amount of fuel, as well as its burning qualities and level of moisture affect wildfire potential and behavior. The continuity of fuels, expressed in both horizontal and vertical components is also a determinant of wildfire potential and behavior. Topography is important because it affects the movement of air (and thus the fire) over the ground surface. The slope and shape of terrain can change the speed at which the fire travels, and the ability of firefighters to reach and extinguish the fire. Weather affects the probability of wildfire and has a significant effect on its behavior. Temperature, humidity and wind (both short and long term) affect the severity and duration of wildfires. Riverside County's topography, consisting of semi-arid plains and rolling highlands, when fueled by shrub overgrowth, occasional Santa Ana winds and high temperatures, creates an ever-present threat of wildland fire. Extreme weather conditions such as high temperature, low humidity, and/or winds of extraordinary force may cause an ordinary fire to expand into one of massive proportions.

For thousands of years, fires have been a natural part of the ecosystem in Southern California. However, wildfires present a substantial hazard to life and property in communities built within or adjacent to hillsides and mountainous areas. There is a huge potential for losses due to wildland/urban interface fires in Southern California.

Wildfire Threat

In urban areas, the effectiveness of fire protection efforts is based upon several factors, including the age of structures, efficiency of circulation routes that ultimately affect response times and availability of water resources to combat fires. In wildland areas, taking the proper precautions, such as the use of fire resistant building materials, a pro-active fire Prevention inspection program, and the development of defensible space around structures where combustible vegetation is controlled, can protect developed lands from fires and, therefore, reduce the potential loss of life and property.

Other factors contribute to the severity of fires including weather and winds. Specifically, winds commonly referred to as Santa Ana winds, which occur during fire season (typically from June to the first significant rain in November) are particularly significant. Such "fire weather" is characterized by several days of hot dry weather and high winds, resulting in low fuel moisture in vegetation.

California experiences large, destructive wildland fires almost every year, and San Bernardino County is no exception. Wildland fires have occurred within the County, particularly in the fall of the year, ranging from small, localized fires to disastrous fires covering thousands of acres. The most severe fire protection problem in the area is wildland fire during Santa Ana wind conditions.

The 2003 Southern California Fires

The fall of 2003 marked the most destructive wildfire season in California history. In a ten-day period, 12 separate fires raged across Southern California in Los Angeles, Riverside, and San Bernardino, San Diego and Ventura counties. The massive "Cedar Fire" in San Diego County alone consumed 2,800 homes and burned over a quarter of a million acres.

In October 2003, Southern California experienced the most devastating wildland fire disaster in state history. According to the Governor's Blue Ribbon Panel Fire Commission Report (2004), over 739,597 acres burned; 3,631 homes, 36 commercial properties, and 1,169 outbuildings were destroyed; 246 people were injured; and 24 people died, including one firefighter. At the height of the siege, 15,631 personnel were assigned to fight the fires.

The 2007 Southern California Fires

In late October 2007, Southern California experienced an unusually severe fire weather event characterized by intense, dry, gusty Santa Ana winds. This weather event drove a series of destructive wildfires that took a devastating toll on people, property, natural resources, and infrastructure. Although some fires burned into early November, the heaviest damage occurred during the first three days of the siege when the winds were the strongest.

According to CAL FIRE, during this siege, 17 people lost their lives, ten were killed by the fires outright, three were killed while evacuating, four died from other fire siege related causes, and 140 firefighters, and an unknown number of civilians were injured. A total of 3,069 homes and other buildings were destroyed, and hundreds more were damaged. Hundreds of thousands of people were evacuated at the height of the siege. The fires burned over half a million acres, including populated areas, wildlife habitat and watershed. Portions of the electrical power distribution network, telecommunications systems, and even some community water sources were destroyed. Transportation was disrupted over a large area for several days, including numerous road closures. Both the Governor of California and the President of the United States personally toured the ongoing fires. Governor Schwarzenegger proclaimed a state of emergency

in seven counties before the end of the first day. President Bush quickly declared a major disaster. While the total impact of the 2007 fire siege was less than the disastrous fires of 2003, it was unquestionably one of the most devastating wildfire events in the history of California.

Wildfire Characteristics

There are three categories of wildland/urban interface fire: 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. Certain conditions must be present for significant interface fires to occur. The most common conditions include: hot, dry and windy weather; the inability of fire protection forces to contain or suppress the fire; the occurrence of multiple fires that overwhelm committed resources; and a large fuel load (dense vegetation). Once a fire has started, several conditions influence its behavior, including fuel topography, weather, drought, and development.

Southern California has two distinct areas of risk for wildland fire. The foothills and lower mountain areas are most often covered with scrub brush or chaparral. The higher elevations of mountains also have heavily forested terrain. The lower elevations covered with chaparral create one type of exposure.

The higher elevations of Southern California's mountains are typically heavily forested. The magnitude of the 2003 fires is the result of three primary factors: (1) severe drought, accompanied by a series of storms that produce thousands of lightning strikes and windy conditions; (2) an infestation of bark beetles that has killed thousands of mature trees; and (3) the effects of wildfire suppression over the past century that has led to buildup of brush and small diameter trees in the forests.

The Interface

One challenge Southern California faces regarding the wildfire hazard is from the increasing number of houses being built on the urban/wildland interface. Every year the growing population expands further into the hills and mountains, including forest lands. The increased "interface" between urban/suburban areas, and the open spaces created by this expansion, produces a significant increase in threats to life and property from fires, and pushes existing fire protection systems beyond original or current design and capability. Property owners in the interface are not aware of the problems and fire hazards or risks on their own property. Furthermore, human activities increase the incidence of fire ignition and potential damage.

Fuel

Fuel is the material that feeds a fire and is a key factor in wildfire behavior. Fuel is classified by volume and by type. Volume is described in terms of "fuel loading," or the amount of available vegetative fuel.

The type of fuel also influences wildfire. Chaparral is a primary fuel of Southern California wildfires. Chaparral habitat ranges in elevation from near sea level to over 5,000 feet in Southern California. Chaparral communities experience long dry summers and receive most of their annual precipitation from winter rains. Although chaparral is often considered as a single species, there

are two distinct types; hard chaparral and soft chaparral. Within these two types are dozens of different plants, each with its own particular characteristics.

An important element in understanding the danger of wildfire is the availability of diverse fuels in the landscape, such as natural vegetation, manmade structures and combustible materials. A house surrounded by brushy growth rather than cleared space allows for greater continuity of fuel and increases the fire's ability to spread. After decades of fire suppression "dog-hair" thickets have accumulated, which enable high intensity fires to flare and spread rapidly.

Topography

Topography influences the movement of air, thereby directing a fire course. For example, if the percentage of uphill slope doubles, the rate of spread in wildfire will likely double. Gulches and canyons can funnel air and act as chimneys, which intensify fire behavior and cause the fire to spread faster. Solar heating of dry, south-facing slopes produces up slope drafts that can complicate fire behavior. Unfortunately, hillsides with hazardous topographic characteristics are also desirable residential areas in many communities. This underscores the need for wildfire hazard mitigation and increased education and outreach to homeowners living in interface areas.

Weather

Weather patterns combined with certain geographic locations can create a favorable climate for wildfire activity. Areas where annual precipitation is less than 30 inches per year are extremely fire susceptible. High-risk areas in Southern California share a hot, dry season in late summer and early fall when high temperatures and low humidity favor fire activity. The so-called "Santa Ana" winds, which are heated by compression as they flow down to Southern California from Utah, create a particularly high risk, as they can rapidly spread what might otherwise be a small fire.

Drought

Recent concerns about the effects of climate change, particularly drought, are contributing to concerns about wildfire vulnerability. The term 'drought' is applied to a period in which an unusual scarcity of rain causes a serious hydrological imbalance. Unusually dry winters, or significantly less rainfall than normal, can lead to relatively drier conditions and leave reservoirs and water tables lower. Drought leads to problems with irrigation and contributes to additional fires, or increased difficulty in fighting fires.

Development

Growth and development in scrubland and forested areas is increasing the number of human-caused structures in Southern California interface areas. Wildfire affects development, yet development can also influence wildfire. Owners often prefer homes that are private with scenic views, nestled in vegetation, and use natural materials. A private setting is usually far from public roads, or hidden behind a narrow, curving driveway. These conditions, however, make evacuation and firefighting difficult. The scenic views found along mountain ridges can also mean areas of dangerous topography. Natural vegetation contributes to scenic beauty, but it may also provide a ready trail of fuel leading a fire directly to the combustible fuels of the home itself.

Flood Hazards

Flood Terminology

Floodplain

A floodplain is a land area adjacent to a river, stream, lake, estuary, or other water body that is subject to flooding. This area, if left undisturbed, acts to store excess flood water. The floodplain is made up of two sections: the floodway and the flood fringe.

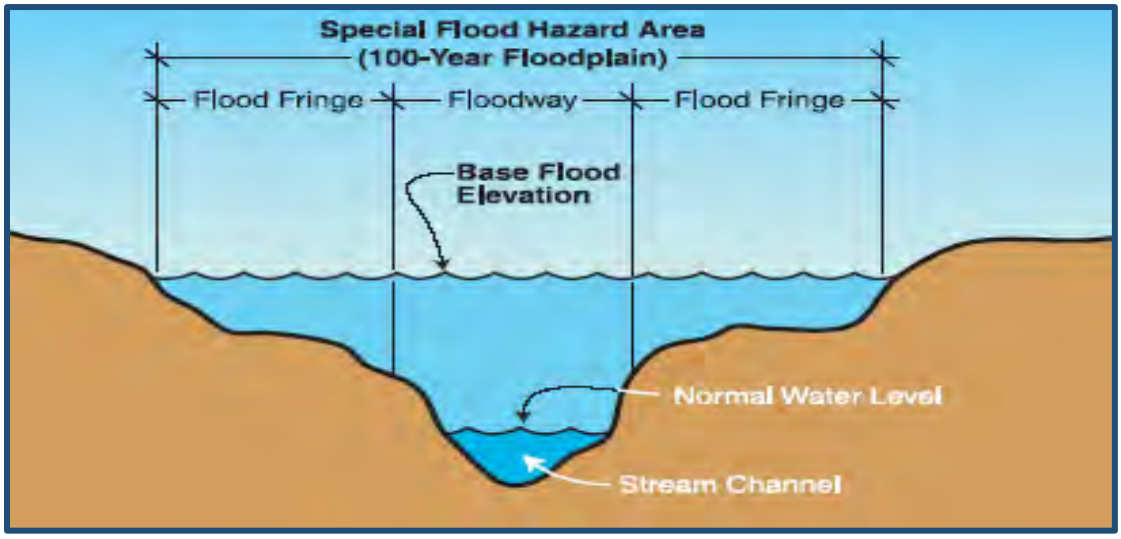
100-Year Flood

The 100-year flooding event is the flood having a one percent chance of being equaled or exceeded in magnitude in any given year. Contrary to popular belief, it is not a flood occurring once every 100 years. The 100-year floodplain is the area adjoining a river, stream, or watercourse covered by water in the event of a 100-year flood. Schematic: Floodplain and Floodway shows the relationship of the floodplain and the floodway.

The 100-year flooding event is the flood having a 1% chance of being equaled or exceeded in magnitude in any given year.

Contrary to popular belief, it is not a flood occurring once every 100 years.

Figure: Floodplain and Floodway
(Source: FEMA How-To-Guide Assessing Hazards)



Floodway

The floodway is one of two main sections that make up the floodplain. Floodways are defined for regulatory purposes. Unlike floodplains, floodways do not reflect a recognizable geologic feature. For NFIP purposes, floodways are defined as the channel of a river or stream, and the overbank areas adjacent to the channel. The floodway carries the bulk of the flood water downstream and is usually the area where water velocities and forces are the greatest. NFIP regulations require that the floodway be kept open and free from development or other structures that would obstruct or divert flood flows onto other properties.

Base Flood Elevation (BFE)

The term "Base Flood Elevation" refers to the elevation (normally measured in feet above sea level) that the base flood is expected to reach. Base flood elevations can be set at levels other than the 100-year flood. Some communities use higher frequency flood events as their base flood elevation for certain activities, while using lower frequency events for others. For example, for the purpose of storm water management, a 25-year flood event might serve as the base flood elevation; while the 500-year flood event serves as base flood elevation for the tie down of mobile homes. The regulations of the NFIP focus on development in the 100-year floodplain.

Types of Flooding

Two types of flooding primarily affect the Town of Yucca Valley: slow-rise flooding and flash flooding. Slow-rise floods in Yucca Valley may be preceded by a warning period of hours or days. Evacuation and sandbagging for slow-rise floods have often effectively lessened flood related damage. Conversely, flash floods are most difficult to prepare for, due to extremely limited, if any, advance warning and preparation time. Unlike most of California, the areas of San Bernardino County that are subject to slow-rise flooding are not associated with overflowing rivers, aqueducts, canals or lakes. Slow-rise flooding in Yucca Valley is usually the result of one or a combination of the following factors: extremely heavy rainfall, saturated soil, area recently burned in wildfires with inadequate new ground cover growth, or heavy rainfall with runoff from melting mountain snow.

Urban Flooding

As land is converted from fields or woodlands to roads and parking lots, it loses its ability to absorb rainfall. Urbanization of a watershed changes the hydrologic systems of the basin. Heavy rainfall collects and flows faster on impervious concrete and asphalt surfaces. The water moves from the clouds, to the ground, and into streams at a much faster rate in urban areas. Adding these elements to the hydrological systems can result in flood waters that rise very rapidly and peak with violent force.

The Town of Yucca Valley has a high concentration of impermeable surfaces that either collect water, or concentrate the flow of water in unnatural channels. During periods of urban flooding, streets can become swift moving rivers and fill with water. Storm drains often back up with vegetative debris causing additional, localized flooding.

Riverine Flooding

Riverine flooding is the overbank flooding of rivers and streams. The natural processes of riverine flooding add sediment and nutrients to fertile floodplain areas. Flooding in large river systems typically results from large-scale weather systems that generate prolonged rainfall over a wide geographic area, causing flooding in hundreds of smaller streams, which then drain into the major rivers. Shallow area flooding is a special type of riverine flooding. FEMA defines shallow flood hazards as areas that are inundated by the 100-year flood with flood depths of only one to three feet. These areas are generally flooded by low velocity sheet flows of water.

Definitions of FEMA Flood Zone Designations

Flood zones are geographic areas that the FEMA has defined according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area.

Moderate to Low Risk Areas

In communities that participate in the NFIP, flood insurance is available to all property owners and renters in these zones:

ZONE	DESCRIPTION
B and X (shaded)	Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. B Zones are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
C and X (unshaded)	Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level. Zone C may have ponding and local drainage problems that don't warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100-year flood.

High Risk Areas

In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones:

ZONE	DESCRIPTION
A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
AE	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
A1-30	These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
AH	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
AO	River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
AR	Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.

ZONE	DESCRIPTION
A99	Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.

Undetermined Risk Areas

ZONE	DESCRIPTION
D	Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. Flood insurance rates are commensurate with the uncertainty of the flood risk.

Attachments

FEMA Letter of Approval

U.S. Department of Homeland Security
1111 Broadway, Suite 1200
Oakland, CA 94607-4052

FEMA

May 2, 2018

Jessica Rice
Management Analyst
Town of Yucca Valley
57090 Twentynine Palms Highway
Yucca Valley, CA 92284

Dear Ms. Rice:

We have completed our final review of the *Town of Yucca Valley Hazard Mitigation Plan*, officially adopted by the Town of Yucca Valley on May 1, 2018, and found the plan to be in conformance with Title 44 Code of Federal Regulations (CFR) Part 201.6 *Local Mitigation Plans*.

The approval of this plan ensures the Town of Yucca Valley's continued eligibility for project grants under FEMA's Hazard Mitigation Assistance programs, including the Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and Flood Mitigation Assistance Program. All requests for funding, however, will be evaluated individually according to the specific eligibility, and other requirements of the particular program under which applications are submitted.

Also, approved hazard mitigation plans may be eligible for points under the National Flood Insurance Program's Community Rating System (CRS). Additional information regarding the CRS can be found at https://www.fema.gov/national-flood-insurance-program-community-rating-system or through your local floodplain manager.

FEMA's approval of the *Town of Yucca Valley Hazard Mitigation Plan* is for a period of five years, effective starting the date of this letter. Prior to May 2, 2023 the Town of Yucca Valley is required to review and revise its plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit it for approval in order to continue to be eligible for mitigation project grant funding. The enclosed plan review tool provides additional recommendations to incorporate into the plan when the Town of Yucca Valley undertakes its identified plan maintenance process.

If you have any questions regarding the planning or review processes, please contact Alison Kearns, Senior Community Planner, at (510) 627-7125 or by email at alison.kearns@fema.dhs.gov.

Sincerely,

Juliette Hayes
Division Director
Mitigation Division
FEMA Region IX

Enclosure

cc: Jennifer Hogan, State Hazard Mitigation Officer, California Governor's Office of Emergency Services
Julie Norris, Mitigation and Dam Safety Branch Chief, California Governor's Office of Emergency Services

Town Council Staff Report

TOWN COUNCIL STAFF REPORT

To: Honorable Mayor & Town Council
From: Jessica Rice, Management Analyst
Date: April 24, 2018
For Council Meeting: May 1, 2018

Subject: Hazard Mitigation Plan Adoption

Recommendation: That the Town Council adopts the Town of Yucca Valley Hazard Mitigation Plan by way of Resolution.

Order of Procedure:

Request Staff Report
Request Public Comment
Council Discussion/Questions of Staff
Motion/Second
Discussion on Motion
Call the Question

Discussion:

BACKGROUND

The Federal Disaster Management Act of 2000 (DMA 2000), which amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act, requires every local, county and state government to have an approved Hazard Mitigation Plan. In addition to minimizing the impact of major hazard events on the community, completion of the Plan also maintains eligibility for future hazard mitigation funding following any significant disasters. As a result of the DMA 2000 legislation, hazard mitigation is now considered to be the first step in preparing for emergencies, rather than the final step in recovery.

The consequences of not having an approved Hazard Mitigation Plan are significant. Without one, the Town will be ineligible for FEMA mitigation programs including the Hazard Mitigation Grant Program, Flood Mitigation Assistance Program, and most importantly, potential loss of public assistance for repetitively damaged facilities following a disaster.

Reviewed By:	Town Manager	Town Attorney	Finance	Department

___ Department Report	___ Ordinance Action	___ Resolution Action	___ Public Hearing
_X_ Consent	_X_ Minute Action	___ Receive and File	___ Study Session

The Town's Hazard Mitigation Plan was last approved by FEMA on October 4, 2012. In September 2016, Council authorized staff to enter into a contract with Emergency Planning Consultants to assist the Town in drafting the Plan. A Planning Team was formed consisting of staff representatives from Administrative Services, Community Development, Public Safety, Town Clerk, Public Works/Engineering, and Community Services. The Team met multiple times to examine hazards and impacts, update and develop mitigation actions, develop a strategy for public input, and review the First Draft Plan. Information required for the Hazard Mitigation Plan was drawn from a variety of sources including the San Bernardino County All-Hazards Mitigation Plan.

An opportunity was provided for the general public, as well as interested external agencies (e.g. adjoining jurisdictions, special districts, etc.) to participate in the planning process. This was accomplished through posting of the Second Draft Plan and distribution of invitations via the Town's website and invitational emails.

PLAN STRUCTURE

The Hazard Mitigation Plan documents the mitigation planning process including how it was developed, the planning timeframe, and who was involved in drafting the document. A risk assessment was conducted and details the type of natural hazards that can affect the jurisdiction. The Plan also includes information on previous occurrences of hazard events and the probability of future events. The Town's essential and critical facilities were assessed as to vulnerability. Demographic and land use data was also important in identifying present day and future vulnerabilities.

The core of the Plan is the Mitigation Strategy which outlines the Town's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs, and resources, and its ability to expand on and improve these existing tools.

FINDINGS

The Plan identifies a broad range of mitigation action items, including assigned departments, timelines, and priorities. The mitigation action items are aimed at activities that will minimize or eliminate the impact of hazards on the community and its vital resources.

PLAN ADOPTION AND APPROVAL

The Third Draft Plan incorporating input from the public review was submitted to CalOES and FEMA for formal review. On March 7, 2018, FEMA issued an "Approval Pending Adoption" notice. The Town Council is now requested to adopt the Final Draft Plan by way of a formal resolution. Proof of the Council's adoption will be forwarded to FEMA along with a request for a Notice of Final Approval. Once received, the final approval will be incorporated into the Plan and the document will be deemed final.

The Hazard Mitigation Plan will be reviewed by staff on an annual basis, and will be updated every five years as required by FEMA.

Alternatives: None recommended.

Fiscal impact: None

Attachments: Town of Yucca Valley Hazard Mitigation Plan
Resolution No.

RESOLUTION NO. 18-19

A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF YUCCA VALLEY, CALIFORNIA, ADOPTING 2018 LOCAL HAZARD MITIGATION PLAN

WHEREAS, the Yucca Valley Town Council previously adopted the Town's Hazard Mitigation Plan (HMP) on December 20, 2011, under Town Council Resolution No. 11-50, pursuant to the Federal Disaster Mitigation Act of 2000;

WHEREAS, the Yucca Valley Town Council has identified mitigation of hazards as an essential part of land-use planning, community development and emergency management, and;

WHEREAS, the Town is charged with and entrusted with the protection of persons and property prior to, during emergencies, and/or disaster conditions, and;

WHEREAS, to be eligible for Hazard Mitigation grant funding, the Town must adopt and maintain a Local Hazard Mitigation Plan, and;

WHEREAS, the Town has undertaken a comprehensive planning effort in developing the Local Hazard Mitigation Plan by; organizing resources, assessing risks, developing a mitigation plan and implementing the plan and monitoring progress, and;

WHEREAS, the Town is continuously revising its mitigation efforts in the Town's Comprehensive General Plan, Specific Plans and the Local Hazard Mitigation Plan and continuous public participation in the planning process is of immense importance.

NOW, THEREFORE BE IT RESOLVED, the Town Council of the Town of Yucca Valley:

a. Adopts the Town of Yucca Valley Local Hazard Mitigation Plan;
b. Authorizes the Director of Emergency Services to make necessary administrative and operational changes to the plan that are in keeping with the intent of the plan as approved;
c. Authorizes the Director of Emergency Services, or his duly appointed representative, to perform all duties required to carry out the Local Hazard Mitigation Plan, and;
d. Shall review and update the Local Hazard Mitigation Plan at least every five years, adopting any necessary revisions.

APPROVED AND ADOPTED this 1st day of May, 2018.

MAYOR

ATTEST:

TOWN CLERK

STATE OF CALIFORNIA

COUNTY OF SAN BERNARDINO

TOWN OF YUCCA VALLEY

I, Lesley R. Copeland, Town Clerk of the Town of Yucca Valley, California hereby certify that the foregoing Resolution No. 18-19 as duly and regularly adopted at a meeting of the Town Council of the Town of Yucca Valley, California at a meeting thereof held on the 1st day of May, 2018, by the following vote:

Ayes:	Council Members Abel, Drozd, Leone, Lombardo and Mayor Denison
Noes:	None
Abstain:	None
Absent:	None

Lesley R. Copeland, CMC
TOWN CLERK

Planning Team Sign-In Sheets

Q&A | ELEMENT A: PLANNING PROCESS | A1

Q: A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))

A: See **Planning Phases Timeline** below.

Town of Yucca Valley
Hazard Mitigation Planning Team Meeting #1
November 16, 2016

Name	Department
CAROLYN HARSHMAN	EMERGENCY PLANNING CONSULTANTS
Jessica Rice	TOYV - Emergency Mgmt
Shane R. Stueckle	Comm Dev/Public Works
Debra Breidenbach-Sterling	HR/Risk Management
Lesley Copeland	Town Clerk
Curtis Yakimow	Admin
Alex Gisbig	PW/Engineering

Town of Yucca Valley
Hazard Mitigation Planning Team Meeting #2
December 7, 2016

Name	Department
CAROLYN HARSHMAN	EMERGENCY PLANNING CONSULTANTS
Curtis Yakimow	TOYV
Jessica Rice	TOYV
Sharon Cisneros	Finance
Tom Marshall	San Bernardino County Fire
Lee Earnest	TYV
Lesley Copeland	TYV
MIKE BARGA	SAN BERNARDINO COUNTY SHERIFF
Shawn R. Stuedle	TYV
Alex Gishta	TOYV - P.W.

Town of Yucca Valley
Hazard Mitigation Planning Team Meeting #3
January 18, 2017

Name	Department
Carolyn Hareshian	Emergency Planning Consultants
Sharon Cisneros	Finance
Jessica Rice	Admin Services/Emergency Mgmt
Susan Earnest	Community Services
Shane Stueckle	Comm Dev / Public Works
Debra Breidenbach-Sterling	HR/Risk Mgmt
Alex Qishta	Public Works / Engineering
Mike Baker	Sheriff

Press Release and Web Posting

From: Lesley Copeland
Subject: PR- Hazard Mitigation Plan Update
Date: Wednesday, April 26, 2017 3:30:36 PM
Attachments: image002.emz
image003.png

Town of Yucca Valley

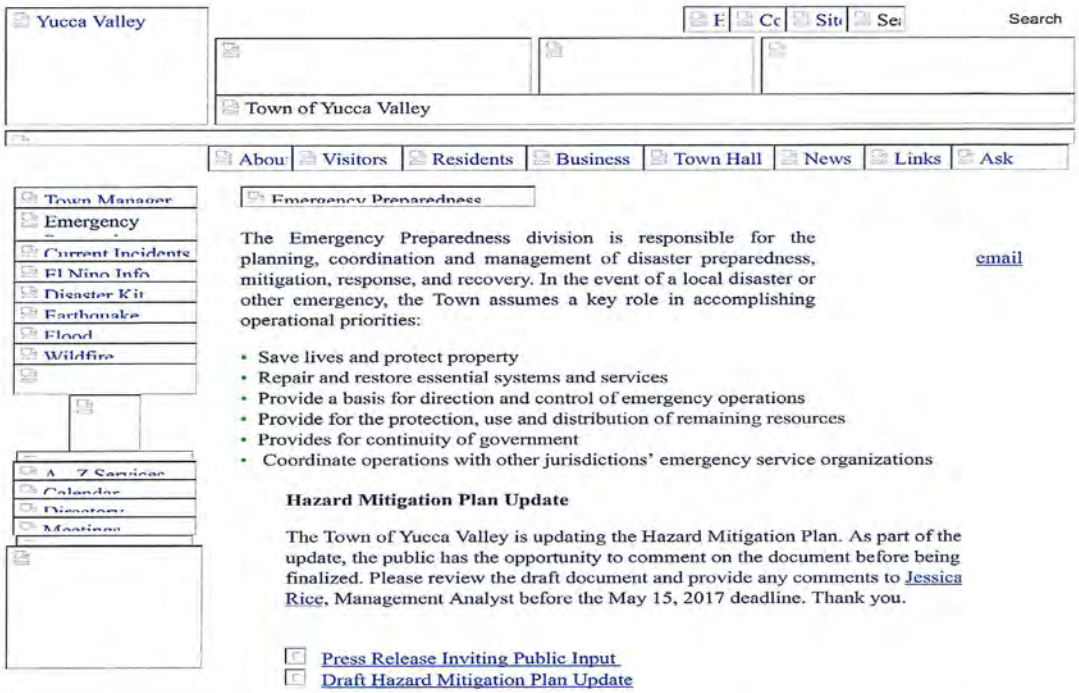
57090 Twentynine Palms Hwy
Yucca Valley, CA 92284
(760) 369-7207 ~ (760) 369-0626 fax
www.yucca-valley.org

April 26, 2017 **FOR IMMEDIATE RELEASE** **RELEASE**
 # 17- 0028

For more information please contact: Jessica Rice, Management Analyst, (760) 369-7207 x227

Notice of Public Availability for Review and Comment of the Town of Yucca Valley's Local Hazard Mitigation Plan

The Town of Yucca Valley is in the process of updating its Local Hazard Mitigation Plan (LHMP), and is seeking public input. The Local Hazard Mitigation Plan was prepared in response to Congress' Disaster Mitigation Act (DMA) of 2000. The DMA requires State and local governments to prepare hazard mitigation plans documenting planning processes and to identify hazards, potential losses, mitigation needs, goals, and strategies as part of local disaster preparedness measures. Public input on the Town's Draft Local Hazard Mitigation Plan Update is encouraged thru May 15, 2017. The document is available for viewing on the Town of Yucca Valley's website at: www.yucca-valley.org and at Town Hall, located at 57090 Twentynine Palms Hwy, Yucca Valley, CA. Please forward any comments to Jessica Rice at jrice@yucca-valley.org .



The Emergency Preparedness division is responsible for the planning, coordination and management of disaster preparedness, mitigation, response, and recovery. In the event of a local disaster or other emergency, the Town assumes a key role in accomplishing operational priorities:

email

- Save lives and protect property
- Repair and restore essential systems and services
- Provide a basis for direction and control of emergency operations
- Provide for the protection, use and distribution of remaining resources
- Provides for continuity of government
- Coordinate operations with other jurisdictions' emergency service organizations

Hazard Mitigation Plan Update

The Town of Yucca Valley is updating the Hazard Mitigation Plan. As part of the update, the public has the opportunity to comment on the document before being finalized. Please review the draft document and provide any comments to Jessica Rice, Management Analyst before the May 15, 2017 deadline. Thank you.

Press Release Inviting Public Input
Draft Hazard Mitigation Plan Update

Are you prepared for an emergency? Please browse the information provided in this sections to better prepare you, your familiy or business in the event an emergency may strike.

Family Disaster Guide

Disaster Guide for Pets

For up to date, flu information, please visit the Centers for Disease Control and Prevention

Contact: **Curtis Yakimow,** Town Manager
Jessica Rice, Management Analyst, ext 227
Location: Town Hall
57090 Twentynine Palms Highway
Office Hours: 8:00 am - 12:00 pm, 1:00 - 5:00 pm
Monday through Thursday
Office is closed Friday, Saturday, Sunday and holidays

Phone: (760) 369-7207 or (760) 369-6585