LOCAL HAZARD MITIGATION PLAN FOR ATASCADERO, CALIFORNIA

September 27, 2005

URS Corporation

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CFR	Code of Federal Regulations
City	City of Atascadero
DMA 2000	Disaster Mitigation Act of 2000
DOT	United States Department of Transportation
DSOD	California Division of Safety of Dams
EHS	Extremely Hazardous Substance
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning and Community Right to Know Act
FEMA	Federal Emergency Management Agency
FRAP	California Department of Forestry Fire and Resource Assessment Program
GIS	Geographic Information System
HMGP	Hazard Mitigation Grant Program
LHMP	Local Hazard Mitigation Plan
NFIP	National Flood Insurance Program
NRC	National Response Center
OES	Governor's Office of Emergency Services
PDM	Pre-Disaster Mitigation
PGA	peak ground acceleration
Planning Team	Hazard Mitigation Planning Team
SFHA	Special Flood Hazard Area
Stafford Act	Robert T. Stafford Disaster Relief and Emergency Assistance Act
State	State of California
UBC	Uniform Building Code
URS	URS Corporation
US 101	United States Highway 101
USC	United States Code
USGS	United States Geological Survey

City of Atascadero Hazard Mitigation Planning Team

Marcia Torgerson ..... City Manager's Office
John Couch ..... Police
Valerie Humphrey ..... Public Works
Luke Knight ..... Information Technology
Jennifer Fanning ..... Community Services
Kerry Margason ..... Community Development
Jerry Rangel ..... Finance
Tom Way ..... Fire

URS Consulting Team

Louis Armstrong ..... Principal-In-Charge
Christopher Barkley ..... Project Manager
Anna Davis ..... Deputy Project Manager
Iris Eschen ..... Senior Word Processor
Lisa Huntsberry ..... GIS Specialist
Autumn McKee ..... Environmental Scientist

Across the United States, natural and human-made disasters have led to increased levels of injury, property damage, interruption of business and government services, and even death. The impact of disasters on families and individuals can be immense, and damages to businesses can result in economic consequences. The time, money, and effort to respond to and recover from these disasters divert public resources and attention from other important programs and problems.

In 2000, Congress passed the Disaster Mitigation Act (Public Law 106-390) to reinforce the importance of mitigation planning and emphasize planning for disasters before they occur. As such, local communities must have an approved mitigation plan in place prior to receiving both pre-disaster mitigation and post-disaster funds. These plans must demonstrate that proposed mitigation measures are based on a sound planning process that accounts for the risks to and the capabilities of the individual communities.

Applying this knowledge, the City of Atascadero, California has prepared a Local Hazard Mitigation Plan that will guide Atascadero toward greater disaster resistance in full accord with the character and needs of the community and federal requirements. The potential hazards identified and assessed in this version of the Local Hazard Mitigation Plan include dam failures, earthquakes, expansive soils, floods, hazardous materials events, landslides, and wildland fires. Mitigation actions include a range of specific actions and projects that reduce the effects of each hazard, with particular emphasis on protecting new and existing buildings and infrastructure.

This Local Hazard Mitigation Plan has been prepared to meet FEMA's requirements of the Disaster Mitigation Act 2000 and the Interim Final Rule, thus making it eligible for funding and technical assistance from state and Federal hazard mitigation programs. Following each major disaster declaration, the City is required to review and update the mitigation strategy. Additionally, in compliance with FEMA regulations, this Local Hazard Mitigation Plan must be reviewed, revised if appropriate, and resubmitted for approval within the next five years so that the City continues to be eligible for various hazard mitigation grant-funding sources. This Local Hazard Mitigation Plan has been adopted by the Atascadero City Council on September 27, 2005, reviewed by the Governor's Office of Emergency Services, and approved by FEMA.

This section provides an overview of the Disaster Mitigation Act of 2000 (DMA 2000; Public Law 106-390), the adoption of this Local Hazard Mitigation Plan (LHMP) by the local governing body, and supporting documentation for the adoption.

1.1 DISASTER MITIGATION ACT OF 2000

The DMA 2000 was passed by Congress to emphasize the need for mitigation planning to reduce vulnerability to natural and human-caused hazards. The DMA 2000 amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act; 42 United States Code [USC] 5121 et seq.) by repealing the act's previous Mitigation Planning section (409) and replacing it with a new Mitigation Planning section (322).

To implement the DMA 2000 planning requirements, the Federal Emergency Management Agency (FEMA) published an Interim Final Rule in the *Federal Register* on February 26, 2002 (FEMA 2002a). This rule (44 Code of Federal Regulations [CFR] Part 201) established the mitigation planning requirements for states, tribes, and local communities. The planning requirements are described in detail in Section 2 and identified in their appropriate sections throughout the Plan. In addition, a crosswalk documenting compliance with 44 CFR is included as Appendix E.

1.2 ADOPTION BY THE LOCAL GOVERNING BODY AND SUPPORTING DOCUMENTATION

The requirements for the adoption of an LHMP by the local governing body, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 REQUIREMENTS: PREREQUISITES

Adoption by the Local Governing Body

Requirement §201.6(c)(5): [The local hazard mitigation plan shall include] documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commissioner, Tribal Council).

Element

- Has the local governing body adopted the plan?
- Is supporting documentation, such as a resolution, included?

Source: FEMA, March 2004.

The City of Atascadero LHMP meets the requirements of Section 409 of the Stafford Act and Section 322 of the DMA 2000. This includes meeting the requirement that the LHMP be adopted by the City of Atascadero (the City).

This LHMP has been prepared by the City's Hazard Mitigation Planning Team (Planning Team) and adopted by the City Council via resolution, which is presented in Appendix A.

This section provides an overview of the City's LHMP. This includes a review of the background, authority, and purpose of the LHMP and a description of the document.

2.1 PURPOSE AND AUTHORITY

The DMA 2000, also referred to as the 2000 Stafford Act amendments, was approved by Congress on October 10, 2000. On October 30, 2000, the President signed the bill into law, creating Public Law 106-390. The purposes of the DMA 2000 are to amend the Stafford Act, establish a national program for pre-disaster mitigation, and streamline administration of disaster relief.

The Atascadero LHMP meets the requirements of the DMA 2000, which calls for all communities to prepare hazard mitigation plans. By preparing this LHMP, the City is eligible to receive Federal mitigation funding after disasters and to apply for mitigation grants before disasters strike. More importantly, this LHMP starts an ongoing process to evaluate the risks different types of hazards pose to the City, and to engage the City and the community in dialogue to identify the steps that are most important in reducing these risks. This constant focus on planning for disasters will make the City, including its residents, property, infrastructure, and the environment, much safer.

The local hazard mitigation planning requirements encourage agencies at all levels, local residents, businesses, and the non-profit sector to participate in the mitigation planning and implementation process. This broad public participation enables the development of mitigation actions that are supported by these various stakeholders and reflect the needs of the entire community.

States are required to coordinate with local governments in the formation of hazard mitigation strategies, and the local strategies combined with initiatives at the state level form the basis for the State Mitigation Plan. The information contained in LHMPs helps states to identify technical assistance needs and prioritize project funding. Furthermore, as communities prepare their plans, states can continually improve the level of detail and comprehensiveness of statewide risk assessments.

For FEMA's Pre-Disaster Mitigation (PDM) grant program and Hazard Mitigation Grant Program (HMGP), a local jurisdiction must have an approved LHMP to be eligible for PDM and HMGP funding for Presidentially declared disasters after November 1, 2004. Plans approved at any time after November 1, 2004, will allow communities to be eligible to receive PDM and HMGP project grants.

Adoption by the local governing body demonstrates the jurisdiction's commitment to fulfilling the mitigation goals and objectives outlined in the LHMP. Adoption legitimizes the LHMP and authorizes responsible agencies to execute their responsibilities. Following adoption by the City Council, the plan was reviewed by the Governor's Office of Emergency Services (OES) and approved by FEMA. The resolution adopting this LHMP is included in Appendix A.

2.2 PLAN DESCRIPTION

The remainder of this LHMP consists of the following sections.

Community Description

Section 3 provides a general history and background of the community and historical trends for population, demographic and economic conditions that have shaped the area. Trends in land use and development are also discussed.

Planning Process

Section 4 describes the planning process, identifies Planning Team members, URS Corporation consultants (URS), and the key stakeholders within the community and surrounding region. In addition, this section documents public outreach activities and the review and incorporation of relevant plans, reports, and other appropriate information.

Risk Assessment

Section 5 describes the process through which the Planning Team identified and compiled relevant data on all potential natural hazards that threaten the City and the immediately surrounding area. Information collected includes historical data on natural hazard events that have occurred in and around the City and how these events impacted residents and their property.

The descriptions of natural hazards that could affect the City are based on historical occurrences and best available data from agencies such as FEMA, the U.S. Geological Survey (USGS), the California Geologic Survey, and the National Weather Service. Detailed hazard profiles include information on the frequency, magnitude, location, and impact of each hazard as well as probabilities for future hazard events. Figures (attached as Appendix B) are included to identify known hazard areas and locations of previous hazard occurrences.

In addition, Section 5 identifies potentially vulnerable assets such as people, housing units, critical facilities, special facilities, infrastructure and lifelines, hazardous materials facilities, and commercial facilities. These data were compiled by assessing the potential impacts from each hazard using GIS and FEMA's natural hazards loss estimation model, HAZUS-MH. The resulting information identifies the full range of hazards that the City could face and potential social impacts, damages, and economic losses.

Capability Assessment

Although not required by the DMA 2000, Section 6 provides an overview of the City's resources in the following areas for addressing hazard mitigation activities:

- **Legal and regulatory:** Existing ordinances, plans and codes that affect the physical or built environment in a community
- **Administrative and technical:** The staff, personnel, and department resources available to expedite the actions identified in the mitigation strategy
- **Fiscal:** The financial resources to implement the mitigation strategy

Mitigation Strategy

As Section 7 describes, the Planning Team developed a list of mitigation goals, objectives, and actions based upon the findings of the risk assessment and the capability assessment. Based upon these goals and objectives, the Planning Team, supported by URS, reviewed and prioritized a comprehensive range of appropriate mitigation actions to address the risks facing the community. Such measures include preventive actions, property protection techniques, natural resource protection strategies, structural projects, emergency services, and public information and awareness activities.

Plan Maintenance Process

Section 8 describes the Planning Team's formal plan maintenance process to ensure that the LHMP remains an active and applicable document. The process includes monitoring, evaluating, and updating the LHMP; implementation through existing planning mechanisms; and continued public involvement.

References

Section 9 lists the reference materials used to prepare this LHMP.

Appendices

The appendices include the Adoption Resolution, maps and figures, Planning Team meetings and minutes, public involvement process, and a crosswalk for compliance with the DMA 2000.

This section describes the history, location, and geography of the City as well as its government, demographic information, and current land use and development trends.

3.1 HISTORY, LOCATION, AND GEOGRAPHY

Atascadero is located 17 miles inland from the Pacific coast and lies midway between Los Angeles and San Francisco on U.S. Highway 101 (US 101), about 220 miles from each city. The City is one of seven incorporated communities in San Luis Obispo County (Appendix B, Figure B-1). The City consists of 26.15 square miles of the original 38 square miles of the historic Atascadero Ranch, later known as the Colony. The Colony was founded as California's first planned community in 1913 by E.G. Lewis.

The City is situated in the southern portion of the Salinas River Valley. The Salinas River flows along the eastern city limits from south to north. Steep hills and canyons border the community on the west, and open rolling hills surround the City center. The City lies within an agricultural area where ranchlands are transitioning to vineyards to support the growing wine industry. Suburban residential development approved by San Luis Obispo County borders the City on the southern and eastern edges, and lower-density residential development lies to the north and west.

Atascadero is bordered on the west by the rugged mountainous ridges of the Santa Lucia Coastal Range, on the east by the low hills of the La Panza and Temblor Ranges, and on the north by the low hills and flat-topped mesas of the Diablo Range. The highest elevations in the vicinity are within the Santa Lucia Coastal Range, where many peaks are 2,000 to 3,400 feet above mean sea level.

The area has a Mediterranean climate with a wet season from October to early April and a dry summer season with low humidity. The City has an average annual precipitation of 17.31 inches. In winter, the average high temperatures range from the 50s to the 60s, with lows in the 30s. In summer, the average daily highs are in the 90s, with some days exceeding 100. Summertime lows are typically in the 60s and 70s.

3.2 GOVERNMENT

Atascadero, which was incorporated in 1979, is a General Law city operating within rules established by the California Legislature. The organizational structure of the local government is of the City Council–City Manager form. The City Manager, hired by the City Council, is responsible for planning, organizing, and directing all administrative activities such as enforcing municipal laws, directing the daily operations of the City, and preparing and observing the municipal budget. The City Council is composed of five members elected at large by the citizens of Atascadero. The City Council acts upon all legislative matters concerning Atascadero, approving and adopting all ordinances, resolutions, contracts, and other matters requiring overall policy decisions and leadership.

Additional information regarding City-owned buildings and facilities, urban services, infrastructure, and general building stock is provided in Section 5.

3.3 DEMOGRAPHICS

According to the U.S. Census Bureau, the City's population was 26,444 in 2000. Approximately 5.4 percent of the total population was under 5 years, 8.7 percent was between 5 and 17 years, 74.4 percent was between 18 and 64 years, and 11.5 percent was 65 years and over. Based on an average population increase over the past 5 years, the projected population for 2005 is 27,779. The City's *General Plan 2025* projects the annual growth rate to continue to average 1.25 percent over the next 20 years.

Atascadero's current labor force includes 12,210 persons. The economic base of the City has been oriented toward service positions including staff at California Polytechnic State University – San Luis Obispo, Atascadero State Hospital, and California Men's Colony. The unemployment rate has been historically low, but in recent years there has been significant out-migration due to the lack of jobs. In 2000, the per capita income was $20,029, and the median family income was $55,009.

3.4 LAND USE AND DEVELOPMENT TRENDS

Prior to the City's incorporation, San Luis Obispo County guided growth in the unincorporated county through its General Plan. San Luis Obispo County adopted the General Plan in 1968 and by 1972 developed more stringent growth standards in accordance with State of California (State) planning standards. With the incorporation of Atascadero in 1979, the newly formed Planning Commission adopted the 1980 General Plan and subsequently, in 1983, a new zoning ordinance. The City updated the General Plan in the mid-1980s and adopted a revised version in 1992.

The *General Plan 2025*, adopted in 2002, is the most recent version of the City's Plan. This version readopted the Guiding Community Goals and introduced the Smart Growth Principles and General Plan Framework Principles. In addition, the Preferred General Plan Land Use Alternatives identified a build-out population of approximately 36,000.

As noted in Section 3.1, the City covers 26.15 square miles. The majority of commercial activity, including 3 million square feet of commercial and industrial buildings, takes place along El Camino Real, Morro Road, and near US 101 interchanges. The historic downtown, located in the City center, is surrounded by residential neighborhoods (with approximately 8,000 dwelling units) that transition into low-density rural areas west of US 101 and open space, public recreation, and public facilities east of US 101 (Appendix B, Figure B-2).

The *General Plan 2025* identifies approximately 400 acres of the Eagle Ranch area as the primary area of future growth. The area is located outside of the current City's western boundaries but within the Urban Reserve Line, an area within the Colony boundary that is planned for urban and suburban uses with City services and facilities. In addition to the Eagle Ranch development project, the *General Plan 2025* identifies small residential and commercial development projects in the northern and southeastern portions of the City limits (Appendix B, Figure B-3).

This section provides an overview of the planning process; identifies Planning Team members, and key stakeholders; documents public outreach efforts; and summarizes the review and incorporation of existing plans, studies, and reports used in the development of this LHMP. Additional information regarding the Planning Team and public outreach efforts is provided in Appendices C and D.

The requirements for the planning process, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 Requirements: Planning Process

Planning Process

§201.6(b): An open public involvement process is essential to the development of an effective plan.

Documentation of the Planning Process

Requirement §201.6(b): In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process **shall** include:

- An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;
- An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and nonprofit interests to be involved in the planning process; and
- Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

Requirement §201.6(c)(1): [The plan shall document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

Element

- Does the plan provide a narrative description of the process followed to prepare the plan?
- Does the plan indicate who was involved in the planning process? (For example, who led the development at the staff level and were there any external contributors such as contractors? Who participated on the plan committee, provided information, reviewed drafts, etc.?)
- Does the plan indicate how the public was involved? (Was the public provided an opportunity to comment on the plan during the drafting stage and prior to the plan approval?)
- Was there an opportunity for neighboring communities, agencies, businesses, academia, nonprofits, and other interested parties to be involved in the planning process?
- Does the planning process describe the review and incorporation, if appropriate, of existing plans, studies, reports, and technical information?

Source: FEMA, March 2004.

4.1 OVERVIEW OF PLANNING PROCESS

The City hired URS to assist with the development of this LHMP. The first step in the planning process was to establish a Planning Team composed of existing City agencies. Marcia Torgerson of the City Manager's Office served as the primary point of contact for the City and the public.

Once the Planning Team was formed, the following five-step planning process took place during the 5-month period from March to August 2005.

- **Organize resources:** The Planning Team identified resources, including City staff, agencies, and local community members, which could provide technical expertise and historical information needed in the development of the LHMP.

- **Assess risks:** The Planning Team identified the hazards specific to the City, and URS developed the risk assessment for the seven identified hazards. The Planning Team reviewed the risk assessment, including the vulnerability analysis, prior to and during the development of the mitigation strategy.
- **Assess capabilities:** URS and the Planning Team reviewed current administrative and technical, legal and regulatory, and fiscal capabilities to determine whether existing provisions and requirements adequately address relevant hazards.
- **Develop a mitigation strategy:** After reviewing the risks posed by each hazard, the Planning Team worked with URS to develop a comprehensive range of potential mitigation goals, objectives, and actions. Subsequently, the Planning Team identified and prioritized the actions to be implemented.
- **Monitor progress:** The Planning Team developed an implementation process to ensure the success of an ongoing program to minimize hazard impacts to the community.

4.2 HAZARD MITIGATION PLANNING TEAM

4.2.1 Formation of the Planning Team

As previously noted, the planning process began in March 2005. Marcia Torgerson formed the advisory body, known as the Planning Team, utilizing staff from relevant City agencies. The Planning Team members are listed in Table 4-1. The Planning Team meetings are described below. Meeting handouts are provided in Appendix C.

Table 4-1
City of Atascadero Hazard Mitigation Planning Team

Name	Department
Marcia Torgerson	City Manager's Office
John Couch	Police
Valerie Humphrey	Public Works
Luke Knight	Information Technology
Jennifer Fanning	Community Services
Kerry Margason	Community Development
Jerry Rangel	Finance
Tom Way	Fire

4.2.2 Planning Team Meetings

March 1, 2005

During the kick-off meeting, URS discussed the objectives of the DMA 2000, the hazard mitigation planning process, the public outreach process, and the steps involved in developing the LHMP and achieving the City's goals. The presentation included a review of Geographic Information System (GIS) technology as a tool for identifying and mapping known hazards in the City. Also discussed was the need for the Planning Team to network with other people in the

City, other agencies, and other professionals who might have specialized knowledge about hazards that may affect the City.

A hazard risk identification exercise was conducted to familiarize the Planning Team with the approach and concepts that would be used in the risk identification phase of the LHMP development. The exercise identified the specific hazards that the Planning Team wanted to address in the LHMP. Among the 21 potential hazards initially discussed (as shown in Section 5.2), seven hazards were determined to pose the greatest potential risk to the City: dam failures, earthquakes, expansive soils, floods, hazardous materials events, landslides, and wildland fires.

May 2, 2005

During the second meeting, URS briefed the Planning Team on progress made to date, including the launch of the LHMP Web site and press release and notification to neighboring communities and relevant agencies of the LHMP preparation. URS presented the Planning Team with the initial analysis of the risk assessment, describing which assets were analyzed and how values were estimated. Additionally, URS and the Planning Team discussed the mitigation strategy, distributing draft mitigation goals, objectives, and actions for review.

June 30, 2005

The third Planning Team meeting was held via conference call. During this meeting, the Planning Team and URS staff reviewed changes made to the draft mitigation goals, objectives, and actions during a three-week Planning Team comment period. Additionally, the Planning Team evaluated potential action items and selected and prioritized recommended action items.

Additionally, over a two-week period during late July, the Planning Team was asked to review the Public Review Draft Atascadero LHMP. The Planning Team sent comments and concerns regarding the draft version to URS to incorporate changes before the release of the Public Review Draft.

4.3 PUBLIC INVOLVEMENT

In April 2005, shortly after the first Planning Team meeting, the City issued a press release regarding the preparation of the LHMP. The press release, which was sent to the local newspapers and posted on the City's Web site, included a phone number and email address for comments during the drafting stage. The April 8th edition of the *San Luis Obispo Tribune* featured an article about the LHMP and the City's hazard mitigation planning efforts. Additionally, the City mailed letters regarding the preparation of the LHMP to the following entities:

- FEMA
- State OES
- San Luis Obispo County
- Cities of Arroyo Grande, Grover Beach, Paso Robles, Pismo Beach, and San Luis Obispo
- Los Padres National Forest
- Diablo Canyon Power Plant

In August, a second press release was issued to announce the availability of the Public Review Draft of the Atascadero LHMP. The City posted a copy of the Public Review Draft on its Web site during a 30-day public comment period from August 18 – September 15. Additionally, the City provided an e-mail address as well as a physical mailing address to receive public comments.

The press release, newspaper article, and notification letter are included in Appendix D.

4.4 INCORPORATION OF EXISTING PLANS AND OTHER RELEVANT INFORMATION

During the planning process, URS and the Planning Team reviewed and incorporated information from existing plans (see Table 6-1), studies, reports, and technical reports into the LHMP. A synopsis of the sources follows.

- *City of Atascadero General Plan 2025*: The Land Use Element provides information on existing land use and future development trends. The Safety Element provides information for the initial hazard identification process and development of the mitigation strategy.
- *City of Atascadero Emergency Response Plan*: This plan outlines current mitigation activities and response procedures, which were used for the mitigation strategy.
- *The Zoning Regulations of the City of Atascadero, Title 9 of the Atascadero Municipal Code:* These codes regulate development and land use and were used for the capability assessment and mitigation strategy.
- *San Luis Obispo County General Plan:* The county's General Plan was used for the risk assessment because it contains information on hazard areas adjacent to the City limits.
- *State of California Draft Multi-Hazard Mitigation Plan:* This plan, prepared by OES, was used to ensure that the City's LHMP was consistent with the State's Plan.

The following FEMA guides were also consulted for general information on the LHMP process:

- *How-To Guide #1: Getting Started: Building Support For Mitigation Planning* (FEMA 2002c)
- *How-To Guide #2: Understanding Your Risks – Identifying Hazards and Estimating Loss Potential* (FEMA 2001)
- *How-To Guide #3: Developing the Mitigation Plan: Identifying Mitigation Actions and Implementing Strategies* (FEMA 2003a)
- *How-To Guide #4: Bringing the Plan to Life: Implementing the Hazard Mitigation Plan* (FEMA 2003b)

A complete list of the sources consulted is provided in Section 9.

This section identifies and profiles the hazards that could affect Atascadero, assesses the risk of such hazards, describes the City's vulnerability, and estimates potential losses from the hazards. Each of these tasks is described in detail below.

In compliance with the DMA 2000, the requirements for the risk assessment are described below.

DMA 2000 Requirements: Risk Assessment – Overall

Risk Assessment

§201.6(c)(2): The plan **shall** include a risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards.

Source: FEMA, March 2004.

5.1 OVERVIEW OF A RISK ASSESSMENT

A risk assessment requires the collection and analysis of hazard-related data to enable local communities to identify and prioritize appropriate mitigation actions that will reduce losses from potential hazards. There are five risk assessment steps as part of the hazard mitigation planning process, as outlined below and described in detail throughout the remainder of Section 5.

Step 1: Identify and Screen Hazards

Hazard identification is the process of recognizing natural and human-caused events that threaten an area. Natural hazards result from unexpected or uncontrollable natural events of sufficient magnitude to cause damage. Human-caused hazards result from human activity and include technological hazards and terrorism. Technological hazards are generally accidental or result from events with unintended consequences (for example, an accidental hazardous materials release). Terrorism is defined as the calculated use of violence (or threat of violence) to attain goals that are political, religious, or ideological in nature. Even though a particular hazard may not have occurred in recent history in the study area, all hazards that may potentially affect the study area are considered; hazards that are unlikely to occur, or for which the risk of damage is accepted as very low, are then eliminated from consideration.

Step 2: Profile Hazards

Hazard profiling is accomplished by describing hazards in terms of their history, magnitude, duration, frequency, location, and probability. Hazards are identified through collection of historical and anecdotal information, review of existing plans and studies, and preparation of hazard maps of the study area. Hazard maps are used to determine the geographic extent of the hazards and define the approximate boundaries of areas at risk.

Step 3: Identify Assets

Assets are defined as the population, buildings, and critical facilities and infrastructure that may be affected by hazard events. Asset information may be obtained from participating communities, the U.S. Census Bureau, and FEMA's HAZUS-MH software. Asset information is organized and categorized for analysis using GIS.

Step 4: Assess Vulnerabilities

A vulnerability analysis predicts the extent of exposure that may result from a hazard event of a given intensity in a given area. The assessment provides quantitative data that may be used to identify and prioritize potential mitigation measures by allowing communities to focus attention on areas with the greatest risk of damage.

Step 5: Analyze Future Development Trends

The final stage of the risk assessment process provides a general overview of development and population growth that is forecasted to occur within the study area. This information provides the groundwork for decisions about mitigation strategies in developing areas and locations in which these strategies should be applied.

5.2 HAZARD IDENTIFICATION AND SCREENING

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

DMA 2000 Requirements: Risk Assessment – Identifying Hazards

Identifying Hazards

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

Element

- Does the plan include a description of the types of all natural hazards that affect the jurisdiction? If the hazard identification omits (without explanation) any hazards commonly recognized as threats to the jurisdiction, this part of the plan cannot receive a Satisfactory score. Consult with the State Hazard Mitigation Officer to identify applicable hazards that may occur in the planning area.

Source: FEMA, March 2004.

The risk assessment process is the identification and screening of hazards, as shown in Table 5-1. During the first LHMP planning meeting, the Planning Team and URS identified 21 possible hazards that could affect Atascadero. The Planning Team evaluated and screened the comprehensive list of potential hazards based on a range of factors, including prior knowledge or perception of the relative risk presented by each hazard, the ability to mitigate the hazard, and the known or expected availability of information on the hazard (See Table 5-1). The Planning Team determined that seven hazards pose the greatest threat to Atascadero: dam failures, earthquakes, expansive soils, floods, hazardous materials events, landslides, and wildland fires. The remaining 14 hazards excluded through the screening process were considered to pose a lower threat to life and property in Atascadero due to the low likelihood of occurrence or the low probability that life and property would be significantly affected. Should the risk from these hazards increase in the future, the LHMP can be updated to incorporate vulnerability analyses for these hazards.

Table 5-1
Identification and Screening of Hazards

Hazard Type	Should It Be Profiled?	Explanation
Avalanche	No	City is not located in area prone to frequent or significant snowfall.
Coastal Erosion	No	City is not located along the coast.
Coastal Storm	No	City is not located along the coast.
Dam Failure	Yes	City is located downstream from Salinas Dam.
Drought	No	Existing infrastructure for water storage and delivery within the City diminish the effects of this hazard.
Earthquake	Yes	City has experienced recent (2003 San Simeon) and historic earthquakes and is in the proximity of San Andreas fault.
Expansive Soils	Yes	Expansive soils have caused problems, especially after the 2003 San Simeon earthquake.
Extreme Heat	No	While extreme temperatures are known to occur, prolonged heat waves are rare.
Flood	Yes	History of flooding is associated with heavy rainfall.
Hailstorm	No	No significant historic events have occurred in the City.
Hurricane	No	No significant historic events have occurred in the City.
Land Subsidence	No	Hazard is addressed as a subcategory of Expansive Soils.
Landslide	Yes	City is vulnerable to slope instability, especially after prolonged rainfalls.
Severe Winter Storm	No	No significant historic events have occurred in the City.
Tornado	No	No significant historic events have occurred in the City.
Tsunami	No	City is not located along the coast.
Volcano	No	No significant historic events have occurred in the City.
Wildfire	Yes	The terrain, vegetation, and weather conditions in the region are favorable for the ignition and rapid spread of wildfires.
Windstorm	No	No significant historic events have occurred in the City.
Other: Hazard Materials	Yes	Hazardous materials (hazmat) facilities are located within and near the City. Major hazmat transportation routes transect the City.
Diablo Canyon Power Plant	No	Mitigation concerns handled by Diablo Canyon Power Plant. No local jurisdictional authority.

5.3 HAZARD PROFILE

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

DMA 2000 Requirements: Risk Assessment – Profiling Hazards

Profiling Hazards

Requirement §201.6(c)(2)(i): [The risk assessment **shall** include a] description of the location and extent of all natural hazards that can affect the jurisdiction. The plan **shall** include information on previous occurrences of hazard events and on the probability of future hazard events.

Element

- Does the risk assessment identify the **location** (i.e., geographic area affected) of each natural hazard addressed in the plan?
- Does the risk assessment identify the **extent** (i.e., magnitude or severity) of each hazard addressed in the plan?
- Does the plan provide information on **previous occurrences** of each hazard addressed in the plan?
- Does the plan include the **probability of future events** (i.e., chance of occurrence) for each hazard addressed in the plan?

Source: FEMA, March 2004.

The specific hazards selected by the Planning Team for profiling have been examined in a methodical manner based on the following factors:

- Nature
- History
- Location
- Extent
- Probability of Future Events

The hazards profiled for Atascadero are presented in Section 5.3 in alphabetical order. The order of presentation does not signify the level of importance or risk.

5.3.1 Dam Failures

5.3.1.1 Nature

A dam failure is the structural collapse of a dam that releases the water stored in the reservoir behind the dam. A dam failure is usually the result of the age of the structure, inadequate spillway capacity, or structural damage caused by an earthquake or flood. The sudden release of water has the potential to cause human casualties, economic loss, and environmental damage. This type of disaster is dangerous because it can occur rapidly, providing little warning and evacuation time for people living downstream. The flows resulting from dam failure generally are much larger than the capacity of downstream channels and can therefore lead to extensive flooding. Flood damage occurs as a result of the momentum of the flood caused by the sediment-laden water, flooding over the channel banks, and impact of debris carried by the flow.

5.3.1.2 History

There are two major dams in the vicinity of Atascadero: the Salinas Dam and Atascadero Lake Dam. Neither of these structures has failed or been subject to significant damage. While there have been no significant dam failures in the Atascadero area, the regulation of dams in California was initiated after the catastrophic failure of the St. Francis Dam in Los Angeles County in 1928.

5.3.1.3 Location, Extent, and Probability of Future Events

As shown in Appendix B, Figure B-4, two dams in and near Atascadero pose the risk of inundation within the City. Only the largest dam, the Salinas Dam, has been mapped by the California Division of Safety of Dams (DSOD) for inundation. The Salinas Dam is a concrete dam approximately 19 miles upstream from the City on the west end of Santa Margarita Lake. It has a storage capacity of 23,843 acre-feet, which is considered to be State-size. State-size dams, which are regulated by the DSOD, are more than 25 feet in height and hold back more than 15 acre-feet of water; or are more than 6 feet in height and hold more than 50 acre-feet of water. The DSOD dam-breach maps for the Salinas Dam show an inundation area in the City within about 1,000 feet of the Salinas River. The maximum water surface elevation from a break in the dam could be as much as 840.9 feet in Atascadero, with a maximum flow rate of 220,610 cubic feet per second. The resultant flooding would take two hours to reach the maximum water surface elevation.

The second, smaller dam, the Atascadero Lake Dam, is located within the City. This earthen dam is approximately 1.25 miles from the State Route 41/US 101 interchange on the northwest end of the lake. The Atascadero Lake Dam is more of a levee than a dam. Failure of the dam with the lake at maximum capacity could produce flooding about 2 feet deep in the Morro Flats/Tecorida area and could affect about 100 residents.

Although the Salinas Dam is inspected annually by the DSOD to ensure that it is in good operating condition, a dam failure could occur due to structural damage as a result of an earthquake. A small, unnamed fault occurs beneath the right abutment of the existing Salinas Dam but is not expected to undergo movement that might affect the dam. The Rinconada fault passes within about 5,000 feet of the dam. Although this fault is not known to be active, hypothetical analyses demonstrate that a magnitude 7.4 earthquake from the fault would cause strong ground shaking at the dam. Strong ground shaking at the dam with a full reservoir load would cause some damage to the dam but would not cause a failure and sudden release of water.

5.3.2 Earthquakes

5.3.2.1 Nature

An earthquake is a sudden motion or trembling caused by a release of strain accumulated within or along the edge of the earth's tectonic plates. The effects of an earthquake can be felt far beyond the site of its occurrence. Earthquakes usually occur without warning and, after just a few seconds, can cause massive damage and extensive casualties. The most common effect of earthquakes is ground motion, or the vibration or shaking of the ground during an earthquake.

The severity of ground motion generally increases with the amount of energy released and decreases with distance from the fault or epicenter of the earthquake. Ground motion causes

waves in the earth's interior, also known as seismic waves, and along the earth's surface, known as surface waves. There two kinds of seismic waves. P (primary) waves are longitudinal or compressional waves similar in character to sound waves that cause back-and-forth oscillation along the direction of travel (vertical motion). S (secondary) waves, also known as shear waves, are slower than P waves and cause structures to vibrate from side to side (horizontal motion). There are also two kinds of surface waves: Raleigh waves and Love waves. These waves travel more slowly and typically are significantly less damaging than seismic waves.

In addition to ground motion, several secondary hazards can occur from earthquakes, such as surface faulting. Surface faulting is the differential movement of two sides of a fault at the earth's surface. Displacement along faults, both in terms of length and width, varies but can be significant (e.g., up to 20 feet), as can the length of the surface rupture (e.g., up to 200 miles). Surface faulting can cause severe damage to linear structures, including railways, highways, pipelines, and tunnels.

Earthquake-related ground failure due to liquefaction is another secondary hazard. Liquefaction occurs when seismic waves pass through saturated granular soil, distorting its granular structure, and causing some of the empty spaces between granules to collapse. Pore-water pressure may also increase sufficiently to cause the soil to behave like a fluid for a brief period and cause deformations. Liquefaction causes lateral spreads (horizontal movements of commonly 10 to 15 feet, but up to 100 feet), flow failures (massive flows of soil, typically hundreds of feet, but up to 12 miles), and loss of bearing strength (soil deformations causing structures to settle or tip). Liquefaction can cause severe damage to property.

5.3.2.2 History

Historically, most of the earthquakes that have occurred near Atascadero have originated from movement along the San Andreas Fault, which lies approximately 27 miles northeast of the City (See Appendix B, Figure B-5). Regional data regarding the activity of the Rinconada and Jolon Faults indicate that these faults may have been active as recently as the Late Quaternary era (700,000 years ago to today) in the vicinity of the City. However, there is no evidence that either fault has moved during the Holocene era (approximately the last 11,000 years). It is estimated that the Rinconada Fault may be capable of producing a maximum credible earthquake of magnitude 7.0. Neither the Rinconada Fault nor the Jolon Fault is active with respect to fault rupture.

Until recently, the largest historical earthquake in the vicinity of the City was the magnitude 6.2 Bryson earthquake of November 1952. While the exact location of this earthquake is unknown no deaths or injuries were reported as a result of this event. However, an earthquake of magnitude 6.5 struck the Atascadero area at 11:15:56 a.m. Pacific Standard Time on Monday, December 22, 2003. The epicenter was approximately 7 miles northeast of San Simeon at a depth of 4.7 miles (35.706N 121.102W), 29 miles from the Atascadero City Hall. Two people were killed in the adjacent City of Paso Robles. Countywide, 47 people were reported injured and 290 homes and 190 commercial structures were damaged. In Atascadero the most significant damage, estimated at $25 million, occurred at the historic City Hall. Nine months after the San Simeon earthquake, on September 28, 2004, a magnitude 6.0 earthquake struck Central California near the town of Parkfield (approximately 43 miles northeast of the City).

5.3.2.3 Location, Extent, and Probability of Future Events

The Atascadero area is exposed to seismic hazards from movement along several regional faults; however, no faults have been identified within the City limits. The major active fault zones in this area include the Rinconada and Jolon, Black Mountain, La Panza, Los Osos, Hosgri, San Andreas, and San Simeon. Additionally, the Nacimiento fault zone (southwest of the City in the Santa Lucia Coastal Range) is classified as inactive.

Table 5-2
Potential Seismic Hazards

Fault	Proximity to Atascadero (Miles)	Length of Fault (Miles)	Last Major Rupture	Probable Magnitudes
Rinconada and Jolon	2	75	Late Quaternary Era	7.0
Black Mountain	3	Unknown	Unknown	Unknown
La Panza	9	47	Quaternary Era	Unknown
Los Osos	14	28	Late Quaternary Era	Unknown
Hosgri	22	87	1927	6.5–7.5
San Andreas	27	746	1857, 1906, 2004	6.8–8.0
San Simeon	35	11	2003	Unknown

Source: Southern California Earthquake Data Center 2005

The probabilistic seismic hazard model, as shown in Appendix B, Figure B-6, displays both fault locations and the relative intensity of ground shaking and damage from anticipated future earthquakes. As such, the western portion of Atascadero remains within the moderate range of the earthquake shaking potential model, while the remaining areas of the City fall within the moderate-high range and therefore may experience stronger earthquake shaking.

5.3.3 Expansive Soils

5.3.3.1 Nature

Expansive soils, also known as shrink-swell soils, refer to the potential of soil to expand when wet and contract when dry. Expansive soils, most often composed of clay, are naturally occurring materials found in low-lying regions and floodplains. The shrink-swell potential of these soils occurs when minute electrical charges on the clay particles attract water molecules to their surface, expanding and moving the soil upward. When the soil dries out, it contracts and shrinks. Pressures can be as great as 15,000 pounds per square foot.

5.3.3.2 History

Land subsidence into residences has occurred throughout various parts of the City. Damage associated with this type of land subsidence has generally included cracked driveways, basement floors, pipelines, and foundations. However, land subsidence did cause severe damage to the City Hall after the San Simeon earthquake. The City Hall floor sloped seven inches lower on the

left side of the building than the right side due to a land subsidence phenomenon known as earthquake induced differential settlement.

5.3.3.3 Location, Extent, and Probability of Future Events

Appendix B, Figure B-7 shows that the southwestern and western portions of the City have the largest concentration of top soils with high shrink-swell potential. The shrink-swell characteristics of soils, however, can vary widely by depth and distance, depending on the relative amount and type of clay. While not all expansive soils have the same swell potential, the soil types that correspond to the high shrink-swell potential are mainly the Arbuckle-Positas complex, Arbuckle–San Ysidro complex, and Rincon clay loam. Future soil tests performed can determine the extent of swell potentials throughout the City and the probability for structural damage. However, the effects of expansive soils within the City will most likely continue with the wetting and drying of soils season after season, year after year.

5.3.4 Floods

5.3.4.1 Nature

Flooding is the accumulation of water where there usually is none or the overflow of excess water from a stream, river, lake, reservoir, or coastal body of water onto adjacent floodplains. Floodplains are lowlands adjacent to water bodies that are subject to recurring floods. Floods are natural events that are considered hazards only when people and property are affected.

Nationwide, floods result in more deaths than any other natural hazard. Physical damage from floods includes the following:

- Inundation of structures, causing water damage to structural elements and contents.
- Erosion or scouring of stream banks, roadway embankments, foundations, footings for bridge piers, and other features.
- Impact damage to structures, roads, bridges, culverts, and other features from high-velocity flow and from debris carried by floodwaters. Such debris may also accumulate on bridge piers and in culverts, increasing loads on these features or causing overtopping or backwater effects.
- Destruction of crops, erosion of topsoil, and deposition of debris and sediment on croplands.
- Release of sewage and hazardous or toxic materials as wastewater treatment plants are inundated, storage tanks are damaged, and pipelines are severed.

Floods also result in economic losses through closure of businesses and government facilities; disrupt communications; disrupt the provision of utilities such as water and sewer service; result in excessive expenditures for emergency response; and generally disrupt the normal function of a community.

In Atascadero, the most common type of flooding event is riverine flooding, also known as overbank flooding. Riverine floodplains range from narrow, confined channels in the steep valleys of mountainous and hilly regions, to wide, flat areas in plains and coastal regions. The amount of water in the floodplain is a function of the size and topography of the contributing

watershed, the regional and local climate, and land use characteristics. Flooding in steep, mountainous areas is usually confined, strikes with less warning time, and has a short duration. Larger rivers typically have longer, more predictable flooding sequences and broad floodplains.

In addition to riverine flooding, Atascadero is susceptible to flash flooding. Flash flood is a term widely used by experts and the general population, but there is no single definition or clear means of distinguishing flash floods from other riverine floods. Flash floods are generally understood to involve a rapid rise in water level, high velocity, and large amounts of debris, which can lead to significant damage that includes the tearing out of trees, undermining of buildings and bridges, and scouring of new channels. The intensity of flash flooding is a function of the intensity and duration of rainfall, steepness of the watershed, stream gradients, watershed vegetation, natural and artificial flood storage areas, and configuration of the streambed and floodplain. Dam failure may also lead to flash flooding. Urban areas are increasingly subject to flash flooding due to the removal of vegetation, installation of impermeable surfaces over ground cover, and construction of drainage systems. Wildfires that strip hillsides of vegetation and alter soil characteristics may also create conditions that lead to flash floods and debris flows. Debris flows are particularly dangerous due to the fact that they generally strike without warning and are accompanied by extreme velocity and momentum.

Finally, localized flooding may occur outside of recognized drainage channels or delineated floodplains due to a combination of locally heavy precipitation, increased surface runoff, and inadequate facilities for drainage and storm water conveyance. Such events frequently occur in flat areas and in urbanized areas with large impermeable surfaces. Local drainage may result in “nuisance flooding,” in which streets or parking lots are temporarily closed; and minor property damage. Because the effects are not widespread and damage is typically minimal, they are not studied in detail as part of the LHMP.

5.3.4.2 History

The most serious flood events on record in Atascadero occurred during storms in the early months of 1969, 1993, 1995, and 2001.

Flooding during 1969 was the most damaging. Two floods occurred, one at the end of January and the second at the end of February. During this two-month period, a local rain gage recorded an accumulated precipitation total of 39.79 inches. As a result of these storms, the Salinas River reached a discharge of over 28,000 cubic feet per second and reached a stage of 23.8 feet, almost 5 feet above flood stage. The *San Luis Obispo Telegram-Tribune* of January 25, 1969, described the Salinas Rive as “on rampage.”

During January 1993, winter storms again delivered excessive precipitation; the monthly rainfall total at a local rain gage was nearly 14 inches. During the March 1995 flood, local rain gages recorded a monthly total of 16.48 inches of rain. In early 2001, rain gages recorded a total of 20.2 inches of rain over a three-month period.

5.3.4.3 Location, Extent, and Probability of Future Events

Floods are described in terms of their extent (including the horizontal area affected and the vertical depth of floodwaters) and the related probability of occurrence. Flood studies often use historical records, such as stream flow gages, to determine the probability of occurrence for

floods of different magnitudes. The probability of occurrence is expressed in percentages as the chance of a flood of a specific extent occurring in any given year.

Factors contributing to the frequency and severity of riverine flooding include the following:

- Rainfall intensity and duration.
- Antecedent moisture conditions.
- Watershed conditions, including steepness of terrain, soil types, amount and type of vegetation, and density of development.
- The existence of attenuating features in the watershed, including natural features such as swamps and lakes and human-built features such as dams.
- The existence of flood control features, such as levees and flood control channels.
- Velocity of flow.
- Availability of sediment for transport, and the erodibility of the bed and banks of the watercourse.

These factors are evaluated using a hydrologic analysis to determine the probability that a discharge of a certain size will occur; and a hydraulic analysis to determine the characteristics and depth of the flood that results from that discharge.

The magnitude of flood used as the standard for floodplain management in the United States is a flood having a probability of occurrence of 1 percent in any given year. This flood is also known as the 100-year flood or base flood. The most readily available source of information regarding the 100-year flood is the system of Flood Insurance Rate Maps (FIRMs) prepared by FEMA. These maps are used to support the National Flood Insurance Program (NFIP). The FIRMs show 100-year floodplain boundaries for identified flood hazards. These areas are also referred to as Special Flood Hazard Areas (SFHAs) and are the basis for flood insurance and floodplain management requirements. The FIRMs also show floodplain boundaries for the 500-year flood, which is the flood having a 0.2 percent chance of occurrence in any given year. FEMA has prepared a FIRM for the City of Atascadero, dated January 1982. FEMA is currently in the process of preparing a countywide digital FIRM for San Luis Obispo County, which will incorporate the flood hazard information currently shown separately on the City of Atascadero FIRM.

Rivers and streams where FEMA has prepared detailed engineering studies may also have designated floodways. The floodway is the channel of a watercourse and portion of the adjacent floodplain that is needed to convey the base or 100-year flood event without increasing flood levels by more than 1 foot and without significantly increasing flood velocities. The floodway must be kept free of development or other encroachments. FEMA has not designated floodways within the City of Atascadero.

The FIRM for the City of Atascadero shows identified SFHAs for the following flooding sources:

- The Salinas River, which originates in southern San Luis Obispo County and flows northwesterly into Monterey County along the eastern border of the City. The Salinas Dam, located on the Salinas River upstream of Atascadero, has reduced the threat of flooding from

smaller, more frequent flood events on the river but is not designed to provide complete protection from the 100-year flood.

- Atascadero Creek, the main tributary to the river within Atascadero, which bisects the City from southwest to northeast and runs through the downtown area and several residential areas.
- Graves Creek, which parallels Atascadero Creek to the north and empties into the Salinas River at the north end of the City limits.
- Paloma Creek, which traverses the south end of the City limits.

Appendix B, Figure B-8 shows the extent of the 100- and 500-year floodplains within Atascadero. Area totaling 1.46 square miles within the City is within the 100-year floodplain; and area totaling 2.40 square miles is located within the 500-year floodplain. The City is prone to shallow flooding (1 to 3 feet) within the downtown area adjacent to Atascadero Creek, State Route 41/Morro Road, the underpass at US 101 and State Route 41, and low-lying areas adjacent to the Salinas River. Flooding in these areas generally occurs during the rainy season from October - April.

5.3.5 Hazardous Materials Events

5.3.5.1 Nature

Hazardous materials may include hundreds of substances that pose a significant risk to humans. These substances may be highly toxic, reactive, corrosive, flammable, radioactive, or infectious. Hazardous materials are regulated by numerous Federal, State, and local agencies including the U.S. Environmental Protection Agency (EPA), U.S. Department of Transportation (DOT), National Fire Protection Association, FEMA, U.S. Army, and the International Maritime Organization.

Hazardous material releases may occur from any of the following:

- Fixed site facilities (such as refineries, chemical plants, storage facilities, manufacturing, warehouses, wastewater treatment plants, swimming pools, dry cleaners, automotive sales/repair, gas stations, etc.)
- Highway and rail transportation (such as tanker trucks, chemical trucks, railroad tankers)
- Air transportation (such as cargo packages)
- Pipeline transportation (liquid petroleum, natural gas, and other chemicals)

Unless exempted, facilities that use, manufacture, or store hazardous materials in the United States fall under the regulatory requirements of the Emergency Planning and Community Right to Know Act (EPCRA) of 1986, enacted as Title III of the Federal Superfund Amendments and Reauthorization Act (42 USC 11001–11050; 1988). Under EPCRA regulations, hazardous materials that pose the greatest risk for causing catastrophic emergencies are identified as Extremely Hazardous Substances (EHSs). These chemicals are identified by the EPA in the *List of Lists – Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-to-Know Act (EPCRA) and Section 112 of the Clean Air Act*. Releases of EHSs can occur

during transport and from fixed facilities. Transportation-related releases are generally more troublesome because they may occur anywhere, including close to human populations, critical facilities, or sensitive environmental areas. Transportation-related EHS releases are also more difficult to mitigate due to the variability of locations and distance from response resources.

In addition to accidental human-caused hazardous material events, natural hazards may cause the release of hazardous materials and complicate response activities. The impact of earthquakes on fixed facilities may be particularly serious due to the impairment or failure of the physical integrity of containment facilities. The threat of any hazardous material event may be magnified due to restricted access, reduced fire suppression and spill containment, and even complete cut-off of response personnel and equipment. In addition, the risk of terrorism involving hazardous materials is considered a major threat due to the location of hazardous material facilities and transport routes throughout communities and the frequently limited antiterrorism security at these facilities.

On behalf of several Federal agencies including the EPA and the DOT, the National Response Center (NRC) serves as the point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment within the United States.

5.3.5.2 History

The NRC Web-based query system of non-Privacy Act data shows that since 1990, six oil and chemical spills have occurred within the City. These spills, all of which occurred along the City's major arterial, El Camino Real, are described in Table 5-3 and shown in Appendix B, Figure B-9.

Table 5-3
Oil and Chemical Spills, 1990–2005

Incident Date	Type of Incident	Medium Affected	Material Name
10/27/1991	Fixed	Unknown	Gasoline
10/27/1991	Fixed	Land	Gasoline
02/01/2001	Storage tank	Land	Diesel oil
03/09/2001	Fixed	Land	Crude oil mixed with water
09/10/2002	Storage tank	Soil	Crude oil
08/05/2003	Storage tank	Land	Sodium hydroxide

Source: NRC 2005

The EPA has recorded only one airborne hazardous material release within Atascadero (Appendix B, Figure B-9). This release occurred in the southwestern portion of the City, a substantial distance from major residential areas.

5.3.5.3 Location, Extent, and Probability of Future Events

The City has no large industrial facilities that house or manufacture large quantities of hazardous materials that could potentially cause a devastating release. The EPA's regulated facilities within City limits include one facility that produces and releases air pollutants and 33 facilities that have

reported hazardous waste activities, including 27 small-quantity generators (gasoline stations, photo processing shops, auto body shops, etc.) and six transporters. Generally, the small, fixed facilities have varying uses of hazardous chemicals, but in general do not pose a significant risk to the City. Based on previous occurrences, the likelihood of a small oil or chemical spill occurring is every 2.5 years. Therefore, a hazardous material event would have the highest potential to occur along US 101, State Route 41, and the Union Pacific Railroad. The trains and trucks that use these transportation arteries commonly carry a variety of hazardous materials, including gasoline, other crude oil derivatives, and other chemicals known to cause human health problems.

Comprehensive information on the probability and magnitude of hazardous material events across all types of sources (such as fixed facilities or transport vehicles) is not available. Wide variations among the characteristics of hazardous material sources and among the materials themselves make such an evaluation difficult. While it is beyond the scope of this LHMP to evaluate the probability and magnitude of hazardous material events in the City in detail, it is possible to determine the exposure of population, buildings, and critical facilities should such an event occur. Of the facilities that were required to file an annual EPA Tier II Material Inventory Report in San Luis Obispo County because of the presence of hazardous materials, three were identified as having EHSs. The substances recorded at these facilities include common hazardous substances, mainly sulfuric acid. EHSs pose the greatest risk for causing catastrophic emergencies. Areas at risk of hazardous material events, as shown in Appendix B, Figure B-9, include any area within a 1-mile radius of US 101, State Route 41, the Union Pacific Railroad tracks, and EHS fixed facilities within the city limits.

5.3.6 Landslides

5.3.6.1 Nature

Landslide is a general term for the dislodgment and fall of a mass of soil or rocks along a sloped surface or for the dislodged mass itself. The term is used for varying phenomena, including mudflows, mudslides, debris flows, rock falls, rock slides, debris avalanches, debris slides, and slump-earth flows. Landslides may result from a wide range of combinations of natural rock, soil, or artificial fill. The susceptibility of hillside and mountainous areas to landslides depends on variations in geology, topography, vegetation, and weather. Landslides may also occur due to indiscriminate development of sloping ground or the creation of cut-and-fill slopes in areas of unstable or inadequately stable geologic conditions.

Additionally, landslides often occur together with other natural hazards, thereby exacerbating conditions, as described below.

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

- Wildfires can remove vegetation from hillsides, significantly increasing runoff and landslide potential.

5.3.6.2 History

Highway 1 west of the City closes almost every winter due to landslides. During the winter of 1998, Atascadero residents could not use the scenic route to travel to Monterey County due to heavy El Niño rains and subsequent slides that closed Highway 1 for weeks. Landslides in this area have also resulted from earthquakes. In 2003, the San Simeon earthquake caused numerous small landslides within the northwestern portion of the City and along State Route 41.

5.3.6.3 Location, Extent, and Probability of Future Events

Similar to much of San Luis Obispo County, Atascadero is considered to have a high risk of landslides. Slope instability in the City generally increases with steepness and distance from the Salinas River, with areas of steep terrain that consist of fractured soil or thin layers of clay that are susceptible to erosion and landslide. The only areas of the City that are considered to have a very high risk of landslide hazards are small, isolated locations in the far southwest end of the City, many of which are outside of the City boundary (see Appendix B, Figure B-10).

The likelihood of sliding increases during or after a period of heavy rain, when saturated soil fractures or weak spots give way. Therefore, while slides generally occur during the rainy season, after very wet winters, deep-seated landslides can continue to become active for many months, extending well into the summer. These landslides range in size from less than an acre to several that extend over a mile of hillside. Geologists consider Atascadero to be prone to deep-seated, slow-moving landslides. However, even where slides are recognized, it is often hard to accurately predict the frequency or magnitude of potential future movement.

5.3.7 Wildland Fires

5.3.7.1 Nature

A wildland fire is a type of wildfire that spreads through consumption of vegetation. It often begins unnoticed, spreads quickly, and is usually signaled by dense smoke that may be visible from miles around. Wildland fires can be caused by human activities (such as arson or campfires) or by natural events such as lightning. Wildland fires often occur in forests or other areas with ample vegetation. In addition to wildland fires, wildfires can be classified as urban fires, interface or intermix fires, and prescribed fires.

The following three factors contribute significantly to wildland fire behavior and can be used to identify wildland fire hazard areas.

- **Topography:** As slope increases, the rate of wildland fire spread increases. South-facing slopes are also subject to more solar radiation, making them drier and thereby intensifying wildland fire behavior. However, ridgetops may mark the end of wildland fire spread, since fire spreads more slowly or may even be unable to spread downhill.
- **Fuel:** The type and condition of vegetation plays a significant role in the occurrence and spread of wildland fires. Certain types of plants are more susceptible to burning or will burn

with greater intensity. Dense or overgrown vegetation increases the amount of combustible material available to fuel the fire (referred to as the "fuel load"). The ratio of living to dead plant matter is also important. The risk of fire is increased significantly during periods of prolonged drought as the moisture content of both living and dead plant matter decreases. The fuel's continuity, both horizontally and vertically, is also an important factor.

- **Weather:** The most variable factor affecting wildland fire behavior is weather. Temperature, humidity, wind, and lightning can affect chances for ignition and spread of fire. Extreme weather, such as high temperatures and low humidity, can lead to extreme wildland fire activity. By contrast, cooling and higher humidity often signals reduced wildland fire occurrence and easier containment.

The frequency and severity of wildland fires is also dependent upon other hazards, such as lightning, drought, and infestations (such as the recent damage to southern California alpine forests by the pine bark beetle). If not promptly controlled, wildland fires may grow into an emergency or disaster. Even small fires can threaten lives and resources and destroy improved properties. In addition to affecting people, wildland fires may severely affect livestock and pets. Such events may require emergency watering/feeding, evacuation, and shelter.

The indirect effects of wildland fires can be catastrophic. In addition to stripping the land of vegetation and destroying forest resources, large, intense fires can harm the soil, waterways, and the land itself. Soil exposed to intense heat may lose its capability to absorb moisture and support life. Exposed soils erode quickly and enhance siltation of rivers and streams, thereby enhancing flood potential, harming aquatic life, and degrading water quality. Lands stripped of vegetation are also subject to increased debris flow hazards, as described above.

5.3.7.2 Disaster History

As shown in Table 5-4 and Appendix B, Figure B-11, wildland fires are common occurrences in San Luis Obispo County. The most significant wildland fires within the county have been located in the northern division of the Los Padres National Forest. In 1994, a 49,000-acre fire burned forestland from the western portion of Atascadero to Morro Bay. In 1996, 106,000 acres burned in the Machesna Mountain Wilderness area southeast of the City before the fire was contained. A little over one year later, a 30,000-acre wildland fire burned in forestland in the southern portion of San Luis Obispo County.

Table 5-4
Significant Wildland Fires, 1985–2005

Name	Year	Acres Burned	Homes Lost	Dollar Damage
Las Pilitas	1985	75,000	12	$1,200,000
Chispa	1989	10,000	4	$250,000
Highway 41	1994	49,000	42	$10,000,000
Highway 58	1996	106,000	13	$1,000,000
Logan	1997	50,000	NA	NA

Source: California Department of Forestry, San Luis Obispo County Fire Department 2005
NA = Not available

5.3.7.3 Location, Extent, and Probability of Future Events

Appendix B, Figure B-12 displays both the location and extent of wildland fire hazard areas for Atascadero. This map is based on the Fire and Resource Assessment Program fuel rank model. This model ranks the fuel model, slope, and ladder and/or crown fuel present to determine potential exposure to high and very high wildfire hazard areas. Accordingly, the southwestern portion of the City is considered to be at greatest risk as this area is part of a wildland/urban interface zone, where development meets rural areas of combustible vegetation.

Generally, fire susceptibility throughout California dramatically increases in the late summer and early autumn as vegetation dries out, decreasing plant moisture content and increasing the ratio of dead fuel to living fuel. However, other various factors, including humidity, wind speed and direction, fuel load and fuel type, and topography, can contribute to the intensity and spread of wildland fires. In addition, common causes of wildland fires in California include arson and negligence.

5.4 ASSET INVENTORY

This section describes the third step in the risk assessment process, which is the identification of assets that may be affected by hazard events. Assets identified for the risk assessment include population, buildings, and critical facilities and infrastructure that may be affected by hazard events. The assets identified are discussed in detail below. Sections 5.4.1 and 5.4.2 provide a complete list of assets and insurance or replacement values where applicable.

5.4.1 Population and Building Stock

Population data were obtained from the 2000 U.S. Census. Data were collected at the census block level for the City. The City's total population for 2000 was 26,444. Other population data are provided in Table 5-5. Population density throughout the City is shown in Appendix B, Figure B-13.

Table 5-5
Estimated Population and Building Inventory

Population		Residential Buildings		Nonresidential Buildings	
2000 Census Population Count	**Projected 2005 Population**	**Total Building Count**	**Total Value of Buildings (x1000)**	**Total Building Count**	**Total Value of Buildings (x1000)**
26,444[a]	27,779[b]	8,551	$713,590	106	$216,919

Source: FEMA HAZUS-MH (residential and commercial buildings), City of Atascadero (commercial buildings), Atascadero Chamber of Commerce, and U.S. Census 2000 population data.
[a] Population count using census blocks within the city limits. Official Census 2000 count is 26,444.
[b] Population increased an average of 1 percent per year since the 2000 Census.

Estimated numbers of residential and nonresidential buildings and replacement values for those structures, as shown in Table 5-5, were obtained from the City and HAZUS-MH by census block. A total of 8,551 residential buildings were considered in this analysis, including single-family dwellings, mobile homes, multi-family dwellings, temporary lodgings, institutional dormitory facilities, and nursing homes. A total of 106 nonresidential buildings were also

analyzed, including industry, retail trade, wholesale trade, personal and repair services, professional and technical services, banks, medical offices, religious centers, entertainment and recreational facilities, theaters, and parking facilities. The total number of nonresidential buildings analyzed is approximately 20 percent of the total number of nonresidential buildings in the City. However, this data is the most complete data set available at this time and will be updated in future versions of this LHMP.

5.4.2 Critical Facilities and Infrastructure

A critical facility is defined as a facility in either the public or private sector that provides essential products and services to the general public, such as preserving the quality of life in the City and fulfilling important public safety, emergency response, and disaster recovery functions. The critical facilities within the City are listed in Table 5-6 and shown in Appendix B, Figure B-14. They include the following:

- City Hall and the New City Hall Annex
- Two fire stations and one police station
- Eight schools and three district buildings
- Seven other City-owned facilities
- 17 potable water and wastewater facilities
- Nine assisted living facilities

Similar to critical facilities, critical infrastructure includes infrastructure that is essential to preserving the quality of life and safety in the City. Critical infrastructure identified within the City are shown in Table 5-6 and Appendix B, Figure B-14**.** Critical infrastructure includes:

- 21.277 miles of State and Federal highways
- 27.044 miles of major arterials
- 7.608 miles of railroad
- 14 bridges

Table 5-6
Critical Facilities and Infrastructure

Category	Facility	Number	Estimated Value Per Structure/Mile
City Hall	City Hall	1	$12,008,847
	New City Hall Annex	1	$1,135,071 (Parcel's current improvement value)
Police and Fire Stations	Fire Station #1	1	$1,347,182
	Fire Station #2	1	$923,427
	Atascadero Police Department	1	$1,651,469
Schools	Public Primary and Secondary Schools	8	$4,720,000
	Atascadero Unified School District Buildings	3	$1,336,049
Other City-Owned Facilities	Lake Pavilion	1	$1,917,185
	Charles Paddock Zoo	1	$826,167
	Ranger House	1	$70,433
	Youth Center	1	$648,844
	Paloma Creek Park Facilities	4	$98,060
	Printery/Masonic Temple	1	$2,587,565
	Pine and Chalk Mountain Towers	2	$225,000
Potable Water and Wastewater	Wastewater Treatment Plant	1	$1,013,970
	Sewer Lift Stations	12	$685,306
	Sewer Lift Station 5 Buildings	4	$254,013
	Atascadero Mutual Water Company	1	$329,960
Assisted Living Facilities	Convalescent, Elderly Care and Independent Senior Homes with optional assistance	14	$11,228,070
Infrastructure	State and Federal Highways (miles)	21.227	$109,967
	Major Arterials (miles)	27.044	$14,279
	Railroads (miles)	7.608	$10,532
	Bridges	14	$5,930,990

Source: City of Atascadero (insured value, parcel improvement value) and FEMA HAZUS-MH (estimated values)

5.5 VULNERABILITY ASSESSMENT

The fourth step of the risk assessment and its primary intent is the vulnerability assessment. This section includes an overview of the vulnerability assessment, methodology, data limitations, and exposure analysis.

5.5.1 Overview of a Vulnerability Assessment

The requirements for a risk assessment, as stipulated in the DMA 2000 and its implementing regulations, are described below.

- A summary of the community's vulnerability to each hazard that addresses the impact of each hazard on the community.

DMA 2000 Requirements: Risk Assessment, Assessing Vulnerability, Overview

Assessing Vulnerability: Overview

Requirement §201.6(c)(2)(ii): [The risk assessment **shall** include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description **shall** include an overall summary of each hazard and its impact on the community.

Element

- Does the plan include an **overall summary** description of the jurisdiction's **vulnerability** to each hazard?
- Does the plan address the **impact** of each hazard on the jurisdiction?

Source: FEMA, March 2004.

- An identification of the types and numbers of existing vulnerable buildings, infrastructure, and critical facilities and, *if possible*, the types and numbers of vulnerable future development.

DMA 2000 Recommendations: Risk Assessment, Assessing Vulnerability, Identifying Structures

Assessing Vulnerability: Identifying Structures

Requirement §201.6(c)(2)(ii)(A): The plan **should** describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard area.

Element

Does the plan describe vulnerability in terms of the **types and numbers** of **existing** buildings, infrastructure, and critical facilities located in the identified hazard areas?

Does the plan describe vulnerability in terms of the **types and numbers** of **future** buildings, infrastructure, and critical facilities located in the identified hazard areas?

Source: FEMA, March 2004.

- Estimate of potential dollar losses to vulnerable structures and the methodology used to prepare the estimate.

DMA 2000 Recommendations: Risk Assessment, Assessing Vulnerability, Estimating Potential Losses

Assessing Vulnerability: Estimating Potential Losses

Requirement §201.6(c)(2)(ii)(B): [The plan **should** describe vulnerability in terms of an] estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) of this section and a description of the methodology used to prepare the estimate.

Element

- Does the plan estimate **potential dollar losses** to vulnerable structures?
- Does the plan describe the **methodology** used to prepare the estimate?

Source: FEMA, March 2004.

5.5.2 Methodology

The methodology used to prepare the dollar estimates for vulnerability is described below. Potential dollar losses are summarized in Tables 5-7, 5-8, and 5-9 in Section 5.5.4.

A conservative exposure-level analysis was conducted to assess the risks of the identified hazards. This analysis is a simplified assessment of the potential effects of the hazard on values at risk without consideration of probability or level of damage.

Using GIS, the building footprints of critical facilities were compared to locations where hazards are likely to occur. If any portion of the critical facility fell within a hazard area, it was counted as impacted. Using census block level information, a spatial proportion was used to determine the percentage of the population and residential and nonresidential structures located where hazards are likely to occur. Census blocks that are completely within the boundary of the hazard area were determined to be vulnerable and were totaled by count. A spatial proportion was also used to determine the amount of linear assets, such as highways and pipelines, within a hazard area. The exposure analysis for linear assets was measured in miles.

Replacement values or insurance coverage were developed for physical assets. These values were obtained from HAZUS-MH or from the City. For facilities that didn't have specific values per building in a multi-building scenario (e.g., schools), the buildings were grouped together and assigned one value. For each physical asset located within a hazard area, exposure was calculated by assuming the worst-case scenario (that is, the asset would be completely destroyed and would have to be replaced). Finally, the aggregate exposure, in terms of replacement value or insurance coverage, for each category of structure or facility was calculated. A similar analysis was used to evaluate the proportion of the population at risk. However, the analysis simply represents the number of people at risk; no estimate of the number of potential injuries or deaths was prepared.

5.5.3 Data Limitations

The vulnerability estimates provided herein use the best data currently available, and the methodologies applied result in an approximation of risk. These estimates may be used to understand relative risk from hazards and potential losses. However, uncertainties are inherent in any loss estimation methodology, arising in part from incomplete scientific knowledge concerning hazards and their effects on the built environment, as well as approximations and simplifications that are necessary for a comprehensive analysis.

It is also important to note that the quantitative vulnerability assessment results are limited to the exposure of people, buildings, and critical facilities and infrastructure to hazard. It was beyond the scope of this LHMP to develop a more detailed or comprehensive assessment of risk (including annualized losses, people injured or killed, shelter requirements, loss of facility/system function, and economic losses). Such impacts may be addressed with future updates of the LHMP.

5.5.4 Exposure Analysis

The results of the exposure analysis are summarized in Tables 5-7, 5-8, and 5-9 and in the discussion below.

Table 5-7
Potential Hazard Vulnerability Assessment – Population and Buildings

		Population	Buildings			
			Residential		Nonresidential	
Hazard	**Methodology**	**Number**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**
Dam Failures	Description	289	94	7,077	2	4,587
Earthquakes	High	25,040	7,491	633,817	105	212,015
	Moderate	2,717	1,048	78,951	1	4,904
Expansive Soils	High	3,034	1,118	85,214	3	8,715
	Moderate	7,757	2,374	200,978	49	96,116
Floods	100-year flood zone	475	149	11,714	5	8,944
	500-year flood zone	7,811	2,361	183,551	68	11,7268
Hazardous Materials Events	1-mile radius EHS facilities	14,887	4,014	367,428	80	144,555
	1-mile buffer transport corridors	23,212	6,873	584,803	104	208,975
Landslides	High/Historic	10,874	3,474	294,532	30	54,211
	Moderate	1,811	430	50,749	0	2,001
Wildland Fires	Very High	323	50	12,252	0	1,468
	High	10,687	3,367	284,185	15	47,624
	Moderate	12,242	3,717	305,035	67	129,078
Total		**121,159**	**36,560**	**3,100,286**	**529**	**1,040,461**

[1] Value = Estimated value (x1000)

Table 5-8
Potential Hazard Vulnerability Assessment – Critical Facilities

		City Hall and New City Hall Annex		Police and Fire Stations		Schools		Other City-Owned Facilities		Assisted Living Facilities		PW and WW Facilities		Total	
Hazard	**Methodology**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**
Dam Inundation	Description	0	0	0	0	0	0	0	0	0	0	6	1,014	6	1,014
Earthquakes	High	2	13,144	3	3,922	10	5,900	15	6,373	12	10,594	23	2,283	65	42,216
	Moderate	0	0	0	0	0	0	0	0	2	634	0	0	2	634
Expansive Soils	High	0	0	0	0	0	0	1	570	1	275	0	0	2	845
	Moderate	2	13,144	1	1,347	7	4,130	14	5,803	4	1,500	10	597	38	26,521
Floods	100-year flood zone	1	1,135	0	0	0	0	3	33	1	359	0	0	5	1527
	500-year flood zone	1	12,009	2	2,999	5	2,950	2	3,236	3	1,143	10	1,255	23	23,592
Hazardous Materials Events	1-mile radius EHS facilities	2	13,144	3	3,922	5	2,950	8	3,559	6	6,629	14	1,483	38	31,687
	1-mile buffer transport corridors	2	13,144	3	3,922	10	5,900	15	6,373	12	10,594	23	2,283	65	42,216
Landslides	High/Historic	0	0	1	1,651	2	1,180	1	12	5	4,249	3	444	12	7,536
	Moderate	0	0	0	0	0	0	1	125	0	0	0	0	1	125
Wildland Fires	Very High	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	High	0	0	0	0	4	2,360	8	3,579	5	4,308	8	1,074	25	11,321
	Moderate	2	13,144	1	1,651	6	3,540	6	2,730	6	6,615	11	999	32	28,679
Total		**12**	**78,864**	**14**	**1,9414**	**49**	**28,910**	**74**	**32,393**	**57**	**46,900**	**108**	**11,432**	**314**	**217,913**

[1] Value = Estimated value (x1000)

Table 5-9
Potential Hazard Vulnerability Assessment – Critical Infrastructure

		Highways		City Arterials		Railroads		Bridges	
Hazard	**Methodology**	**Miles**	**Value ($)[1]**	**Miles**	**Value ($)[1]**	**Miles**	**Value ($)[1]**	**Number**	**Value ($)[1]**
Dam Failure	Description	0.110	569.86	0.267	140.98	1.696	2,345.95	0	0
Earthquakes	High	17.488	90,597.28	27.044	14,279.23	7.608	10,523.54	11	5,028.11
	Moderate	3.738	19,364.86	0	0	0	0	3	902.88
Expansive Soils	High	16.182	83,831.49	5.745	3,033.36	0	0	0	0
	Moderate	224.512	1,163,093.39	79.811	42,140.21	22.824	31,570.62	10	4,521.53
Floods	100-year flood zone	0.230	1,191.53	0.725	382.80	0.338	467.52	8	3,516.77
	500-year flood zone	5.415	28,052.63	7.447	3,932.02	1.133	1,567.19	4	1,827.33
Hazardous Materials Events	1-mile radius EHS facilities	11.395	59,032.24	15.144	7,996.05	3.843	5,315.71	7	3,279.00
	1-mile buffer transport corridors	21.227	109,967.32	24.304	12,832.52	7.608	10,523.54	12	5,344.10
Landslides	High/Historic	9.468	49,049.37	9.050	4,778.41	0	0	2	703.09
	Moderate	0.655	3,393.25	0.441	232.85	0.602	832.69	0	0
Wildland Fires	Very High	0.102	528.41	0.132	69.69	0	0	0	0
	High	3.779	19,577.18	8.657	4,570.91	2.589	3,581.17	4	1,772.24
	Moderate	14.569	75,475.21	14.457	7,633.33	3.981	5,506.58	10	4,158.75
Total		**328.87**	**1,703,724**	**193.224**	**102,022.36**	**52.222**	**72,234.51**	**71**	**31,053.80**

[1] Value = Estimated value (x1000)

5.5.4.1 Dam Failures

The risk posed by the Salinas Dam failure is minimal, with only one percent of the total population residing in this inundation zone. Exposed within the inundation zone are 289 people, 94 residential buildings (worth $7.1 million), 2 nonresidential buildings (worth $4.6 million), and 6 critical facilities (worth $1.0 million).

5.5.4.2 Earthquakes

Of all the hazards assessed in this LHMP, an earthquake poses the greatest exposure and potential loss for the City. As shown in Appendix B, Figure B-6, the entire City is at risk to earthquakes. Almost all of the city's population, residential and nonresidential structures, and critical buildings, facilities, and infrastructure are exposed to either high or moderate ground shaking zones. The northern, southern, and eastern portions of the City have potential for the high ground shaking intensity. This includes approximately 90 percent of the City's total population (25,040 people), 7,491 residential buildings (worth $633.8 million), 105 non-residential buildings (worth $212.0 million), and 65 critical facilities (worth $42.2 million).

The remaining 10 percent of the City's population lives in an area of moderate ground shaking. This includes 2,717 people, 1,048 residential buildings (worth $78.9 million), one non-residential building (worth $4.9 million), and 2 critical buildings (worth $634,000).

5.5.4.3 Expansive Soils

Expansive soils generally pose a moderate risk to Atascadero, particularly given the slow nature of the hazard. Appendix B, Figure B-7 shows that the expansive soils in the City is fairly evenly distributed between highly expansive soils and moderately expansive soils.

The highly expansive soils mainly occur in the western portion of the City, which is only moderately populated with about 40 percent of the City's total population residing in this hazard area. This includes approximately 3,034 people, 1,118 residential buildings (worth $85.2 million), 3 non-residential buildings (worth $8.7 million), and 2 critical facilities (worth $845,000).

The moderately expansive soils occur mostly in the western and central parts of the City, which are also moderately populated. These include 7,757 people, 2,374 residential buildings (worth $200.9 million), 49 non-residential buildings (worth $96.1 million), and 38 critical facilities (worth $26.5 million).

5.5.4.4 Floods

The risk posed by the 100-year flood to Atascadero is minimal, with less than two percent of the total population residing in the SFHA. Exposed within the 100-year flood zone are 475 people, 149 residential buildings (worth $11.7 million), 5 nonresidential buildings (worth $8.9 million), and 5 critical facilities (worth $1.5 million). However, an additional 28 percent of the City's population (7,811 people) and residential buildings (2,361 buildings), 38 percent of the critical facilities, and nearly 65 percent of nonresidential buildings are located in the 500-year floodplain.

5.5.4.5 Hazardous Materials Events

Within the one-mile buffer around the three EHS sites, exposed are 14,887 people, 4,014 residential buildings (worth $367.4 million), 80 nonresidential buildings (worth $144.5 million), and 38 critical facilities (worth $31.7 million). These figures are for all three EHS facilities (Figure B-9) and, therefore, overstate the exposure since the probability of all seven facilities having an event simultaneously is very low. These facilities are predominantly located within industrial and public facility zoned areas.

Within the one-mile buffer around the transportation facilities, nearly 85 percent of the City's population is exposed to a hazardous material transport event. This includes 23,212 people, 6,873 residential buildings (worth $548.8 million), 104 nonresidential buildings (worth $208.9 million), and all 65 critical facilities (worth $42.2 million). As above, these figures are for the entirety of the transportation corridors and, therefore, overstates the exposure since a hazmat event along the corridors is unlikely to affect all of the area within the one-mile buffer.

5.5.4.6 Landslides

Approximately 40 percent of the City's total population is exposed to high and moderate landslides. The high landslide hazard area includes 10,874 people, 3,474 residential buildings (worth $294.5 million), 30 nonresidential buildings (worth $54.2 million), and 12 critical facilities (worth $7.5 million). Only 1,811 people, 430 residential buildings (worth $50.7 million), and one critical facility (worth $125,000) are located in the moderate landslide hazard area.

5.5.4.7 Wildland Fires

Much of the densely populated areas within the City (see Figure B-12) have wildland hazard designations of moderate or high, with a small portion of the city designated as having very high wildfire hazard designation. Within this area of very high wildfire exposure are 323 people and 50 residential buildings (worth $12.2 million). The very high wildfire hazard exists mainly in the hills west of the City along Mountain Springs Road and Peachy Canyon Road, as well as south of the City in areas along Spanish Camp Road and Prospect Avenue.

Of less danger, but much greater exposure, are areas of high wildfire hazard. This includes 10,687 people, 3,367 residential buildings (worth $284.2 million), 15 nonresidential buildings (worth $47.6 million), and 25 critical facilities (worth $11.3 million).

Again of lesser danger, but of even greater exposure, are areas of moderate wildfire hazard. This includes 12,242 people, 3,717 residential buildings (worth $305 million), 67 nonresidential buildings (worth $129.1 million), and 32 critical facilities (worth $28.7 million).

5.5.5 Future Development

Appendix B, Figure B-3 shows where future development in expected to occur in the western, northern, and southeastern portions of the City. Future development in the western portion of the City will be most vulnerable to wildfires, expansive soils, and landslides. Development in the northern portion of the City will be most vulnerable to floods, while development in the southeastern portion of the City will be most vulnerable to wildfire, floods, and landslides. In

addition, due to the close proximity to transportation facilities, future development in both the northern and southeastern portions of the City will be vulnerable to hazardous material events. Likewise, because the entire City is exposed to earthquakes hazards, all future development is vulnerable to this hazard.

While not required by the DMA 2000, an important component of a hazard mitigation plan is a review of the City's resources to identify, evaluate, and enhance the capacity of those resources to mitigate the effects of hazards. This section evaluates City resources in three areas—legal and regulatory, administrative and technical, and financial—and assesses capabilities to implement current and future hazard mitigation actions.

6.1 LEGAL AND REGULATORY CAPABILITIES

The City currently supports hazard mitigation through its regulations, plans, and programs. The Atascadero Municipal Code outlines hazard mitigation-related ordinances in seven of its 12 titles. Additionally, pursuant to State planning laws, the *General Plan 2025* includes a safety element with policies and programs to protect the community from risks associated with seismic, geologic, flood, and fire hazards. Other planning documents, including the Multi-Hazard Emergency Response Plan and the Fire Department Master Plan, establish official City policy for response to emergencies in hazard-prone areas. Additionally, the City approved and incorporated the county's Hazardous Materials Emergency Response Plan, which identifies potential hazardous material risks and methods to rapidly mobilize resources to save lives, reduce injuries, and minimize property and environmental damage from hazardous materials releases. The City also participated in the 2000 update of the County General Plan Safety Element; safety in Atascadero is discussed in the Technical Background Report for that update.

In addition to policies and regulations, the City participates in several hazard mitigation programs including the National Flood Insurance Program (NFIP), Fire-Safe Clean Up, and the annual Chipping Event.

The following table, Table 6-1, summarizes the City's hazard mitigation legal and regulatory capabilities.

Table 6-1
Legal and Regulatory Resources Available for Hazard Mitigation

Regulatory Tool	Chapter or Section	Effect on Hazard Mitigation
Plans	General Plan 2025 Safety Element	Establishes policies, programs, goals and objectives to protect the community from risks associated with seismic, geologic, flood, and fire hazards. The plan was adopted in June 2002.
	Multi-Hazard Emergency Response Plan Basic Plan and Appendices A-F	Establishes the City's response organization, responsibilities, functions, and interactions required to mitigate the effects of hazards affecting the City. Hazards identified in this plan include earthquakes, hazardous material, multi-casualty incident, storm/flood, wildland/major fire, and civil disturbance/terrorism. The plan was adopted in Fall 2003 and Summer 2004.
	Fire Department Master Plan	Identifies areas of the City at higher risk for wildfires.
Programs	National Flood Insurance Program (NFIP)	Makes affordable flood insurance available to homeowners, business owners, and renters in participating communities. In exchange, those communities must adopt and enforce minimum floodplain management regulations to reduce the risk of damage from future floods. Atascadero joined the NFIP in 1982.
	Fire Safe Clean-Up and Chipping Program	Provides free green waste chipping services to residents in Atascadero, thereby reducing the fuel load in and around properties.
Ordinances and Policies (Municipal Code)	Title 4 Public Safety Chapter 7 Fire Code	Enforces the California Fire Code 2001 and the Urban Wildland Interface Code 2000, regulating and mitigating the risk to life and property from fire, including hazardous materials and wildland fire exposures.
	Title 5 Public Welfare Chapter 7 Open Hazard / Abatement Burning	Controls open burning of natural waste from shrubbery and trees grown on property within the City to reduce the amount of available fuel that can be burned during wildfires.
	Title 6 Health and Sanitation Chapter 13 Removal of Vegetative Growth and/or Refuse	Requires property owners to maintain property around structures, including firebreaks, trees adjacent to structures, and screens over the outlets of chimneys, and to mow dry noxious weeds located within certain distances from structures, property lines, and edges of roadways.
	Title 7 Public Works Chapter 11 Flood Damage Prevention	Addresses NFIP requirements, including methods and provisions for protecting structures against flood damage at the time of initial construction; controlling the alterations of natural floodplains and filling, grading, dredging, and other development that may increase flood damage; and preventing or regulating the construction of flood barriers that will unnaturally divert floodwaters or may increase flood hazards in other areas.

Table 6-1
Legal and Regulatory Resources Available for Hazard Mitigation

Regulatory Tool	Chapter or Section	Effect on Hazard Mitigation
Ordinances and Policies (Municipal Code) (continued)	Title 8 Uniform Building Code Chapter 10 Unreinforced Masonry	Requires minimum standards for structural seismic resistance established primarily to reduce the risk of life loss or injury. Also requires site-specific stability studies for hillside development.
	Title 9 Planning and Zoning Chapter 3 Geologic Hazard Overlay Zone	Identifies areas where geologic and soil conditions could present new developments and their users with potential hazards to life and property.
	Title 9 Planning and Zoning Chapter 3 Flood Hazard Overlay Zone	Identifies areas where terrain characteristics would present new developments and their users with potential hazards to life and property from potential inundation by a 100-year frequency flood or other known flood hazards. These standards are also intended to minimize the effects of development on drainage ways and watercourses.
	Title 9 Planning and Zoning Chapter 4 General Site Design and Development Standards	Establishes standards for grading and excavation activities to minimize hazards to life and property; protect against erosion, the sedimentation of water courses, and the inundation of low lying areas; and protect the safety, use and stability of public rights-of-way and drainage channels.
	Title 11 Subdivisions Chapter 6 Subdivision Design	Limits development in areas with steep slopes between 20 and 30 percent.

6.2 ADMINISTRATIVE AND TECHNICAL CAPABILITIES

The administrative and technical capability assessment identifies the staff and personnel resources available within the City to engage in mitigation planning and carry out mitigation projects. The City government consists of seven departments: Administrative Services, City Manager, Community Development, Community Services, Fire, Police, and Public Works. The City may increase its technical resources by drawing upon San Luis Obispo County staff. Currently, the City participates in the countywide Hazardous Materials Response Team and FireSafe Council. The administrative and technical capabilities of the City are listed in Table 6-2.

Table 6-2
Administrative and Technical Resources for Hazard Mitigation

Staff/Personnel Resources	Department Position
Planner(s) or engineer(s) with knowledge of land development and land management practices	Community Development
Engineer(s) or professional(s) trained in construction practices related to buildings and/or infrastructure	Community Development, Public Works
Planner(s) or engineer(s) with an understanding of manmade or natural hazards	Community Development, Public Works, Fire Department
Floodplain manager	Public Works
Personnel skilled in GIS and/or HAZUS-MH	Information Technology
Director of Emergency Services	City Manager, alt. Police Chief and Fire Chief
Finance (grant writers, purchasing)	Administrative Services
Public Information Officers	Assistant City Manager

6.3 FINANCIAL CAPABILITIES

The fiscal capability assessment lists the specific financial and budgetary tools that are available to the City for hazard mitigation activities. These capabilities, which are listed in Table 6-3, include both local and Federal entitlements.

Table 6-3
Financial Resources for Hazard Mitigation

Financial Resources	Effect on Hazard Mitigation
Authority to levy taxes for specific purposes	Can be used for any hazard mitigation activity; however, it is only eligible for use with voter approval.
Development Impact Fee	Can be used for both on-site and off-site capital improvements, including seismic hazard repair and maintenance, drainage, and critical facilities.
Incur debt through general obligation bonds	Can be used for any hazard mitigation activity; however, it is only eligible for use with voter approval.
Incur debt through special tax and revenue bonds	Can be used for any hazard mitigation activity; however, it is only eligible for use with voter approval.

Table 6-3
Financial Resources for Hazard Mitigation

Financial Resources	Effect on Hazard Mitigation
Incur debt through private activity bonds	Can be used for any hazard mitigation activity; however, it is only eligible for use with voter approval.
FEMA HMPG and PDM grants	HMGP grant funding is available to local communities after a Presidentially declared disaster. It can be used to fund both pre- and post-disaster mitigation plans and projects. PDM funding is available on an annual basis. This grant can only be used to fund pre-disaster mitigation plans and projects only.

The following provides an overview of the four-step process for preparing a mitigation strategy: developing mitigation goals and objectives, identifying and analyzing potential actions, prioritizing mitigation actions, and implementing an action plan.

7.1 MITIGATION GOALS AND OBJECTIVES

The requirements for the local hazard mitigation goals, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 Requirements: Mitigation Strategy – Local Hazard Mitigation Goals

Local Hazard Mitigation Goals

Requirement §201.6(c)(3)(i): [The hazard mitigation strategy **shall** include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

Element

- Does the plan include a description of mitigation **goals** to reduce or avoid long-term vulnerabilities to the identified hazards? (**GOALS** are long-term; represent what the community wants to achieve, such as "eliminate flood damage"; and are based on the risk assessment findings.)

Source: FEMA, March 2004.

During the second Planning Team meeting in May 2005, the team members and URS reviewed the hazard profiles and initial risk assessment results as a basis for developing mitigation goals and objectives. Mitigation goals are defined as general guidelines that explain what a community wants to achieve in terms of hazard and loss prevention. Goal statements are typically long-range, policy-oriented statements representing community-wide visions. Objectives are statements that detail how a community's goals will be achieved. Typically, objectives define strategies or implementation steps to attain identified goals. Using the *General Plan 2025* as a guideline, the Planning Team and URS developed nine goals with associated objectives to reduce or avoid long-term vulnerabilities to the identified hazards.

7.2 POTENTIAL MITIGATION ACTIONS

The requirements for the identification and analysis of mitigation actions, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 Requirements: Mitigation Strategy - Identification and Analysis of Mitigation Actions

Identification and Analysis of Mitigation Actions

Requirement §201.6(c)(3)(ii): [The mitigation strategy **shall** include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

Element

- Does the plan identify and analyze a **comprehensive range** of specific mitigation actions and projects for each hazard?
- Do the identified actions and projects address reducing the effects of hazards on **new** buildings and infrastructure?
- Do the identified actions and projects address reducing the effects of hazards on **existing** buildings and infrastructure?

Source: FEMA, March 2004.

In addition to developing goals and objectives, the Planning Team created a list of potential mitigation actions. Mitigation actions are activities, measures, or projects that help achieve the goals and objectives of a mitigation plan. Mitigation actions are usually grouped into six broad categories: prevention, property protection, public education and awareness, natural resource protection, emergency services, and structural projects.

The Planning Team and URS reviewed the City's hazard mitigation capabilities and risk assessment as a basis for developing potential mitigation actions. In addition, particular emphasis was placed on actions that reduced the effects of hazards on both new and existing buildings and infrastructure.

7.3 OVERVIEW OF THE MITIGATION GOALS, OBJECTIVES, AND POTENTIAL ACTIONS

Listed below are the City's specific hazard mitigation goals and objectives as well as related potential actions. For each goal, one or more objectives have been identified that provide strategies to attain the goal. Where appropriate, the City has identified a range of specific actions to achieve the objective and goal.

Goal 1. Promote disaster-resistant development.

Objective 1.A Maintain the City's *General Plan 2025* to be consistent with the hazard information identified in the LHMP.

- Action 1.A.1 Maintain the Safety and Noise Element to be consistent with the hazard area maps and implementation strategies developed in the LHMP.

Objective 1.B Encourage and facilitate the updating of the City's building codes and zoning regulations that protect existing assets and minimize new development in hazard areas.

- Action 1.B.1 Update the Urban-Wildland Interface Code, Flood Hazard Overlay Zone, and Geologic Hazard Overlay Zone to reflect new hazard maps.

Objective 1.C Expand and update the GIS database to include the most recent hazard data.

- Action 1.C.1 Maintain updated City GIS hazard maps with information on hazard areas, and critical facilities and infrastructure.
- Action 1.C.2 Seek new data from other government, academic, and private organizations that can be used for hazard mitigation and emergency response.
- Action 1.C.3 Share hazard information with nearby jurisdictions, private and public organizations, and the general public.
- Action 1.C.4 Acquire parcel data for nonresidential structures within the City.

Objective 1.D Pursue available grant funding to implement mitigation measures.

Action 1.D.1 Review FEMA grant applications and establish internal procedures to streamline the application process.

Action 1.D.2 Apply for PDM and HMGP grants to fund mitigation actions identified in the LHMP.

Goal 2. Build and support local capacity to enable the public to prepare for, respond to, and recover from disasters.

Objective 2.A Improve upon existing capabilities to warn the public of emergency situations.

Action 2.A.1 Develop and implement a local Emergency Alert System to eliminate the need to use the County's system.

Action 2.A.2 Support San Luis Obispo County Department of Emergency Management in the development of a reverse 9-1-1 system (enabling the City to inform residents of impending hazards).

Action 2.A.3 Develop emergency evacuation programs for neighborhoods in dam inundation areas, high wildfire hazard areas, and flood prone areas.

Objective 2.B Ensure that City officials and emergency response personnel are informed of and familiar with existing emergency preparedness procedures and their associated specific responsibilities and roles.

Action 2.B.1 Annually review the City's Multi-Hazard Emergency Response Plan and the San Luis Obispo County Dam Failure Evacuation Plan to identify needed plan updates.

Action 2.B.2 Continue to conduct a minimum of one disaster drill each year with relevant City agencies.

Objective 2.C Educate the public to increase their awareness of hazards, emergency response, and recovery.

Action 2.C.1 Establish a budget and identify funding sources for mitigation outreach.

Action 2.C.2 Work with the school district to develop a public outreach campaign that teaches children how to avoid danger and behave during an emergency.

Action 2.C.3 Support the efforts and education of people with disabilities to prepare for disasters.

Action 2.C.4 Distribute appropriate public information about hazard mitigation programs and projects at City-sponsored events.

Goal 3. Reduce the possibility of damage and losses due to dam failure.

Objective 3.A Protect existing assets, as well as any future development, from the effects of dam failure.

- Action 3.A.1 Identify hazard-prone structures and encourage structural retrofitting.
- Action 3.A.2 Promote low intensity, nonresidential land uses in dam inundation zones for future development.
- Action 3.A.3 Update dam inundation maps every five to 10 years.

Goal 4. Reduce the possibility of damage and losses due to earthquakes.

Objective 4.A Protect existing assets, as well as any future development, from the effects of earthquakes.

- Action. 4.A.1 Continue to enforce the Uniform Building Code (UBC) provisions pertaining to grading and construction relative to seismic hazards.
- Action 4.A.2 Continue to enforce UBC requirements for addressing liquefaction potential in the design of structures.
- Action 4.A.3 Continue to implement an Unreinforced Masonry (URM) building program that determines the structural safety of critical facilities, and retrofit buildings, if necessary.
- Action 4.A.4 Develop and provide managers of mobile home parks with information on how to improve the seismic performance of mobile homes.
- Action 4.A.5 Encourage utility companies to evaluate the seismic risk to their high-pressure transmission pipelines and implement mitigation measures, such as automatic shut-off valves.

Goal 5. Reduce the possibility of damage and losses due to expansive soils.

Objective 5.A Protect existing assets, as well as any future development, from the effects of expansive soils.

- Action 5.A.1 Develop an expansive soils overlay zone that makes it easy to identify areas at risk to expansive soils.
- Action 5.A.2 Implement engineered foundation design standards, site drainage standards, and landscape standards for new development within or directly adjacent to expansive soil hazard areas.
- Action 5.A.3 Develop and make available information on how to reduce the effects of expansive soils through various mitigation measures, including proper drainage, landscaping, and interior finishing efforts.

Goal 6. Reduce the possibility of damage and losses due to floods.

Objective 6.A Protect existing assets and new development from floods.

Action 6.A.1 Implement drainage improvements with an emphasis on improving downstream facilities before improving upstream facilities, unless upstream mitigation (such as detention or retention basins) is provided.

Action 6.A.2 Discourage the disruption of natural flowage patterns and encourage the maximum use of natural drainage ways.

Action 6.A.3 Continue to enforce the Flood Hazard Overlay Zone and the standards of Sections 9-3.602 through 9-3.604 of the Municipal Code for new construction, substantial damage, and substantial improvement.

Action 6.A.4 Require engineered floodplain and hydrologic analysis to be prepared for new development projects within or directly adjacent to 100-year floodplains.

Action 6.A.5 Limit uses in floodways to those tolerant of occasional flooding, including but not limited to agriculture, outdoor recreation, and natural resource areas.

Goal 7. Reduce the possibility of damage and losses due to hazardous materials events.

Objective 7.A Protect existing assets, as well as new development, from hazardous materials events.

Action 7.A.1 Require businesses that use, store, or transport hazardous materials to ensure that adequate measures are taken to protect public health and safety.

Action 7.A.2 Work with Caltrans to require all transport of hazardous materials to follow approved routes.

Action 7.A.3 Work with Union Pacific to ensure adequate precaution and preparedness regarding rail transport of hazardous materials.

Action 7.A.4 Use the City's Web site to post information regarding the safe handling and disposal of household chemicals.

Goal 8. Reduce the possibility of damage and losses due to landslides.

Objective 8.A Protect existing assets, as well as new development, from landslides.

Action 8.A.1 Require construction and maintenance of natural and/or human-made retaining structures that will help control landslide risk in key residential and/or commercial areas.

Action 8.A.2 Retrofit or implement stabilizing measures for Atascadero hillside developments that predate current best practices and codes.

Goal 9. Reduce the possibility of damage and losses due to wildland fires.

Objective 9.A Protect existing assets, as well as new development, from wildland fires.

Action 9.A.1 Monitor, and if necessary, enforce the most current versions of the California Fire Code and Urban-Wildland Interface Code in Chapter 7 of the Fire Code.

Action 9.A.2 Continue to conduct current fuel management programs and investigate and apply new and emerging fuel management techniques.

7.4 ACTION PLAN

As listed above, the Planning Team identified 41 potential mitigation actions that will assist the City in mitigating the impact of natural and human-caused hazards. The DMA 2000 requires the evaluation, selection, and prioritization of the potential mitigation actions, as described below.

DMA 2000 Requirements: Mitigation Strategy - Implementation of Mitigation Actions

Implementation of Mitigation Actions

Requirement: §201.6(c)(3)(iii): [The mitigation strategy section **shall** include] an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization **shall** include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

Element

- Does the mitigation strategy include how the actions are **prioritized**? (For example, is there a discussion of the process and criteria used?)
- Does the mitigation strategy address how the actions will be **implemented and administered**? (For example, does it identify the responsible department, existing and potential resources, and timeframe?)
- Does the prioritization process include an emphasis on the use of a **cost-benefit review** (see page 3-36 of *Multi-Hazard Mitigation Planning Guidance*) to maximize benefits?

Source: FEMA, March 2004.

The Planning Team reviewed the following questions to help identify the actions that would best help the City fulfill its mitigation goals and objectives, thereby reducing or avoiding long-term vulnerabilities to the identified hazards.

- Does the action mitigate assets identified as vulnerable in the LHMP's Risk Assessment?
- Is the action economically feasible (either through a grant or current funding sources)?
- Are proper laws, ordinances, and resolutions in place to implement the action?
- Is there enough political and public support to implement the action and ensure its success?

- Does the action enforce and/or enhance current mitigation actions, as identified in LHMP's Capability Assessment?

Through this process, the Planning Team identified 9 mitigation actions to be included in the LHMP action plan. Once selected, the Planning Team prioritized the actions based on a ranking system of high, medium, and low. The following considerations for this ranking process included:

- Benefits versus costs
- Ease of implementation
- Multi-objective actions
- Time

Additionally, the Planning Team identified how the action will be implemented and administered, including which departments or agencies would be responsible, existing and potential funding sources, and time frame. The final action plan is outlined in Table 7-1.

Table 7-1
Action Plan Matrix

Action Number	Action Item	Department / Division	Potential Funding Source	Implementation Timeline	Economic Justification	Priority Level
Action 1.C.1	Maintain updated City GIS hazard maps with information on hazard areas, and critical facilities and infrastructure.	Information Technology	General funds	Ongoing	Not a funding difficulty. Current and correct information invaluable.	Medium
Action 2.B.2	Continue to conduct a minimum of one disaster drill each year with relevant City agencies.	Fire Department	General funds	Ongoing	Without appropriate training, implementation of effective disaster response services may be seriously compromised.	Low
Action 2.C.2	Work with the school district to develop a public outreach campaign that teaches children how to avoid danger and behave during a hazard event.	Fire Department	General funds	1 year	Public information regarding child safety is invaluable.	Low
Action 2.C.4	Distribute appropriate public information about hazard mitigation programs and projects at City-sponsored events.	City Manager	General funds, PDM or HMGP funds	1 year	Public information is always useful. It is relatively simple and cost-efficient to develop and distribute flyers and pamphlets.	Medium
Action 4.A.3	Continue to implement an Unreinforced Masonry (URM) building program that determines the structural safety of critical facilities, and retrofit buildings, if necessary.	Community Development	General funds, PDM or HMGP funds	1-2 years	A URM building program will help identify structures that need to be secured for the purposes of reducing loss of life, property damage, and ensure continuity of operations in a future earthquake event.	High

Table 7-1
Action Plan Matrix

Action Number	Action Item	Department / Division	Potential Funding Source	Implementation Timeline	Economic Justification	Priority Level
Action 5.A.1	Develop an expansive soils overlay zone that makes it easy to identify areas at risk to expansive soils.	Public Works	General funds, PDM or HMGP funds	1-3 years	The cost of identify the City's expansive soils prone areas would cost much less than having structures in unknown expansive soils hazard areas be damaged or have future structures be built on these unknown hazard areas.	High
Action 6.A.2	Discourage the disruption of natural flowage patterns and encourage the maximum use of natural drainage ways.	Public Works	N/A	1 year	Mitigation will help reduce the potential repair and replacement costs caused by future floods.	Low
Action 7.A.4	Use the City's Web site to post information regarding the safe handling and disposal of household chemicals.	Information Technology	General funds	1 year	Public information is invaluable. It is relatively simple and cost-efficient to post information on the City's Web site.	Medium
Action 9.A.2	Continue to conduct current fuel management programs and investigate new and emerging fuel management techniques.	Fire	PDM or HMGP funds	Ongoing	Atascadero is surrounded mountains and canyons flush with foliage. Subsequently, wildland fires have and will continue to pose a major threat to residents, structures, and the surrounding natural environment.	High

This section describes a formal plan maintenance process to ensure that the LHMP remains an active and applicable document. It includes an explanation of how the City and the Planning Team intend to organize their efforts to ensure that improvements and revisions to the LHMP occur in a well-managed, efficient, and coordinated manner.

The following three process steps are addressed in detail below:

- Monitoring, evaluating, and updating the LHMP
- Implementation through existing planning mechanisms
- Continued public involvement

8.1 MONITORING, EVALUATING, AND UPDATING THE LHMP

The requirements for monitoring, evaluating, and updating the LHMP, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 Requirements: Plan Maintenance Process - Monitoring, Evaluating, and Updating the Plan

Monitoring, Evaluating and Updating the Plan

Requirement §201.6(c)(4)(i): [The plan maintenance process **shall** include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

Element

- Does the plan describe the method and schedule for **monitoring** the plan? (For example, does it identify the party responsible for monitoring and include a schedule for reports, site visits, phone calls, and meetings?)
- Does the plan describe the method and schedule for **evaluating** the plan? (For example, does it identify the party responsible for evaluating the plan and include the criteria used to evaluate the plan?)
- Does the plan describe the method and schedule for **updating** the plan within the five-year cycle?

Source: FEMA, March 2004.

The LHMP was prepared as a collaborative effort between the Planning Team and URS. To maintain momentum and build upon previous hazard mitigation planning efforts and successes, the City will use the Planning Team to monitor, evaluate, and update the LHMP. In addition to the original members of the Planning Team, other interested parties, including members of the City Council, Planning Commission, and any other department representative, can be responsible for implementing the LHMP's action plan. Marcia Torgerson, the Planning Team leader, will serve as the primary point of contact and will coordinate all local efforts to monitor, evaluate, and revise the LHMP.

The Planning Team will conduct an annual review of the progress in implementing the LHMP, particularly the action plan. The annual review will provide the basis for possible changes in the LHMP's action plan by refocusing on new or more threatening hazards, adjusting to changes to or increases in resource allocations, and engaging additional support for the LHMP implementation. The Planning Team leader will initiate the annual review one month prior to the date of adoption. The findings from this review will be presented annually to the City Council. The review will include an evaluation of the following:

- Notable changes in the City's risk of natural or human-caused hazards.

- Impacts of land development activities and related programs on hazard mitigation.
- Progress made with the LHMP action plan (identify problems and suggest improvements as necessary).
- The adequacy of resources for implementation of the LHMP.
- Participation of City agencies and others in the LHMP implementation.

In addition to the annual review, the Planning Team will update the LHMP every five years. To ensure that this occurs, in the fourth year following adoption of the LHMP, the Planning Team will undertake the following activities:

- Thoroughly analyze and update the City's risk of natural and man-made hazards.
- Provide a new annual review (as noted above), plus a review of the three previous annual reports.
- Provide a detailed review and revision of the mitigation strategy.
- Prepare a new action plan with prioritized actions, responsible parties, and resources.
- Prepare a new draft LHMP and submit it to the Atascadero City Council for adoption.
- Submit an updated LHMP to the California OES for approval.

8.2 IMPLEMENTATION THROUGH EXISTING PLANNING MECHANISMS

The requirements for implementation through existing planning mechanisms, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 Requirements: Plan Maintenance Process - Incorporation into Existing Planning Mechanisms

Incorporation into Existing Planning Mechanisms

Requirement §201.6(c)(4)(ii): [The plan **shall** include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.

Element

- Does the plan identify other local planning mechanisms available for incorporating the requirements of the mitigation plan?
- Does the plan include a process by which the local government will incorporate the requirements in other plans, when appropriate?

Source: FEMA, March 2004.

After the adoption of the LHMP, the Planning Team will ensure that the LHMP, in particular the action plan, is incorporated into existing planning mechanisms. The Planning Team will achieve this by undertaking the following activities.

- Conduct a review of the regulatory tools to assess the integration of the mitigation strategy. These regulatory tools are identified in Section 6 and include:
  - *General Plan 2025*, particularly the Noise and Safety Element

  - Atascadero Municipal Code
  - Fire Department Master Plan
- Work with pertinent divisions and departments to increase awareness of the LHMP and provide assistance in integrating the mitigation strategy (including the action plan) into relevant planning mechanisms. Implementation of these requirements may require updating or amending specific planning mechanisms.

8.3 CONTINUED PUBLIC INVOLVEMENT

The requirements for continued public involvement, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 Requirements: Plan Maintenance Process - Continued Public Involvement

Continued Public Involvement

Requirement §201.6(c)(4)(iii): [The plan maintenance process **shall** include a] discussion on how the community will continue public participation in the plan maintenance process.

Element

- Does the plan explain how **continued public participation** will be obtained? (For example, will there be public notices, an ongoing mitigation plan committee, or annual review meetings with stakeholders?)

Source: FEMA, March 2004.

The City is dedicated to involving the public directly in the continual reshaping and updating of the LHMP. Hard copies of the LHMP will be provided to each department. In addition, a downloadable copy of the plan and any proposed changes will be posted on the City's Web site. This site will also contain an e-mail address and phone number to which people can direct their comments or concerns.

The Planning Team will also identify opportunities to raise community awareness about the LHMP and the City's hazards. This could include attendance and provision of materials at City-sponsored events. Any public comments received regarding the LHMP will be collected by the Planning Team leader, included in the annual report to the City Council, and considered during future LHMP updates.

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Appendix A

Adoption Resolution

RESOLUTION NO. 2005-082

RESOLUTION OF THE CITY COUNCIL OF ATASCADERO, CALIFORNIA APPROVING THE DISASTER MITIGATION ACT 2000 (DMA 2000) LOCAL HAZARD MITIGATION PLAN FOR ATASCADERO, CALIFORNIA

WHEREAS, the Local Hazard Mitigation Planning Team has drafted a Local Hazard Mitigation Plan to advance better mitigation planning and projects within the City of Atascadero; and

WHEREAS, each City department and the public has contributed to this planning approach under the direction of the Federal Disaster Mitigation Act of 2000; and

WHEREAS, the Atascadero City Council agrees to abide by the Disaster Mitigation Act 2000 guidance and grant guidelines and this Plan represents the compliance with same;

NOW, THEREFORE, BE IT RESOLVED that the plan entitled "The Local Hazard Mitigation Plan for Atascadero, California" is formally adopted as our plan and road map to a more disaster resistant community.

On motion by Council Member Luna and seconded by Council Member O'Malley, the foregoing Resolution is hereby adopted in its entirety on the following roll call vote:

AYES: Council Members Clay, Luna, O'Malley, Pacas and Mayor Scalise

NOES: None

ABSENT: None

ADOPTED: September 27, 2005

CITY OF ATASCADERO

By: _____
Wendy Scalise, Mayor

ATTEST:

Marcia McClure Torgerson

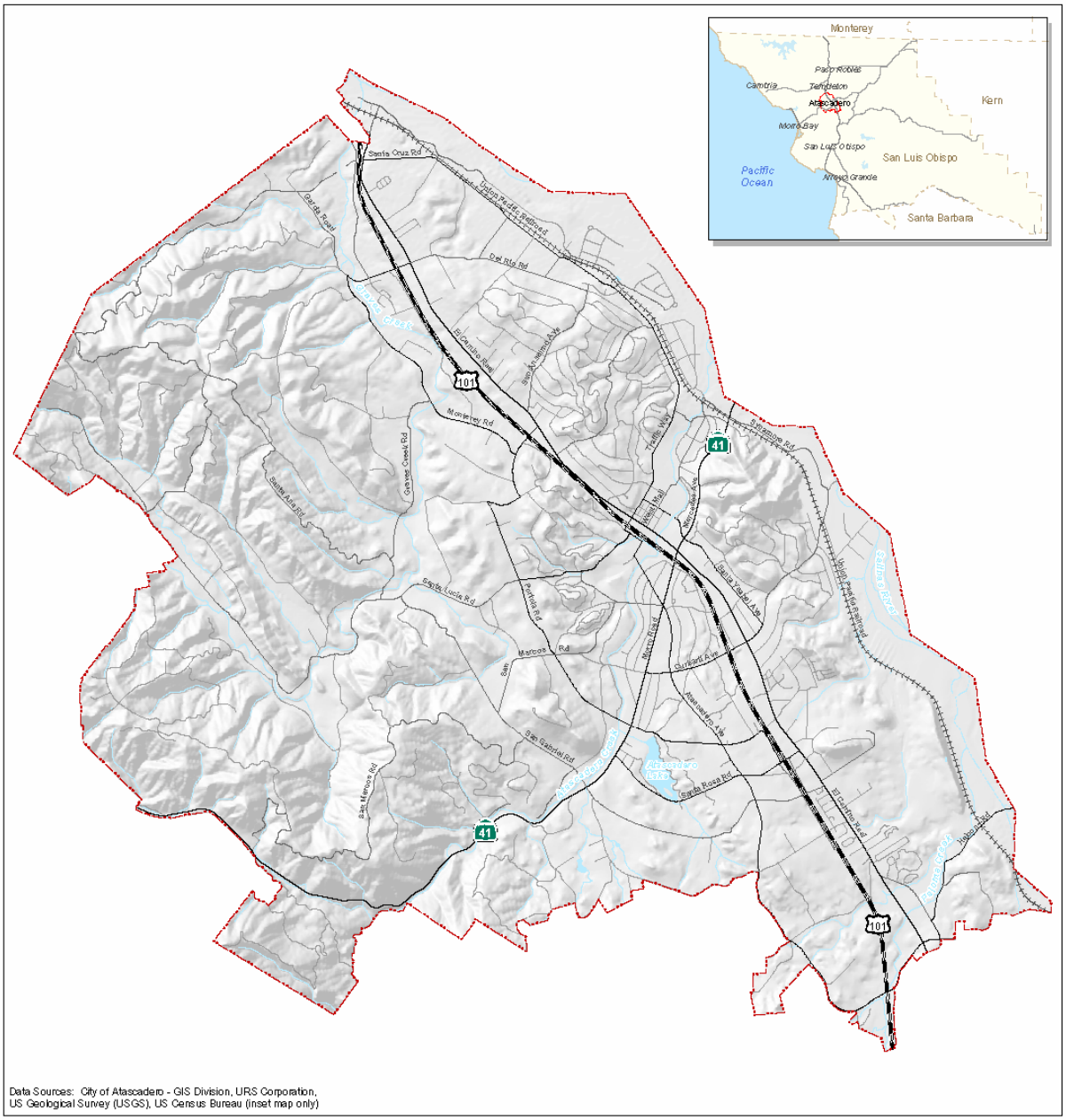
Marcia McClure Torgerson, C.M.C., City Clerk

APPROVED AS TO FORM:

_____
Patrick L. Enright, City Attorney

Appendix B

Figures



Data Sources: City of Atascadero - GIS Division, URS Corporation, US Geological Survey (USGS), US Census Bureau (inset map only)

Legend

City Limit

Circulation
- US Route
- State Route / Major Arterial
- Minor Arterial
- Collector
- Local Road
- Railroad

Perennial Lake or Pond

River, Creek or Tributary
- Natural Flow
- Artificial Path

Basemap
Hillshade created from USGS
1/3" National Elevation Dataset

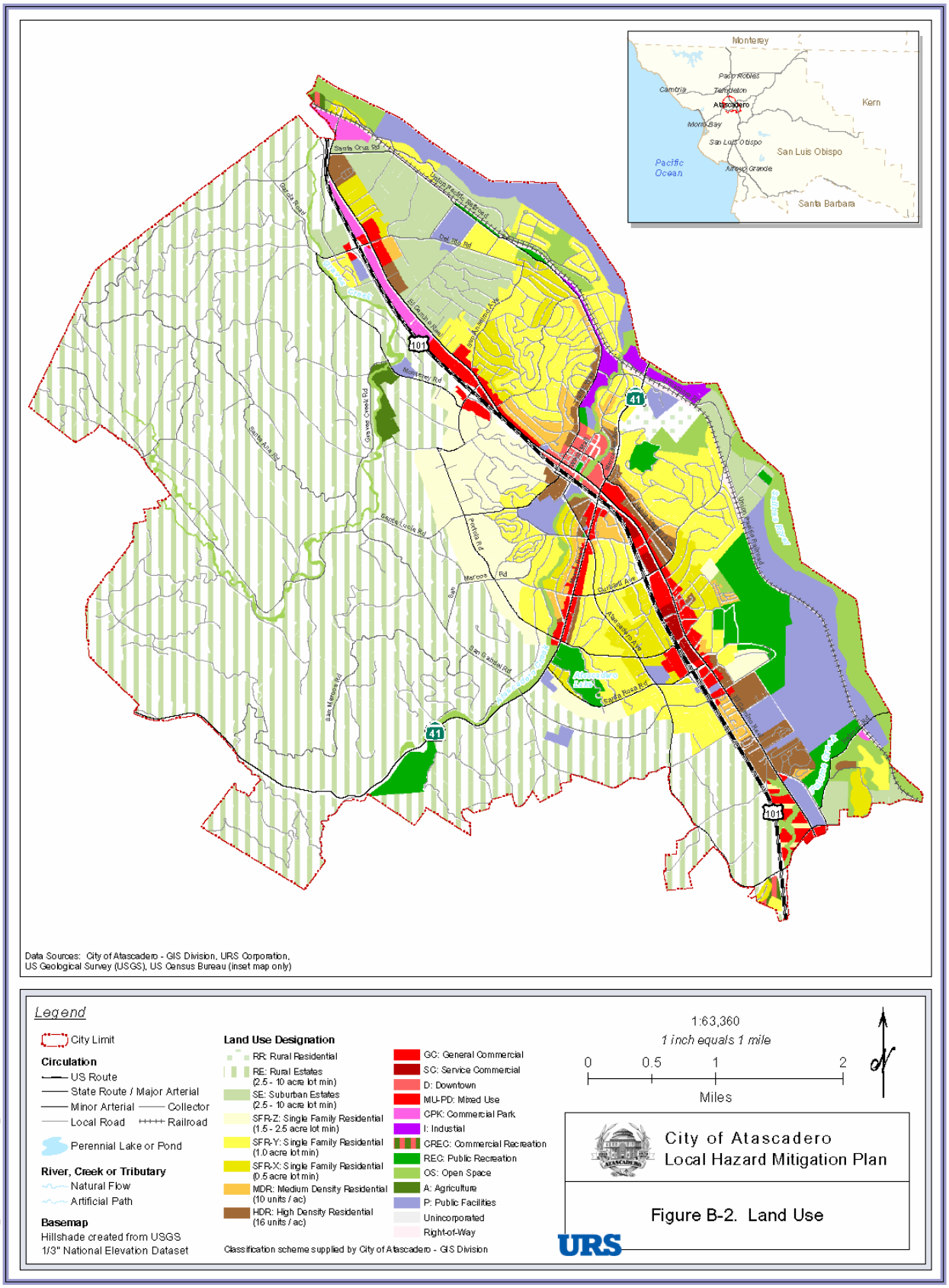
1:63,360
1 inch equals 1 mile

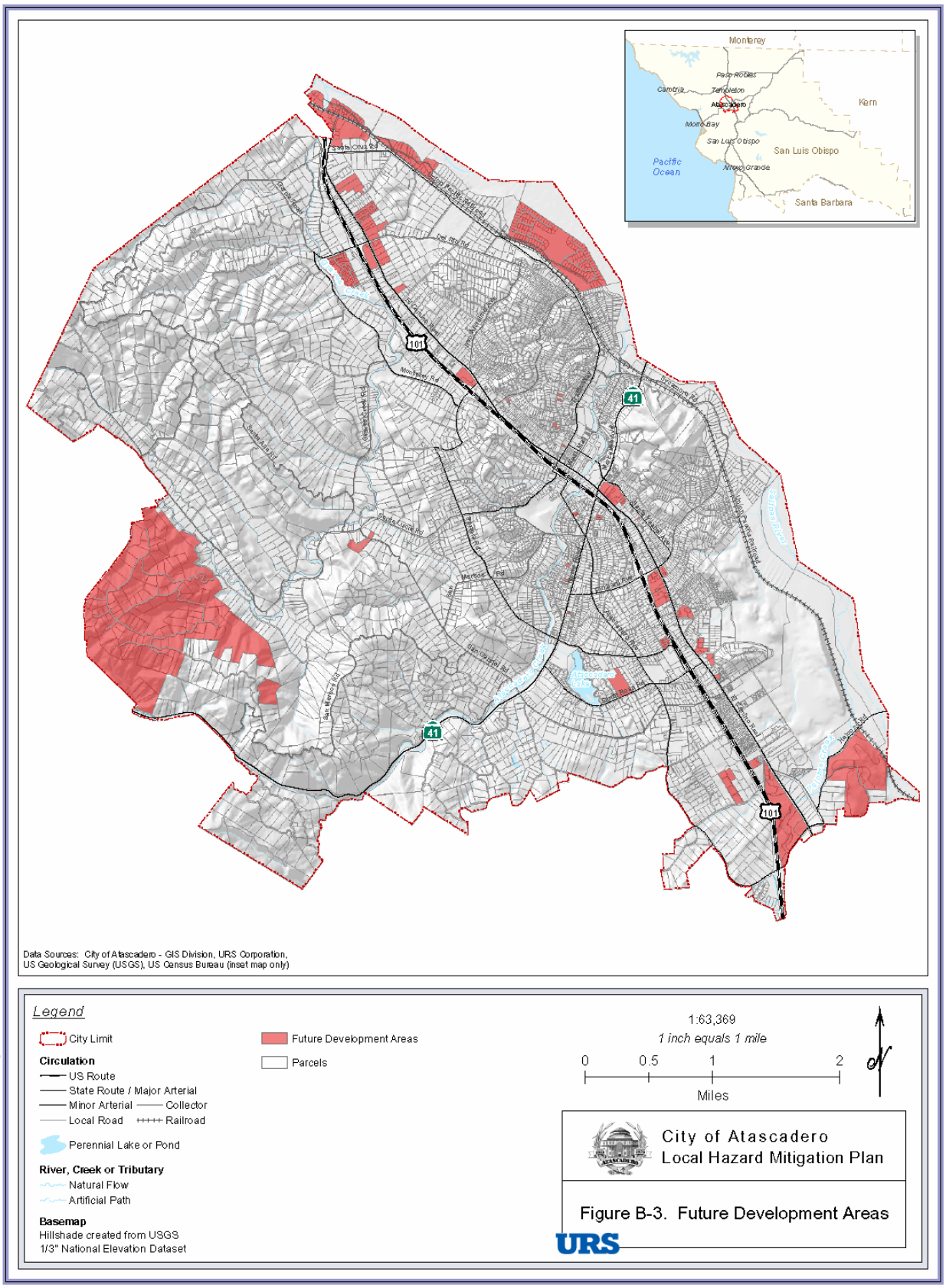
0 0.5 1 2
Miles

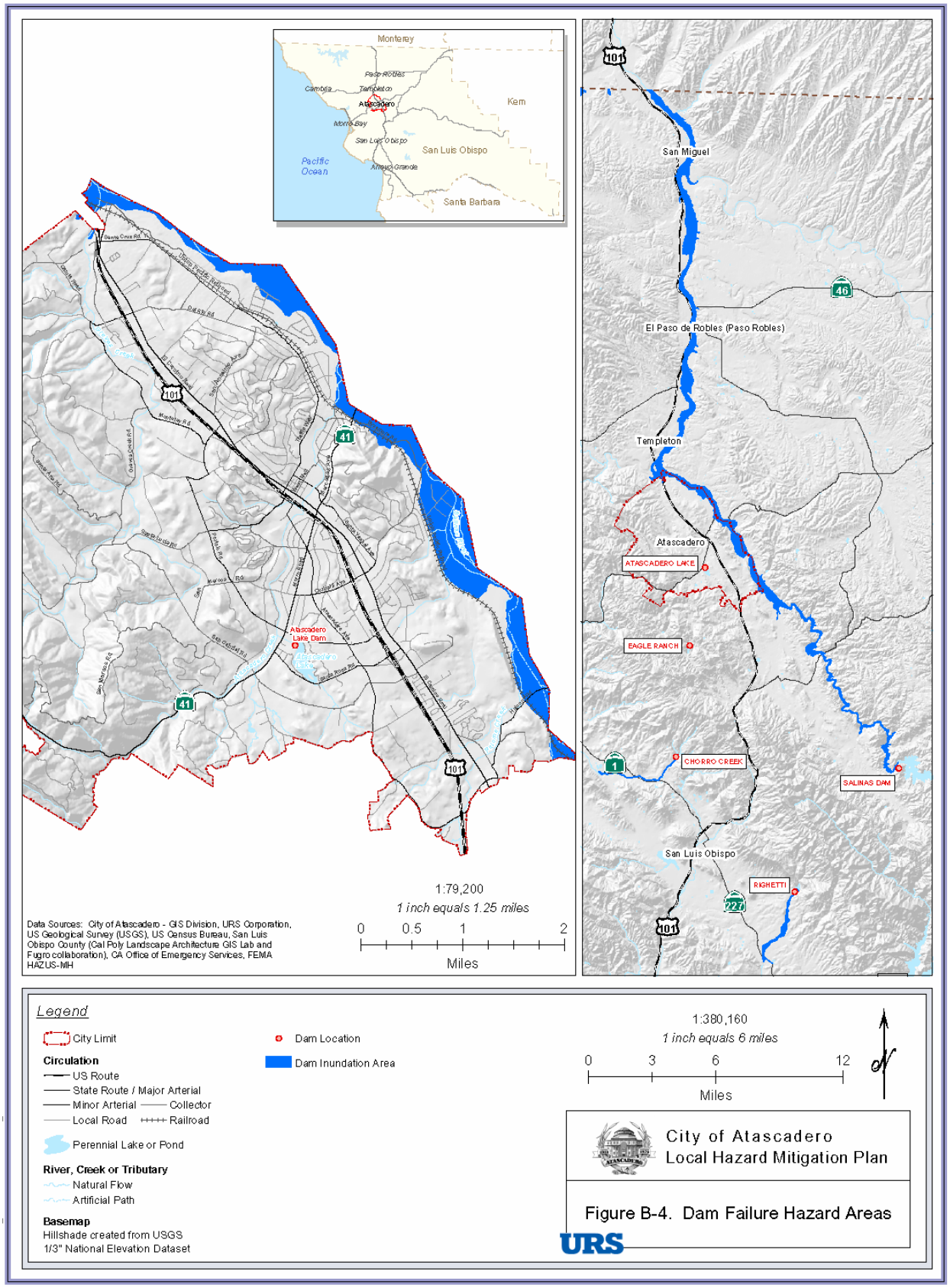
City of Atascadero
Local Hazard Mitigation Plan

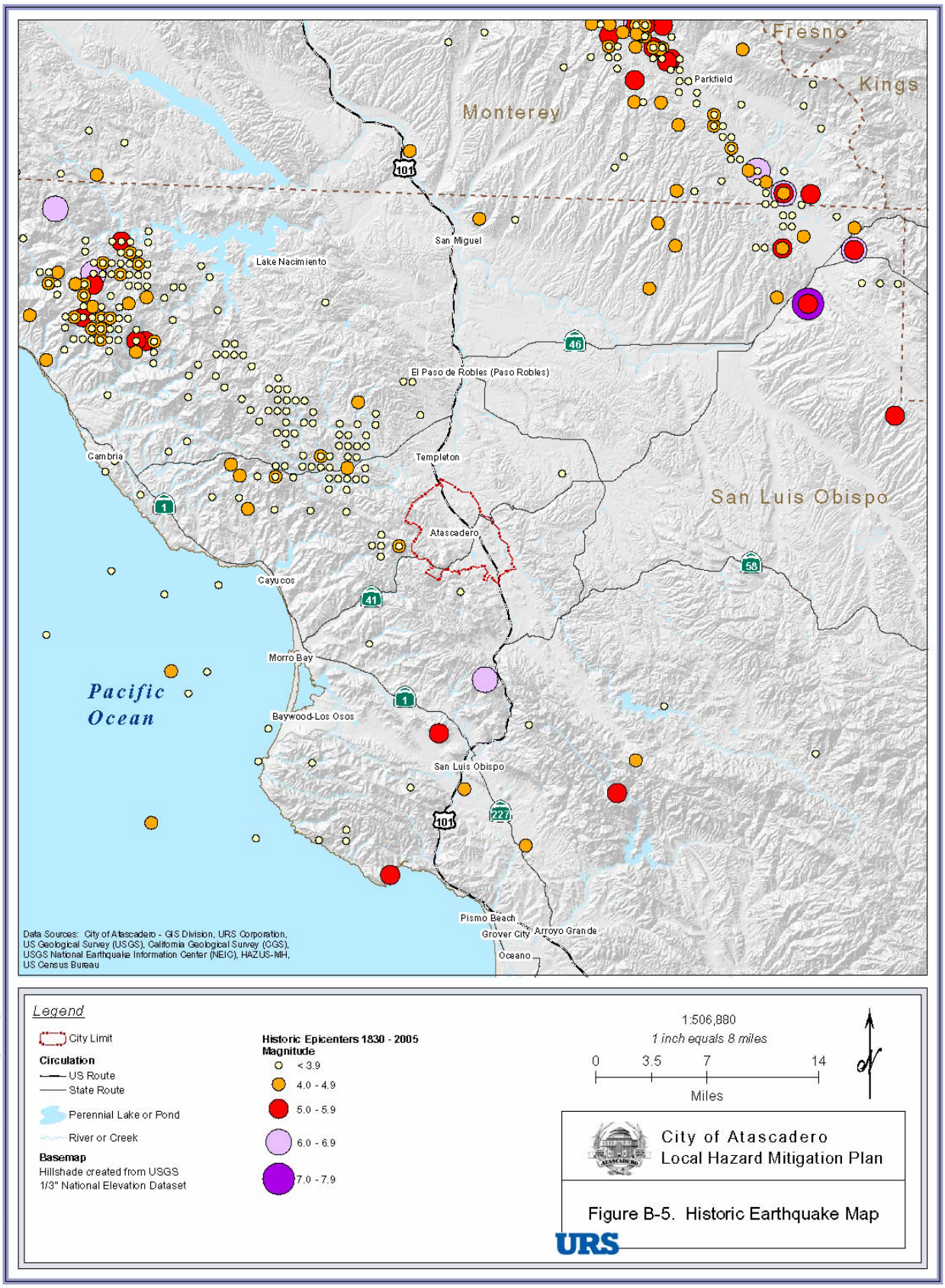
Figure B-1. Location

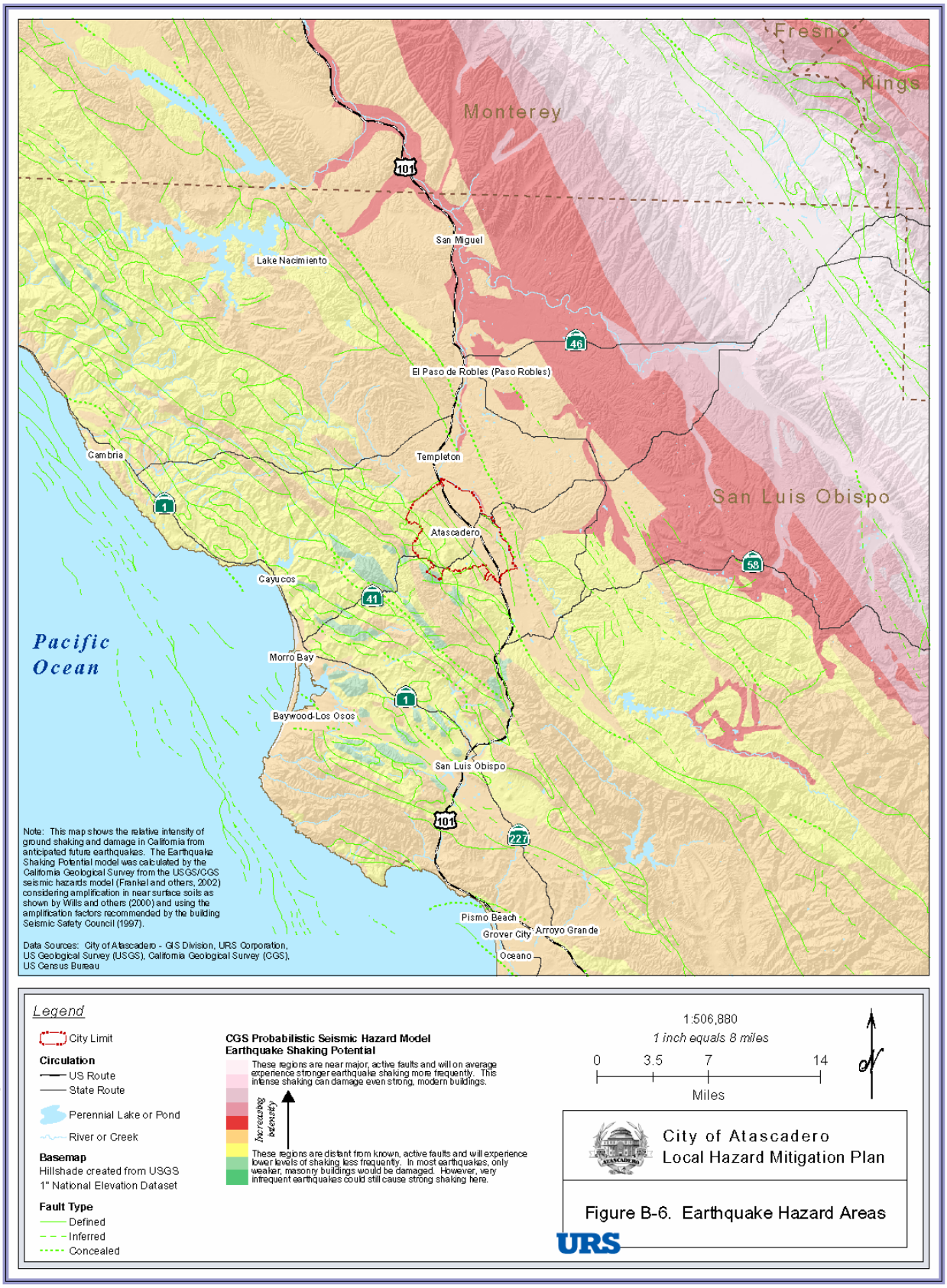
URS

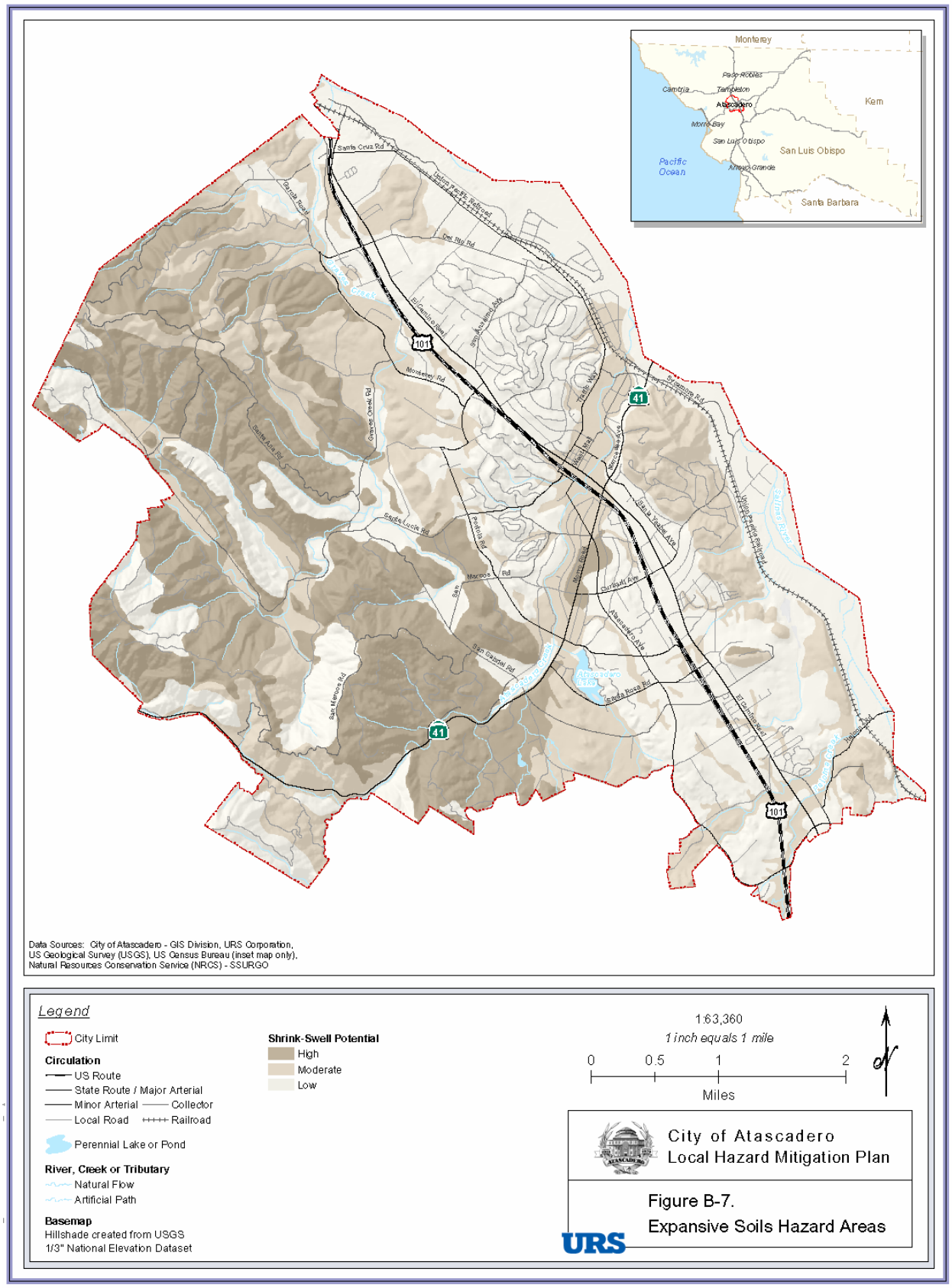

Monterey
Paso Robles
Camtria
Templeton
Atascadero
Kern
Morro Bay
San Luis Obispo
Pacific Ocean
Arroyo Grande
San Luis Obispo
Santa Barbara
Santa Cruz Rd
Del Rio Rd
El Camino Real
Monterey Rd
Graves Creek Rd
Santa Ana Rd
Santa Lucia Rd
Portola Rd
San Marcos Rd
Curbard Ave
Mariposa Ave
San Gabriel Rd
Santa Rosa Rd
Atascadero Lake
Salinas River
Salinas River
101
41
41
101
Data Sources: City of Atascadero - GIS Division, URS Corporation,
US Geological Survey (USGS), US Census Bureau (inset map only)
Legend
City Limit
Circulation
US Route
State Route / Major Arterial
Minor Arterial
Collector
Local Road
Railroad
Perennial Lake or Pond
River, Creek or Tributary
Natural Flow
Artificial Path
Basemap
Hillshade created from USGS
1/3" National Elevation Dataset
Land Use Designation
RR: Rural Residential
RE: Rural Estates (2.5 - 10 acre lot min)
SE: Suburban Estates (2.5 - 10 acre lot min)
SFR-Z: Single Family Residential (1.5 - 2.5 acre lot min)
SFR-Y: Single Family Residential (1.0 acre lot min)
SFR-X: Single Family Residential (0.5 acre lot min)
MDR: Medium Density Residential (10 units / ac)
HDR: High Density Residential (16 units / ac)
GC: General Commercial
SC: Service Commercial
D: Downtown
MU-PD: Mixed Use
CPK: Commercial Park
I: Industial
CREC: Commercial Recreation
REC: Public Recreation
OS: Open Space
A: Agriculture
P: Public Facilities
Unincorporated
Right-of-Way
Classification scheme supplied by City of Atascadero - GIS Division
1:63,360
1 inch equals 1 mile
0
0.5
1
2
Miles
City of Atascadero
Local Hazard Mitigation Plan
Figure B-2. Land Use
URS


Monterey
Paso Robles
Cambria
Templeton
Atascadero
Kern
Morro Bay
San Luis Obispo
San Luis Obispo
Pacific Ocean
Arroyo Grande
Santa Barbara
101
41
Data Sources: City of Atascadero - GIS Division, URS Corporation,
US Geological Survey (USGS), US Census Bureau (inset map only)
Legend
City Limit
Circulation
US Route
State Route / Major Arterial
Minor Arterial
Collector
Local Road
Railroad
Perennial Lake or Pond
River, Creek or Tributary
Natural Flow
Artificial Path
Basemap
Hillshade created from USGS
1/3" National Elevation Dataset
Future Development Areas
Parcels
1:63,369
1 inch equals 1 mile
0
0.5
1
2
Miles
City of Atascadero
Local Hazard Mitigation Plan
Figure B-3. Future Development Areas
URS


Monterey
Paso Robles
Cambria
Templeton
Atascadero
Kern
Morro Bay
San Luis Obispo
Pacific Ocean
Arroyo Grande
Santa Barbara
Atascadero Lake Dam
1:79,200
1 inch equals 1.25 miles
0 0.5 1 2
Miles
Data Sources: City of Atascadero - GIS Division, URS Corporation, US Geological Survey (USGS), US Census Bureau, San Luis Obispo County (Cal Poly Landscape Architecture GIS Lab and Fugro collaboration), CA Office of Emergency Services, FEMA HAZUS-MH
San Miguel
El Paso de Robles (Paso Robles)
Templeton
Atascadero
ATASCADERO LAKE
EAGLE RANCH
CHORRO CREEK
SALINAS DAM
San Luis Obispo
RIGHETTI
Legend
City Limit
Dam Location
Dam Inundation Area
Circulation
US Route
State Route / Major Arterial
Minor Arterial
Collector
Local Road
Railroad
Perennial Lake or Pond
River, Creek or Tributary
Natural Flow
Artificial Path
Basemap
Hillshade created from USGS
1/3" National Elevation Dataset
1:380,160
1 inch equals 6 miles
0 3 6 12
Miles
City of Atascadero
Local Hazard Mitigation Plan
Figure B-4. Dam Failure Hazard Areas
URS


Fresno
Kings
Parkfield
Monterey
101
San Miguel
Lake Nacimiento
46
El Paso de Robles (Paso Robles)
Cambria
Templeton
1
San Luis Obispo
Atascadero
58
Cayucos
41
Morro Bay
Pacific Ocean
1
Baywood-Los Osos
San Luis Obispo
101
227
Pismo Beach
Grover City
Arroyo Grande
Oceano
Data Sources: City of Atascadero - GIS Division, URS Corporation, US Geological Survey (USGS), California Geological Survey (CGS), USGS National Earthquake Information Center (NEIC), HAZUS-MH, US Census Bureau
Legend
City Limit
Circulation
US Route
State Route
Perennial Lake or Pond
River or Creek
Basemap
Hillshade created from USGS 1/3" National Elevation Dataset
Historic Epicenters 1830 - 2005
Magnitude
< 3.9
4.0 - 4.9
5.0 - 5.9
6.0 - 6.9
7.0 - 7.9
1:506,880
1 inch equals 8 miles
0
3.5
7
14
Miles
N
City of Atascadero
Local Hazard Mitigation Plan
Figure B-5. Historic Earthquake Map
URS


Fresno
Kings
Monterey
San Luis Obispo
Pacific Ocean
San Miguel
Lake Nacimiento
El Paso de Robles (Paso Robles)
Templeton
Cambria
Atascadero
Cayucos
Morro Bay
Baywood-Los Osos
San Luis Obispo
Pismo Beach
Grover City
Arroyo Grande
Oceano
101
46
1
41
58
227
Note: This map shows the relative intensity of ground shaking and damage in California from anticipated future earthquakes. The Earthquake Shaking Potential model was calculated by the California Geological Survey from the USGS/CGS seismic hazards model (Frankel and others, 2002) considering amplification in near surface soils as shown by Wills and others (2000) and using the amplification factors recommended by the building Seismic Safety Council (1997).
Data Sources: City of Atascadero - GIS Division, URS Corporation, US Geological Survey (USGS), California Geological Survey (CGS), US Census Bureau
Legend
City Limit
Circulation
US Route
State Route
Perennial Lake or Pond
River or Creek
Basemap
Hillshade created from USGS 1" National Elevation Dataset
Fault Type
Defined
Inferred
Concealed
CGS Probabilistic Seismic Hazard Model
Earthquake Shaking Potential
These regions are near major, active faults and will on average experience stronger earthquake shaking more frequently. This intense shaking can damage even strong, modern buildings.
Increasing intensity
These regions are distant from known, active faults and will experience lower levels of shaking less frequently. In most earthquakes, only weaker, masonry buildings would be damaged. However, very infrequent earthquakes could still cause strong shaking here.
1:506,880
1 inch equals 8 miles
0 3.5 7 14
Miles
N
City of Atascadero
Local Hazard Mitigation Plan
Figure B-6. Earthquake Hazard Areas
URS



Data Sources: City of Atascadero - GIS Division, URS Corporation, US Geological Survey (USGS), US Census Bureau (inset map only), Natural Resources Conservation Service (NRCS) - SSURGO

Legend

City Limit

Circulation
- US Route
- State Route / Major Arterial
- Minor Arterial
- Collector
- Local Road
- Railroad

Perennial Lake or Pond

River, Creek or Tributary
- Natural Flow
- Artificial Path

Basemap
Hillshade created from USGS 1/3" National Elevation Dataset

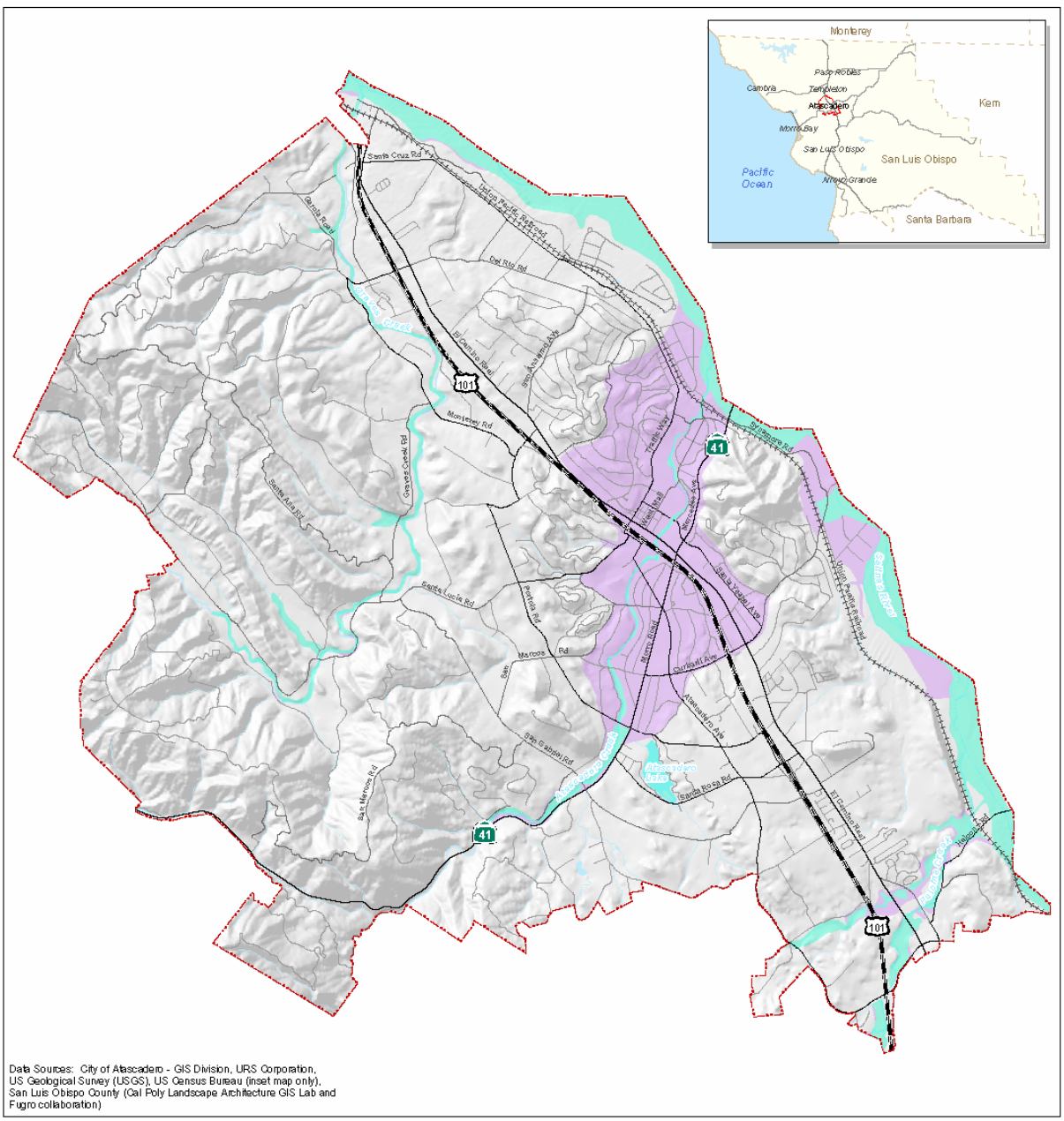
Shrink-Swell Potential
- High
- Moderate
- Low

1:63,360
1 inch equals 1 mile
0 0.5 1 2
Miles

City of Atascadero
Local Hazard Mitigation Plan

Figure B-7.
Expansive Soils Hazard Areas

URS



Data Sources: City of Atascadero - GIS Division, URS Corporation, US Geological Survey (USGS), US Census Bureau (inset map only), San Luis Obispo County (Cal Poly Landscape Architecture GIS Lab and Fugro collaboration)

Legend

City Limit

Circulation
- US Route
- State Route / Major Arterial
- Minor Arterial
- Collector
- Local Road
- Railroad

Perennial Lake or Pond

River, Creek or Tributary
- Natural Flow
- Artificial Path

Basemap
Hillshade created from USGS 1/3" National Elevation Dataset

FEMA Flood Zones
- 100-year
- 500-year

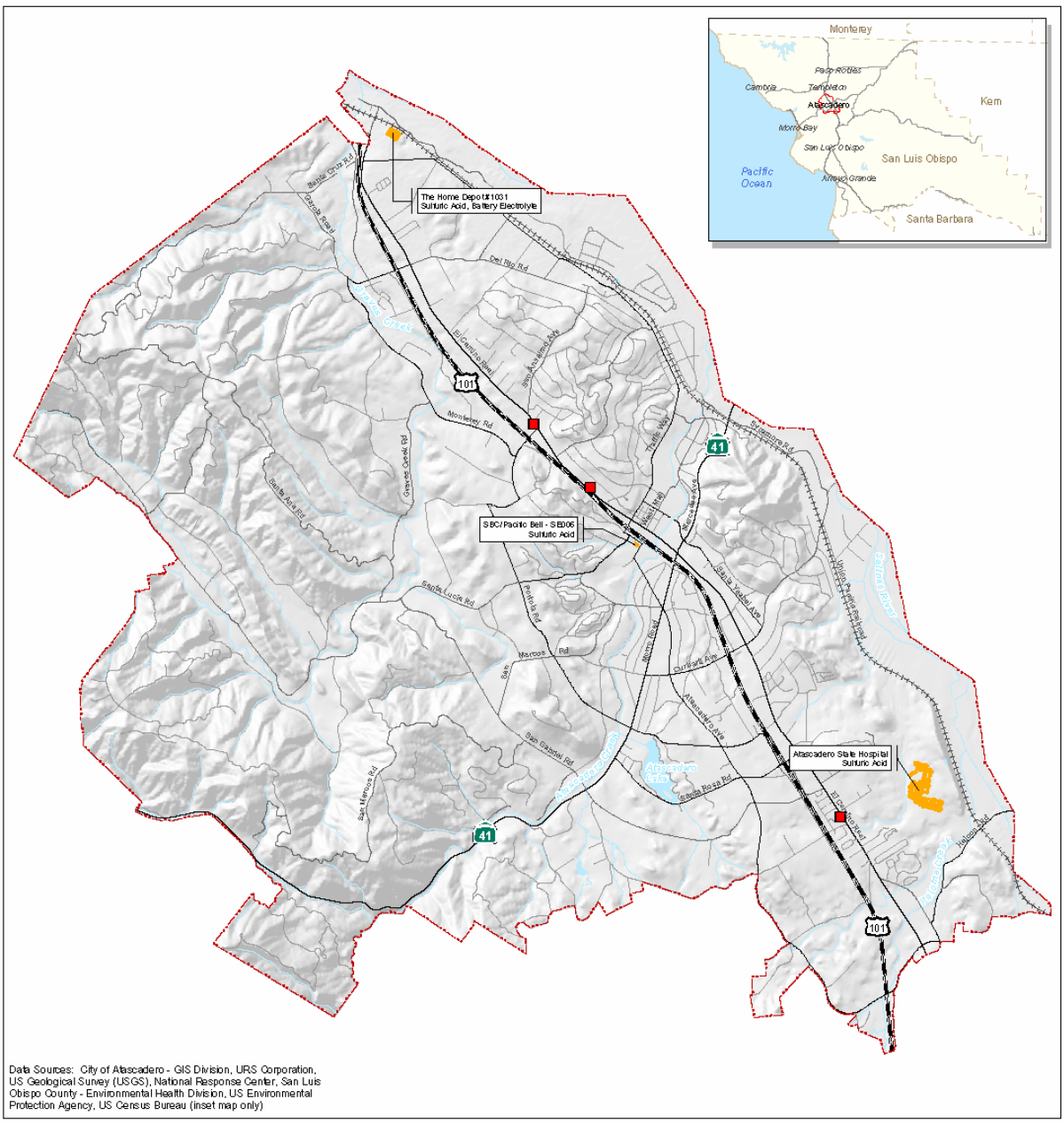
1:63,360
1 inch equals 1 mile

0 0.5 1 2
Miles

City of Atascadero
Local Hazard Mitigation Plan

Figure B-8. Flood Hazard Areas

URS



Data Sources: City of Atascadero - GIS Division, URS Corporation, US Geological Survey (USGS), National Response Center, San Luis Obispo County - Environmental Health Division, US Environmental Protection Agency, US Census Bureau (inset map only)

Legend

- City Limit
- **Circulation**
  - US Route
  - State Route / Major Arterial
  - Minor Arterial
  - Collector
  - Local Road
  - Railroad
- Perennial Lake or Pond
- **River, Creek or Tributary**
  - Natural Flow
  - Artificial Path
- **Basemap**
  Hillshade created from USGS 1/3" National Elevation Dataset
- Extremely Hazardous Substance Facility (Building Footprint)
- Hazardous Materials Release Incident (Approximate Location of Site)

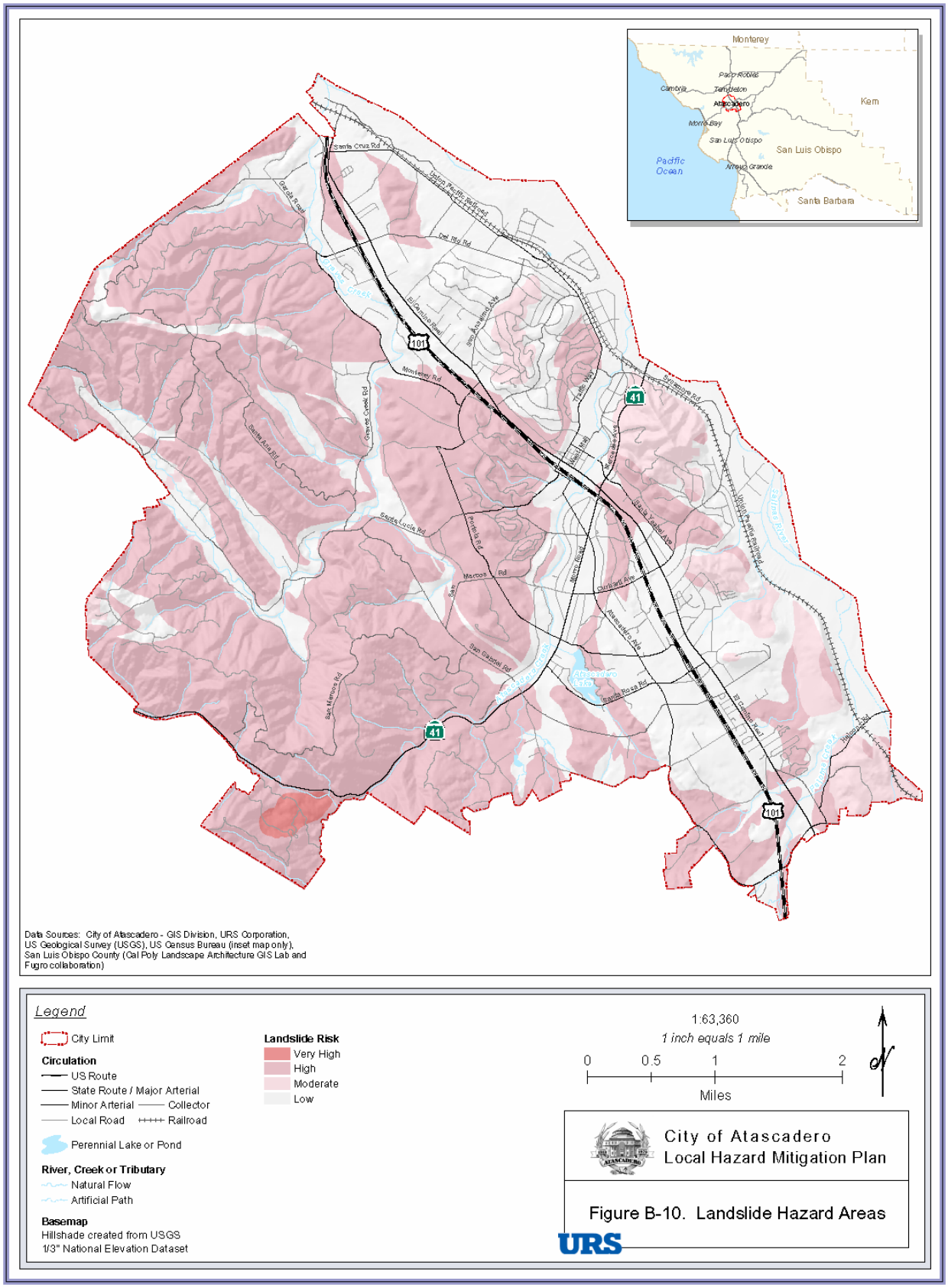
1:63,360
1 inch equals 1 mile

0 0.5 1 2
Miles

City of Atascadero
Local Hazard Mitigation Plan

Figure B-9.
Hazardous Materials Hazard Areas

URS



Legend

City Limit

Circulation
- US Route
- State Route / Major Arterial
- Minor Arterial
- Collector
- Local Road
- Railroad

Perennial Lake or Pond

River, Creek or Tributary
- Natural Flow
- Artificial Path

Basemap
Hillshade created from USGS 1/3" National Elevation Dataset

Landslide Risk
- Very High
- High
- Moderate
- Low

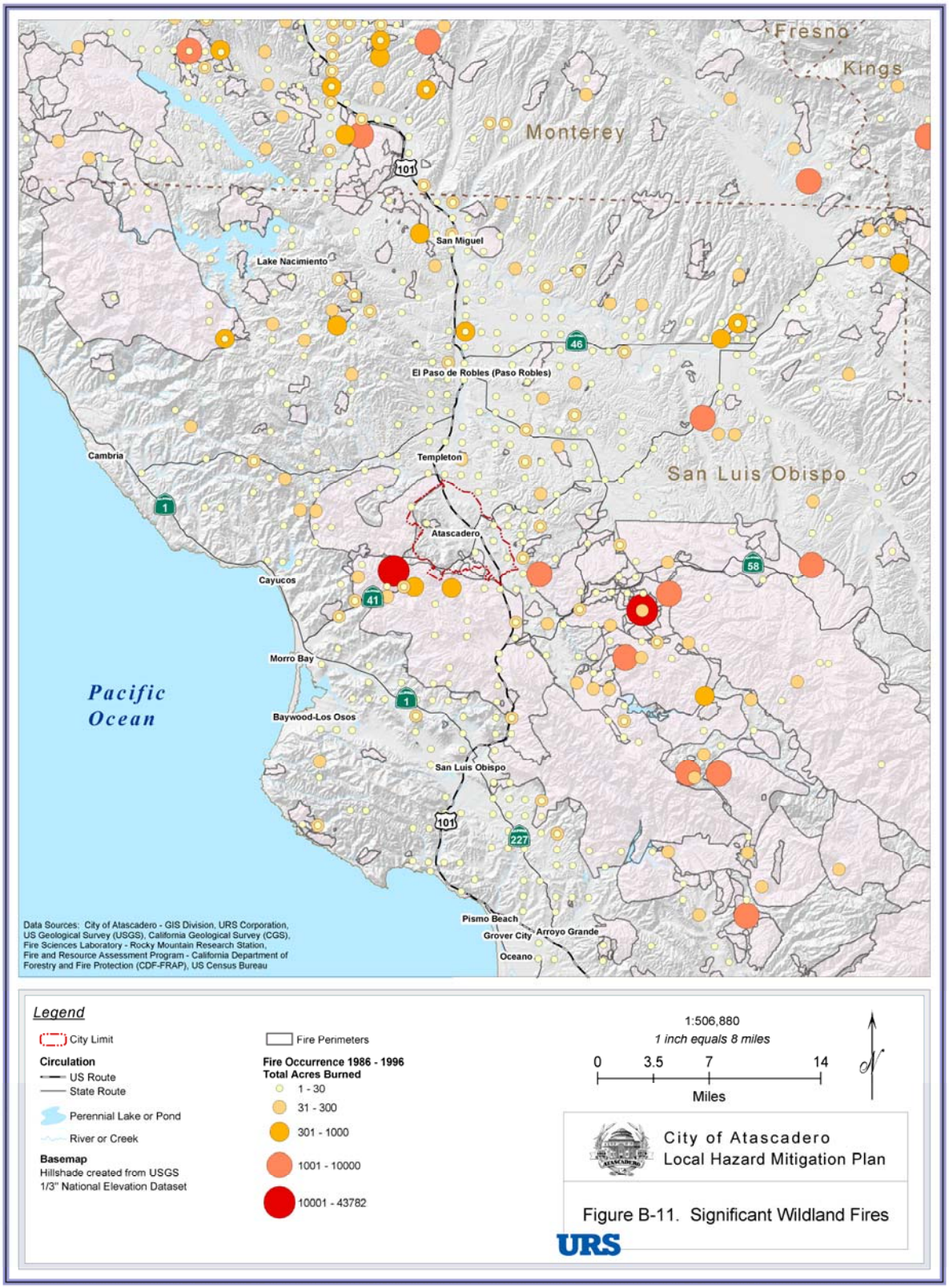
1:63,360
1 inch equals 1 mile

0 0.5 1 2
Miles

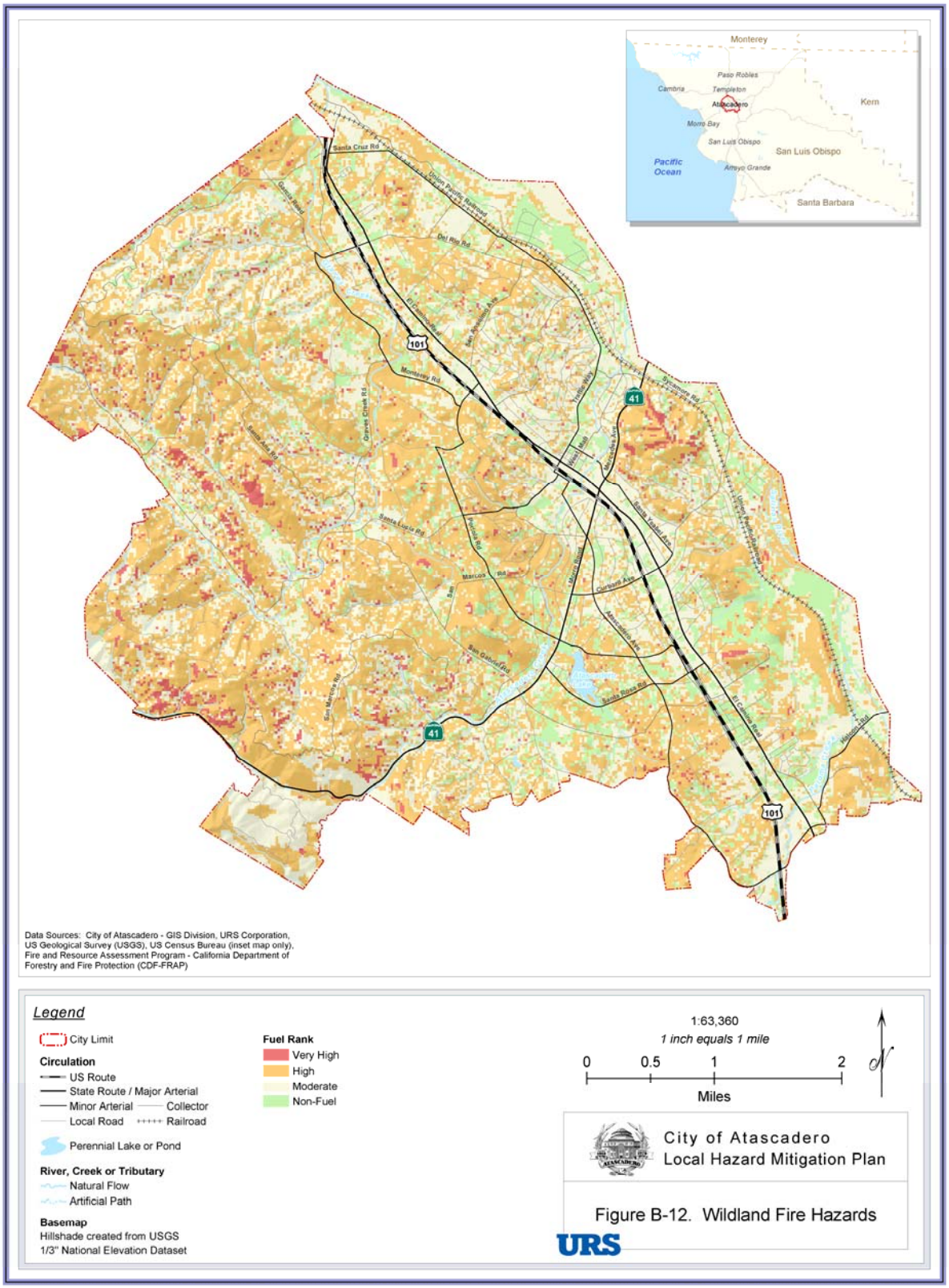
City of Atascadero
Local Hazard Mitigation Plan

Figure B-10. Landslide Hazard Areas

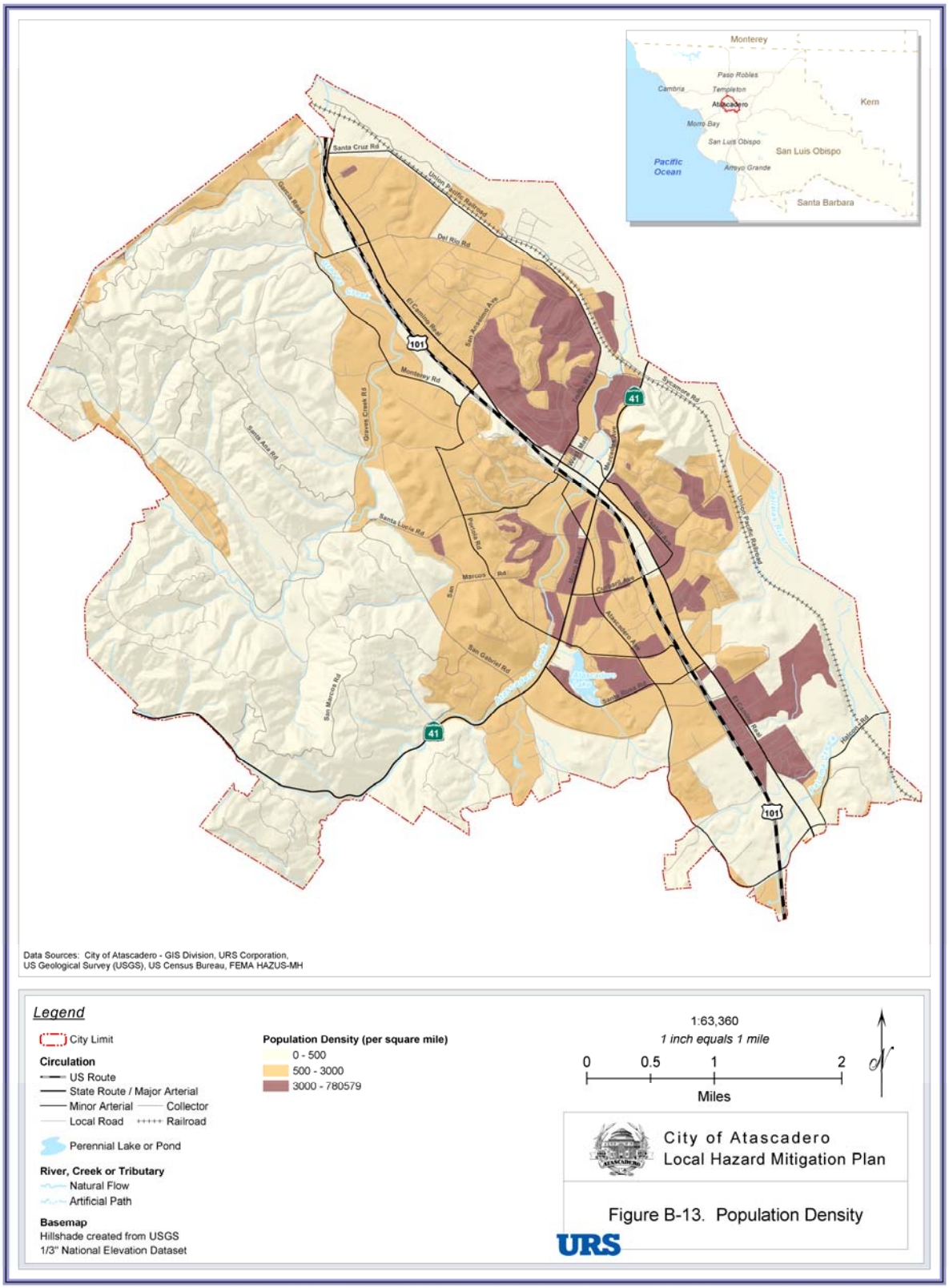
URS

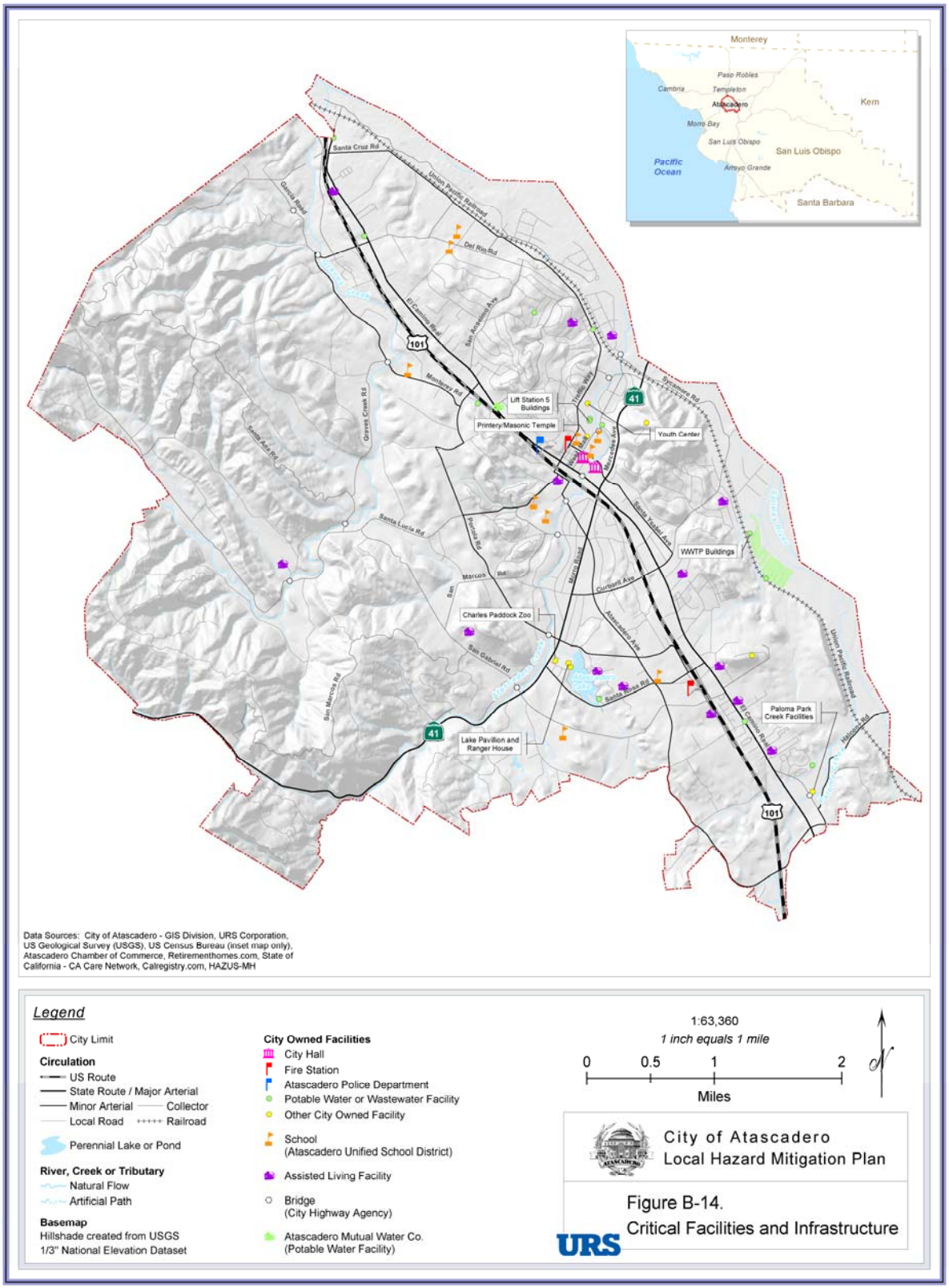


T:\Atascadero HMP\deliverables\B-11 SignificantWildlandFires.mxd



T:\Atascadero HMP\deliverables\B-12_Wildland\wrelhazards.mxd


Monterey
Paso Robles
Cambria
Templeton
Atascadero
Kern
Morro Bay
San Luis Obispo
San Luis Obispo
Pacific Ocean
Arroyo Grande
Santa Barbara
Santa Cruz Rd
Union Pacific Railroad
Graves Road
Del Rio Rd
El Camino Real
San Anselmo Ave
101
Monterey Rd
Graves Creek Rd
41
Sycamore Rd
Santa Ana Rd
Santa Lucia Rd
Portola Rd
San Marcos Rd
Atascadero Ave
San Gabriel Rd
Santa Rosa Rd
Union Pacific Railroad
Palma Rd
Data Sources: City of Atascadero - GIS Division, URS Corporation,
US Geological Survey (USGS), US Census Bureau, FEMA HAZUS-MH
Legend
City Limit
Circulation
US Route
State Route / Major Arterial
Minor Arterial
Collector
Local Road
Railroad
Perennial Lake or Pond
River, Creek or Tributary
Natural Flow
Artificial Path
Basemap
Hillshade created from USGS
1/3" National Elevation Dataset
Population Density (per square mile)
0 - 500
500 - 3000
3000 - 780579
1:63,360
1 inch equals 1 mile
0
0.5
1
2
Miles
City of Atascadero
Local Hazard Mitigation Plan
Figure B-13. Population Density
URS
T:\Atascadero HMP\deliverables\B-13 PopulationDensity.mxd


Monterey
Paso Robles
Templeton
Cambria
Atascadero
Kern
Morro Bay
San Luis Obispo
San Luis Obispo
Pacific Ocean
Arroyo Grande
Santa Barbara
Santa Cruz Rd
Union Pacific Railroad
Garcia Road
Del Rio Rd
El Camino Real
San Anselmo Ave
101
Montanar Rd
Lift Station 5 Buildings
Printery/Masonic Temple
Traffic Way
41
Sycamore Rd
Youth Center
Mercedes Ave
Santa Ana Rd
Geyers Creek Rd
Santa Lucia Rd
Pueblo Rd
Santa Teresa Ave
WWTP Buildings
Marcos Rd
Mesa Road
Curbard Ave
Charles Paddock Zoo
Atascadero Ave
San Gabriel Rd
Santa Rosa Rd
San Marcos Rd
Paloma Park Creek Facilities
El Camino Real
Lake Pavilion and Ranger House
Mission Rd
101
Data Sources: City of Atascadero - GIS Division, URS Corporation, US Geological Survey (USGS), US Census Bureau (inset map only), Atascadero Chamber of Commerce, Retirementhomes.com, State of California - CA Care Network, Calregistry.com, HAZUS-MH
Legend
City Limit
Circulation
US Route
State Route / Major Arterial
Minor Arterial
Collector
Local Road
Railroad
Perennial Lake or Pond
River, Creek or Tributary
Natural Flow
Artificial Path
Basemap
Hillshade created from USGS 1/3" National Elevation Dataset
City Owned Facilities
City Hall
Fire Station
Atascadero Police Department
Potable Water or Wastewater Facility
Other City Owned Facility
School (Atascadero Unified School District)
Assisted Living Facility
Bridge (City Highway Agency)
Atascadero Mutual Water Co. (Potable Water Facility)
1:63,360
1 inch equals 1 mile
0
0.5
1
2
Miles
N
City of Atascadero
Local Hazard Mitigation Plan
Figure B-14.
Critical Facilities and Infrastructure
URS
T:\Atascadero_HMP\deliverables\B-14_Critical\facilities\analfinfrastructure.mxd

Appendix C

Planning Team Meetings

AGENDA

1:30-1:45 Introductions

- Atascadero Hazard Mitigation Planning Group
- URS Consulting Team

1:45-2:00 Pre-Disaster Mitigation Planning

- Pre-Disaster Mitigation Planning
- Disaster Management Act of 2000 (DMA2000)

2:00-2:30 Plan Development

- Plan Development (Phases 1-4)
- Draft Schedule

2:30-2:45 Atascadero Hazard Mitigation Planning Group

2:45-3:15 Exercise and Homework

- Exercise: Hazard Identification
- Homework

3:15-3:30 Q&A

Handouts

- DMA 2000 Fact Sheet
- Local Hazard Mitigation Plan Crosswalk
- Draft Plan Outline
- Draft Definitions
- Information Sensitivity
- Exercise – Hazard Identification and Screening
- Homework
- Presentation

THE DISASTER MITIGATION ACT OF 2000 FACT SHEET

General Information

- The Disaster Mitigation Act of 2000 (DMA 2000) was signed by the President (Public Law 106-390) on October 30, 2000 and was intended to facilitate cooperation between state and local authorities. Section 322 of the Act specifically addresses mitigation planning at the state and local levels; reinforces the importance of pre-disaster mitigation planning; and promotes sustainability as a strategy for disaster resistance.

  Note: In the specific context of this Act and generally accepted emergency management terminology, the phrase "pre-disaster mitigation planning" is defined as the "coordination of actions taken prior to a hazard event to reduce injuries, deaths, property damage, economic losses, and degradation of natural resources during and following natural or manmade hazard events". Recommendations resulting from pre-disaster mitigation planning are typically focused on physical projects that reduce risk from specific hazards but can also include changes in land development regulations such as zoning and building codes as well as public education programs.

- To implement the DMA 2000 requirements, FEMA prepared an Interim Final Rule, published in the Federal Register on February 26, 2002 (at 44 CFR Parts 201 and 206), which established planning and funding criteria for states, tribes, and local governments. Revised Interim Final Rule published on October 1, 2002, extending state and local plan adoption date to November 1, 2004.

State Hazard Mitigation Planning

- DMA 2000 established a pre-disaster mitigation program and required that an approved ***standard state hazard mitigation plan*** be in place by November 1, 2004 for a state to continue to be eligible to receive Hazard Mitigation Grant Program (HMGP) funding or Public Assistance (PA) under the recovery categories of the Stafford Act for disasters declared after November 1, 2004.

- DMA 2000 also identifies new requirements that allow HMGP funds to be used for planning activities and increases the amount of HMGP funds available to states that have developed a comprehensive ***enhanced state hazard mitigation plan*** prior to the declaration of a disaster from a maximum of 7½ percent up to a maximum of 20 percent of the total disaster declaration funding.

- State governments have certain responsibilities for implementing Section 322, including:
  - preparing and submitting a "standard plan" (preparing and submitting an "enhanced plan" is an option);
  - reviewing and updating the mitigation plan every three years;
  - providing technical assistance and training to local governments to assist them in applying for HMGP grants and in developing local mitigation plans; and
  - reviewing and approving local plans if the state is designated as a managing state and has an approved enhanced plan.

Local Hazard Mitigation Planning

- DMA 2000 also required that individual communities have an approved ***local hazard mitigation plan*** in place to be eligible to receive project grants under HMGP for disasters declared after November 1, 2004 and other grant programs such as the Pre-Disaster Mitigation Program (PDM).
- "Communities" as defined in DMA 2000 local mitigation plan requirements apply to local municipalities and tribal governments that elect to participate as a subapplicant or subgrantee to the state.
- A local mitigation plan can apply to a single jurisdiction or several jurisdictions within a county, watershed, regional planning district, etc. as long as each jurisdiction participated in the planning process. Multi-county plans are also acceptable. These plans are referred to as "multi-jurisdictional" pre-disaster mitigation plans.
- Local governments have certain responsibilities for implementing Section 322, including:
  - preparing and submitting a local plan;
  - monitoring projects; and
  - reviewing and updating the mitigation plan every five years.

Cover

Acknowledgements

Table of Contents

List of Figures

List of Tables

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    a. Geography
    b. Socioeconomics
5. Risk Assessment
    a. Hazard Identification and Screening
    b. Hazard Profiles
    c. Asset Inventory
    d. Vulnerability Assessment
    e. Development Trends
6. Capability Assessment
7. Mitigation Strategy
    a. Goals and Objectives
    b. Identification and Analysis of Potential Mitigation Actions
    c. Implementation of Mitigation Actions
8. Plan Maintenance Process
    a. Monitoring, Evaluating and Updating the Plan
    b. Incorporation into Existing Planning Mechanisms
    c. Continued Public Involvement

Acronyms

Sources

EXERCISE: IDENTIFY AND SCREEN HAZARDS				
Hazard Type	Should it be profiled?		Why or Why Not?	If hazard is to be profiled, note historical occurrences, disasters declared, fatalities/injuries, damages, and potential sources.
	Yes	No		
Avalanche	☐	☐		
Coastal Erosion	☐	☐		
Coastal Storm	☐	☐		
Dam Failure	☐	☐		
Drought	☐	☐		
Earthquake (Seismic)	☐	☐		

EXERCISE: IDENTIFY AND SCREEN HAZARDS				
Hazard Type	Should it be profiled?		Why or Why Not?	If hazard is to be profiled, note historical occurrences, disasters declared, fatalities/injuries, damages, and potential sources.
	Yes	No		
Expansive Soils	☐	☐		
Extreme Heat	☐	☐		
Flood	☐	☐		
Hailstorm	☐	☐		
Hurricane	☐	☐		
Land Subsidence	☐	☐		

EXERCISE: IDENTIFY AND SCREEN HAZARDS				
Hazard Type	Should it be profiled?		Why or Why Not?	If hazard is to be profiled, note historical occurrences, disasters declared, fatalities/injuries, damages, and potential sources.
	Yes	No		
Landslide	☐	☐		
Severe Winter Storm	☐	☐		
Tornado	☐	☐		
Tsunami	☐	☐		
Volcano	☐	☐		
Wildfire	☐	☐		

EXERCISE: IDENTIFY AND SCREEN HAZARDS				
Hazard Type	Should it be profiled?		Why or Why Not?	If hazard is to be profiled, note historical occurrences, disasters declared, fatalities/injuries, damages, and potential sources.
	Yes	No		
Windstorm	☐	☐		
Other	☐	☐		
Other	☐	☐		
Other	☐	☐		
Other	☐	☐		

AGENDA

1:30-2:00 Plan Status

- Work-completed to date
- Work to be completed

2:00-2:30 Risk Assessment

- Components of a risk assessment
- Flood hazard example
  - Flood hazard profile
  - Flood hazard vulnerability analysis

2:30-3:00 Mitigation Strategy

- Components of a mitigation strategy
- Draft mitigation goals, objectives, and actions

3:00-3:30 Next Steps

- Homework: review draft mitigation goals, objectives, and actions
- Questions and answers

Handouts

- DMA 2000 Fact Sheet
- Local Hazard Mitigation Plan Crosswalk
- Draft Plan Outline
- Draft Definitions
- Information Sensitivity
- Exercise – Hazard Identification and Screening
- Homework
- Presentation

DRAFT PLAN SECTIONS:

1. DMA 2000 Requirements Summary ("Crosswalk")
2. Prerequisite – Record of Adoption by Local Governing Body
3. ☑ Documentation of the Planning Process
4. Community Profile
   - ☑ d. Geography
   - ☑ e. Socioeconomics
   - f. Land use and development trends
5. Risk Assessment
   - ☑ g. Hazard identification and screening
   - ☑ h. Hazard profiles
   - ☑ i. Asset inventory
   - j. Vulnerability assessment
6. Capability Assessment
   - ☑ k. Legal and regulatory
   - l. Administrative and technical
   - m. Fiscal
7. Mitigation Strategy
   - ☑ n. Draft goals, objectives, and actions
   - o. Identification and analysis of potential mitigation actions
   - p. Implementation of mitigation actions
8. Plan Maintenance Process
   - ☑ q. Monitoring, evaluating and updating the plan
   - r. Incorporation into existing planning mechanisms
   - s. Continued public involvement

RISK ASSESSMENT OUTLINE

1. Identify and Screen Hazards
2. Hazards Profiles
    a. Dam Failures
        i. Nature
        ii. Location
        iii. History
        iv. Extent
        v. Probability of future events
    b. Earthquakes
    c. Expansive Soils
    d. Floods
    e. Hazardous Materials
    f. Landslides
    g. Wildfires
3. Inventory Assets
    a. Population
    b. Residential and nonresidential parcels
    c. Critical facilities
    d. Transportation facilities
4. Vulnerability Assessment
    a. Methodology
    b. Data Limitations
    c. Results

Handouts

- DMA 2000 Fact Sheet
- Local Hazard Mitigation Plan Crosswalk
- Draft Plan Outline
- Draft Definitions
- Information Sensitivity
- Exercise – Hazard Identification and Screening
- Homework
- Presentation

DRAFT MITIGATION GOALS, OBJECTIVES, AND ACTIONS

Goal 1. Promote disaster-resistant development.

Objective 1.A Encourage and facilitate the updating of the City's General Plan 2025 to include hazard information identified in the LHMP.

- Action 1.A.1 Amend the "Atascadero Smart Growth Principles" to include a "hazard mitigation" or "disaster-resistant" principle.
- Action 1.A.2 Update the Safety and Noise Element of the City of Atascadero General Plan 2025 to include hazard area maps and implementation strategies developed in the LHMP.

Objective 1.B Encourage and facilitate the updating of the City's building codes and zoning regulations that protect existing assets and minimize new development in hazard areas.

- Action 1.B.1 Update the Urban-Wildland Interface Code, Flood Hazard Overlay Zone, and Geologic Hazard Overlay Zone to reflect new hazard maps.

Objective 1.C Expand and update the GIS database to include the most recent hazard data.

- Action 1.C.1 Maintain updated City GIS hazard maps with information on hazard areas, and critical facilities, lifeline systems, transportation systems.
- Action 1.C.2 Seek from other government, academic, and private organizations, new data that can be used for hazard mitigation and emergency response.
- Action 1.C.3 Share hazard information with nearby jurisdictions, private and public organizations, and the general public.

Objective 1.D Pursue available grant funding to implement mitigation measures.

- Action 2.A.1 Review FEMA grant applications and establish internal procedures to streamline the development of applications for these programs.
- Action 2.A.2 Apply for Pre Disaster Mitigation (PDM) and Hazard Mitigation Grant Program (HMGP) grants to fund mitigation actions identified in the Implementation Strategy.

Goal 2. Build and support local capacity to enable the public to prepare for, respond to, and recover from disasters.

Objective 2.A Improve upon existing capabilities to warn the public of emergency situations.

- Action 2.A.1 Develop and implement a local Emergency Alert System (EAS) in order to eliminate the need to use the County's EAS.
- Action 2.A.2 Support San Luis Obispo County Department of Emergency Management in the development of a reverse 9-1-1 system (enabling the City to inform residents of impending hazards).
- Action 2.A.3 Develop emergency evacuation programs for neighborhoods in dam inundation areas, high wildfire hazard areas, and floodprone areas.

Objective 2.B Ensure that City officials and emergency response personnel are informed of and familiar with existing emergency preparedness procedures and their associated specific responsibilities and roles.

- Action 2.B.1 Annually review the City's Multi-Hazard Emergency Response Plan and the San Luis Obispo County Dam Failure Evacuation Plan to identify needed plan updates.
- Action 2.B.2 Relevant City agencies should conduct a minimum of one disaster drill each year.

Objective 2.C Educate the public to increase their awareness of hazards, emergency response, and recovery.

- Action 2.C.1 Establish a budget and identify funding sources for mitigation outreach.
- Action 2.C.2 Work with the school district to develop a public outreach campaign that teaches children how to avoid danger and behave during an emergency.
- Action 2.C.3 Support the efforts and education of people with disabilities to respond appropriately to emergencies.
- Action 2.C.4 Distribute appropriate public information sheets regarding natural hazards and hazard mitigation activities to the City's residents, businesses, and community organizations.

Goal 3. Reduce the possibility of damage and losses due to dam failure.

Objective 3.A Protect existing assets, as well as any future development, from the effects of dam failure.

- Action 3.A.1 Identify hazard-prone structures and encourage structural retrofitting.
- Action 3.A.2 Promote low intensity, nonresidential land uses in dam inundation zones for future development.
- Action 3.A.3 Update dam inundation maps every 5-10 years.

Goal 4. Reduce the possibility of damage and losses due to earthquakes.

Objective 4.A Protect existing assets, as well as any future development, from the effects of earthquakes.

- Action 4.A.1 Enforce the Unified Building Code (UBC) provisions pertaining to grading and construction relative to seismic hazards.
- Action 4.A.2 Update the UBC as necessary to promote seismic safety in structural designs.
- Action 4.A.3 Enforce UBC requirements for addressing liquefaction potential in the design of structures.
- Action 4.A.4 Determine structural safety of critical facilities, including shelters, and upgrade if necessary.
- Action 4.A.5 Develop and provide managers of mobile home parks with information on how to improve the seismic performance of mobile homes.
- Action 4.A.6 Encourage utility companies to evaluate the seismic risk to their high-pressure transmission pipelines and implement mitigation measures, such as automatic shut-off valves.

Goal 5. Reduce the possibility of damage and losses due to expansive soils.

Objective 5.A Protect existing assets, as well as any future development, from the effects of expansive soils.

- Action 5.A.1 Develop an overlay zone that limits new development in expansive soil hazard areas.
- Action 5.A.2 Implement engineered foundation design standards, site drainage standards, and landscape standards for new development in close proximity to expansive soil hazard areas.
- Action 5.A.3 Develop and provide homeowners in expansive soil hazard areas with information on how to reduce the effects of this hazard through proper drainage, landscaping and interior finishing efforts.

Goal 6. Reduce the possibility of damage and losses due to floods.

Objective 6.A Protect existing assets, as well as new development, from floods.

- Action 6.A.1 Implement drainage improvements with an emphasis on improving downstream facilities before improving upstream facilities, unless upstream mitigation (such as detention or retention basins) is provided.
- Action 6.A.2 Discourage the disruption of natural flowage patterns and encourage the maximum use of natural drainage ways.
- Action 6.A.3 Enforce floodplain management regulations for new construction, substantial damage, and substantial improvement.
- Action 6.A.4 Require engineered floodplain and hydrologic analysis to be prepared for new development projects within or directly adjacent to 100-year floodplains.
- Action 6.A.5 Limit uses in floodways to those tolerant of occasional flooding, including but not limited to agriculture, outdoor recreation, and natural resource areas.

Goal 7. Reduce the possibility of damage and losses due to hazardous materials.

Objective 7.A Protect existing assets, as well as new development, from hazardous materials.

- Action 7.A.1 Require businesses that use, store, or transport hazardous materials to ensure that adequate measures are taken to protect public health and safety.
- Action 7.A.2 Work with Caltrans to require all transport of hazardous materials to follow approved routes.
- Action 7.A.3 Work with Union Pacific to ensure adequate precaution and preparedness regarding rail transport of hazardous materials.
- Action 7.A.4 Use the City's website to post information regarding the safe handling and disposal of household chemicals.

Goal 8. Reduce the possibility of damage and losses due to landslides.

Objective 8.A Protect existing assets, as well as new development, from landslides.

Action 7.A.1 Require construction and maintenance of natural and/or manmade retaining structures that will help control landslide risk in key residential and/or commercial areas.

Action 7.A.2 Retrofit or implement stabilizing measures for Atascadero hillside developments that pre-date current best practices and codes.

Action 7.A.3 Work with Union Pacific to ensure adequate precaution and preparedness regarding rail transport of hazardous materials.

Goal 9. Reduce the possibility of damage and losses due to wildfires.

Objective 9.A Protect existing assets, as well as new development, from wildfires.

- Action 9.A.1 Adopt and enforce the most current versions of the California Fire Code and Urban-Wildland Interface Code in Chapter 7 of the Fire Code.
- Action 9.A.2 Conduct fuel management programs in high fire hazard areas.
- Action 9.A.3 Develop and codify uniform standards for maximum slope of streets, driveways, and fire access roads for all new developments.
- Action 9.A.4 Require the technical review – adequacy of access, water supplies, construction standards, and vegetation clearance – of all development proposals in wildfire hazard areas prior to approval.

Objective 9.B Plan for adequate facilities, equipment, and personnel to meet fire fighting needs and demands.

- Action 9.B.1 Update the Fire Department Master Plan every five years.
- Action 9.B.2 Maintain a fire-related GIS database to assist decision-makers with analyzing development proposals, and update the database when new CDF/County Fire Department fire hazard severity maps become available.

MITIGATION GOA DIRECTIONS:

The Disaster Mitigation Act (DMA) 2000 requires jurisdictions to develop a mitigation strategy. Specifically, each plan must "include a mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, polices, programs and resources, and its ability to expand on and improve these existing tools."

A mitigation strategy is divided into three steps:

- Identification of goals, objectives, and actions.
- Analysis of actions
- Prioritization of actions

During the month of May, the Hazard Mitigation Planning Team (HMPT) and consulting staff will develop the first step - draft goals, objectives, and actions (GOA) - of the mitigation strategy. Therefore, over the next few weeks (May 3 – May 27), the HMPT should review the draft GOA and identify additional objectives or actions to be included in the GOA.

Possible action items should:

- Be specific and measurable (ie: place a restrictive clause in the floodplain management ordinance that will prohibit development in the floodway).
- Build upon / strengthen existing measures (ie: adopt the most recent edition of the Urban-Wildland Interface Code).
- Focus on public education/outreach and protecting existing and new development (i.e.: retrofitting structures not up to code), including critical facilities and infrastructure.

Remember, the mitigation GOA is just a laundry list of potential mitigation ideas. During the second step of the mitigation strategy, the HMPT will review this GOA list and from this list, they will identify a handful of specific actions that help best achieve the community's goals to reduce or avoid the effects of the identified hazards.

Please email Anna Davis at: anna_davis@urscorp.com with draft GOA comments.

MAY

Monday, May 2: HMPT Meeting 2

Monday, May 2 – Friday, May 27: HMPT draft mitigation goals, objectives, and actions comments period

JUNE

Monday, June 13: HMTP to receive vulnerability analysis, updated mitigation goals, objectives, and actions, and black mitigation strategy table

Monday, June 20: HMTP conference call – complete mitigation strategy

JULY - AUGUST

Friday, July 1 – Friday, July 15: Two week HMTP internal review period

Friday, July 22: Plan to be posted on City website and sent to FEMA. City to issue press release

Friday, July 22 – Friday, August 19: 30-day public comment period, FEMA and OES review, and possible planning commission / board meeting add-on

AUGUST - SEPTEMBER

Tuesday, August 23 or August 30: Final version sent to Council

Tuesday, September 13: Adoption by Council

AGENDA

10:30-11:00 Plan Status

- Work-completed to date
- Work to be completed

11:00-11:30 Mitigation Strategy

- Review vulnerability analysis tables
- Review mitigation goals, objectives, and potential actions list
- Select mitigation actions

11:30-12:00 Action Plan

- Prioritize selected mitigation actions

12:00-12:30 Next Steps

- Complete action plan matrix
- Questions and answers

Step 1: Review Vulnerability Analysis Tables

- Tables 5-5 and 5-6 are Inventory Tables
- Tables 5-7, 5-8, and 5-9 are the actual Vulnerability Analysis Tables

Step 2: Review Mitigation Goals, Objectives, and Potential Actions List

- Any additional changes to be made?

Step 3: Select Mitigation Actions

- Each member of the Planning Team should select between 2-5 potential actions (from the Mitigation Goals, Objectives, and Potential Actions List) that would best help the City fulfill its mitigation goals and objectives, thereby reducing or avoiding long-term vulnerabilities to the identified hazards. The following questions should be taken into consideration when selecting action items:
  - Does the action mitigate assets identified as vulnerable in the LHMP's Risk Assessment?
  - Is the action economically feasible (either through a grant or current funding sources)?
  - Are proper laws, ordinances, and resolutions in place to implement the action?
  - Is there enough political and public support to implement the action and ensure its success?
  - Does the action enforce and/or enhance current mitigation actions, as identified in LHMP's Capability Assessment?
- Write down or highlight the selected actions and bring to conference call.

Step 4: Prioritize Selected Mitigation Actions (to be completed during call)

Once Step 3 has been completed, (during the conference call) the Planning Team will prioritize the actions based on a ranking system of high, medium, and low. The following considerations for this process included:

- benefits versus costs
- ease of implementation
- multi-objective actions
- time

Table 5-7
Potential Hazard Vulnerability Assessment – Population and Buildings

		Population	Buildings			
			Residential		Nonresidential	
Hazard	**Methodology**	**Number**	**Number**	**Value ($)[1]**	**Number**	**Value ($)[1]**
Dam Failures	Description	289	94	7,077	2	4,587
Earthquakes	High	25,040	7,491	633,817	105	212,015
	Moderate	2,717	1,048	78,951	1	4,904
Expansive Soils	High	3,034	1,118	85,214	3	8,715
	Moderate	7,757	2,374	200,978	49	96,116
Floods	100-year flood zone	475	149	11,714	5	8,944
	500-year flood zone	7,811	2,361	183,551	68	11,7268
Hazardous Materials Events	1-mile radius EHS facilities	14,887	4,014	367,428	80	144,555
	1-mile buffer transport corridors	23,212	6,873	584,803	104	208,975
Landslides	High/Historic	10,874	3,474	294,532	30	54,211
	Moderate	1,811	430	50,749	0	2,001
Wildland Fires	Very High	323	50	12,252	0	1,468
	High	10,687	3,367	284,185	15	47,624
	Moderate	12,242	3,717	305,035	67	129,078
Total		**121,159**	**36,560**	**3,100,286**	**529**	**1,040,461**

[1] Value = Estimated value (x1000)

Appendix D
Public Information

Hazard Mit.

City of Atascadero

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Atascadero Local Hazard Mitigation Plan
Press Release
April 5, 2005

City Launches Disaster Mitigation Planning Effort

The December 2003 earthquake demonstrated to us all that Atascadero can be vulnerable to disasters, including earthquakes, floods, landslides, wildfires, and hazardous materials. The risks posed by these hazards increases as the City's population continues to grow.

The City of Atascadero has launched a planning effort, known as the Local Hazard Mitigation Plan (LHMP), to assess risks posed by natural and manmade disasters and identify ways to reduce those risks. This plan is required under the Federal Disaster Mitigation Act of 2000 as a pre-requisite for receiving certain forms of Federal disaster assistance. The City of Atascadero has received a grant from the Federal Emergency Management Agency (FEMA) for preparation of the plan.

The draft plan will be made available this summer. At that time, the City Council will hold a public workshop to review and discuss the plan. The City of Atascadero plans to submit the final version of this plan to FEMA in the fall.

The public is invited to participate in this planning process. For additional information, or to submit comments, please contact the LHMP Project Manager, Marcia Torgerson, at 805-470-3400, or hazardplan@atascadero.org.

http://www.atascadero.org/?%20page%20id=27738/10/2005 1:43:03 AM

City of Atascadero
Office of the City Manager

April 7, 2005

Atascadero Unified School District
5601 West Mall
Atascadero, CA 93422

To whom it may concern:

The City of Atascadero has launched a planning effort, known as the Local Hazard Mitigation Plan (LHMP), to assess risks posed by natural and manmade disasters and identify ways to reduce those risks. This plan is required under the Federal Disaster Mitigation Act of 2000 as a pre-requisite for receiving certain forms of Federal disaster assistance. The City of Atascadero has received a grant from the Federal Emergency Management Agency (FEMA) for preparation of the plan.

Planning efforts will focus on potential impacts of disasters including earthquakes, wildfires, dam failure, landslides, floods, and hazardous materials within City Limits. Mitigation measures will focus on prevention, property and natural resource protection, public education and awareness, enhanced emergency services, and improved management practices for structural projects.

The draft plan will be made available this summer. At that time, the City Council will hold a public workshop to review and discuss the plan. The City of Atascadero will submit the final version of this plan to FEMA in the fall.

The public, including local, state, and Federal entities, is invited to participate in this planning process. Information regarding the plan can be found on the City's website at www.atascadero.org. Interested persons are encouraged to contact me at 805-470-3400, or via e-mail at mtorgerson@atascadero.org.

Sincerely,

Marcia McClure Torgerson

Assistant to the City Manager / LHMP Project Manager

THE TRIBUNE
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Tribune, The (San Luis Obispo, CA)
April 8, 2005
Section: Local
Edition: Tribune
Page: B1

Correction:* *A story Friday on Page B1 about **Atascadero's** **hazard mitigation** planning incorrectly described the types of funds the city would be eligible for. The city is required to have a **hazard mitigation plan** to be eligible for certain kinds of federal disaster assistance.*

PLANNING AHEAD FOR DISASTER

CITY IS WORKING TOWARD A HAZARD MITIGATION PLAN TO QUALIFY FOR FEDERAL AND STATE EMERGENCY FUNDING

Angela Manese-lee
The Tribune

Atascadero hopes to have a **plan** prepared this summer that will detail the risks posed by earthquakes, floods, wildfires and other natural or man-made disasters.

The city is required to have such a **plan** to be eligible for some Federal Emergency Management Agency and state Office of Emergency Services funds.

"The purpose of a **mitigation plan** is to hopefully find ideas and ways to improve situations so the next time a fire (or other disaster) comes through, we're more prepared, there's less damage and it saves FEMA and OES some money," said Assistant to the City Manager Marcia Torgerson. She is leading a committee formed to discuss the **plan**.

Under the Disaster **Mitigation** Act of 2000, communities must have a **hazard mitigation plan** to be eligible for certain kinds of federal disaster assistance.

Communities without **plans** are ineligible for state pre-disaster or **hazard mitigation** grants, said Greg Renick, a spokesman for the state Office of Emergency Services. Those grants cover community projects such as brush clearance, culvert improvements and earthquake-resistant bolting and bracing, Renick added.

At the end of December, **Atascadero** received a grant from FEMA that will pay for 75 percent of the $65,000 disaster **plan**. The city has hired URS Corp. to prepare the **plan**.

In October, URS Corp. wrote a similar disaster **plan** for Paso Robles. According to that document, the **hazards** in Paso Robles include drought, earthquake, extreme heat, flood, hazardous materials, landslide and wildfire. The Paso Robles City Council will hold a public hearing on the draft **plan** April 19.

Atascadero's **plan** is in the discussion phase, Torgerson said.

A draft with risks and potential **mitigation** measures should be ready this summer. The **Atascadero** City Council then will review the draft in a public hearing before sending it to OES and FEMA for questions or comments. FEMA must approve all **hazard mitigation plans**.

FEMA spokesman Tom Kell said the agency has approved 30 **plans** in California.

For more information

Information on **Atascadero**'s **Hazard Mitigation** Planning is available on the Web at www.**atascadero**.org. For more information or to submit comments, contact Marcia Torgerson at 470-3400 or e-mail hazardplan@ **atascadero**.org.

A draft of Paso Robles' **Hazard Mitigation Plan** is available on the Web at www.prcity.com.

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Appendix E

Crosswalk

Instructions for Using the Plan Review Crosswalk for Review of Single Jurisdiction, Local Hazard Mitigation Plans (LHMP) & Multi-Jurisdictional, LHMPs.

Attached is a Plan Review Crosswalk based on the ***Multi-Hazard Mitigation Planning Guidance Under the Disaster Mitigation Act of 2000***, BASED ON THE ONE PUBLISHED by FEMA, dated March 2004. This Plan Review Crosswalk is consistent with the *Disaster Mitigation Act of 2000* (P.L. 106-390), enacted October 30, 2000 and *44 CFR Part 201 – Mitigation Planning, Interim Final Rule* (the Rule), published February 26, 2002.

SCORING SYSTEM

N – Needs Improvement: The plan does not meet the minimum for the requirement. Reviewer's comments must be provided.

S – Satisfactory: The plan meets the minimum for the requirement. Reviewer's comments are encouraged, but not required.

Each requirement includes separate elements. All elements of a requirement must be rated "Satisfactory" in order for the requirement to be fulfilled and receive a summary score of "Satisfactory." A "Needs Improvement" score on elements shaded in gray (recommended but not required) will not preclude the plan from passing.

When reviewing Single Jurisdiction Plans (SJP), reviewers may want to put an N/A in the boxes for multi-jurisdictional plan requirements. When reviewing multi-jurisdictional plans, reviewers may want to put an N/A in the prerequisite box for single jurisdiction plans.

States that have additional requirements can add them in the appropriate sections of the *Multi-Hazard Mitigation Planning Guidance* or create a new section and modify this Plan Review Crosswalk to record the score for those requirements. See Local Capabilities Assessment under the Documentation of the Planning Process Section.

Optional matrices for assisting in the review of sections on profiling hazards, assessing vulnerability, and identifying and analyzing mitigation actions are found at the end of the Plan Review Crosswalk.

The examples below illustrate how to fill in the Plan Review Crosswalk.

Example. Assessing Vulnerability: Overview - ***Requirement §201.6(c)(2)(ii):*** *[The risk assessment **shall** include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description **shall** include an overall summary of each hazard and its impact on the community.*

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE N	SCORE S
A. Does the plan include an **overall summary** description of the jurisdiction's **vulnerability** to each hazard?	Section II, pp. 4-10	Submitting Jurisdiction input in Green. State requirements & OES comments in Blue. FEMA requirements & reviewer's comments in Black. The plan describes the types of assets that are located within geographically defined hazard areas as well as those that would be affected by winter storms.		X
B. Does the plan address the **impact** of each hazard on the jurisdiction?	Section II, pp. 10-20	The plan does not address the impact of two of the five hazards addressed in the plan. **Required Revisions:** • Include a description of the impact of floods and earthquakes on the assets. **Recommended Revisions:** • This information can be presented in terms of dollar value or percentages of damage.	X	
		SUMMARY SCORE	X	

Single Jurisdiction, Local Hazard Mitigation Plan (LHMP) & Multi-Jurisdictional, LHMP Review and Approval Status

Single/Lead Jurisdiction: **City of Atascadero, CA**	**Title of MJP Plan:** **Atascadero Local Hazard Mitigation Plan**	**Date of Plan:** **August 15, 2005**
Local Point of Contact: **Marcia Torgerson**	**Address:** **City of Atascadero** **6905 El Camino Real** **Atascadero, CA 93422**	
Title: **Assistant to the City Manager**		
Agency: **City Manager, Atascadero**		
Phone Number: **805-470-3454**	**E-Mail:** **mtorgerson@atascadero.org**	

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

FEMA Reviewer:	**Title:**	**Date:**
Date Received in FEMA Region [Insert #]		
Plan Not Approved		
Plan Approved		
Date Approved		

List single jurisdiction or, If MJP, list Participating Jurisdictions, including the "Lead Jurisdiction":	**NFIP Status***			
	Y	**N**	**N/A**	**CRS Class**
1.				
2.				
3.				
4. [ATTACH PAGE(S) WITH ADDITIONAL JURISDICTIONS]				

*** Notes:** **Y = Participating** **N = Not Participating** **N/A = Not Mapped**

LOCAL MITIGATION PLAN REVIEW SUMMARY

The plan cannot be approved if the plan has not been formally adopted.

Each requirement includes separate elements. All elements of the requirement must be rated "Satisfactory" in order for the requirement to be fulfilled and receive a score of "Satisfactory." Elements of each requirement are listed on the following pages of the Plan Review Crosswalk. A "Needs Improvement" score on elements shaded in gray (recommended but not required) will not preclude the plan from passing. Reviewer's comments must be provided for requirements receiving a **"Needs Improvement"** score.

SCORING SYSTEM - Please check one of the following for each requirement.

N – Needs Improvement: The plan does not meet the minimum for the requirement. Reviewer's comments must be provided.

S – Satisfactory: The plan meets the minimum for the requirement. Reviewer's comments are encouraged, but not required.

Prerequisite(s) (Check Applicable Box)	**NOT MET**	**MET**
Adoption by the Local Governing Body: §201.6(c)(5) **OR**		
Multi-Jurisdictional Plan Adoption: §201.6(c)(5) **AND**		
Multi-Jurisdictional Planning Participation: §201.6(a)(3)		

Planning Process	**N ***	**S**
Documentation of the Planning Process: §201.6(b) and §201.6(c)(1)		
Local Capabilities Assessment §201.4(c)(ii) and §201.6(c)(1)**		

Risk Assessment	**N ***	**S**
Identifying Hazards: §201.6(c)(2)(i)		
Profiling Hazards: §201.6(c)(2)(i)		
Assessing Vulnerability: Overview: §201.6(c)(2)(ii)		
Assessing Vulnerability: Identifying Structures: §201.6(c)(2)(ii)(A)		
Assessing Vulnerability: Estimating Potential Losses: §201.6(c)(2)(ii)(B)		
Assessing Vulnerability: Analyzing Development Trends: §201.6(c)(2)(ii)(C)		
Multi-Jurisdictional Risk Assessment: §201.6(c)(2)(iii)		

Mitigation Strategy	**N ***	**S**
Local Hazard Mitigation Goals: §201.6(c)(3)(i)		
Identification and Analysis of Mitigation Actions: §201.6(c)(3)(ii)		
Implementation of Mitigation Actions: §201.6(c)(3)(iii)		
Multi-Jurisdictional Mitigation Actions: §201.6(c)(3)(iv)		

Plan Maintenance Process	**N ***	**S**
Monitoring, Evaluating, and Updating the Plan: §201.6(c)(4)(i)		
Incorporation into Existing Planning Mechanisms: §201.6(c)(4)(ii)		
Continued Public Involvement: §201.6(c)(4)(iii)		

Additional State Requirements**	**N ***	**S**
See **Planning Process**, Local Capabilities Assessment		
Insert State Requirement		
Insert State Requirement		

STATE OES REVIEW STATUS OF THE LHMP:

STATE OES REVIEW COMPLETED on DATE: _____

FORWARDED TO FEMA FOR REVIEW/APPROVAL DATE: _____

FEMA REVIEW STATUS OF THE LHMP:

FEMA REVIEW COMPLETE, PLAN RETURNED DATE: _____

FEMA REVIEW COMPLETE, PLAN APPROVED DATE: _____

*** See Reviewer's Comments**

**States that have additional requirements can add them in the appropriate sections of the *Multi-Hazard Mitigation Planning Guidance* or create a new section and modify this Plan Review Crosswalk to record the score for those requirements.

PREREQUISITE(S)

Adoption by the Local Governing Body

***Requirement §201.6(c)(5)*:** *[The local hazard mitigation plan **shall** include] documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commissioner, Tribal Council).*

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE NOT MET	SCORE MET
A. Has the local governing body adopted the plan?	No. To be adopted once review is complete.			
B. Is supporting documentation, such as a resolution, included?	No.			
		SUMMARY SCORE		

Multi-Jurisdictional Plan Adoption

***Requirement §201.6(c)(5)*:** *For multi-jurisdictional plans, each jurisdiction requesting approval of the plan **must** document that it has been formally adopted.*

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE NOT MET	SCORE MET
A. Does the plan indicate the specific jurisdictions represented in the plan?	N/A			
B. For each jurisdiction, has the local governing body adopted the plan?	N/A			
C. Is supporting documentation, such as a resolution, included for each participating jurisdiction?	N/A			
		SUMMARY SCORE		

Multi-Jurisdictional Planning Participation

***Requirement §201.6(a)(3)*:** *Multi-jurisdictional plans (e.g., watershed plans) may be accepted, as appropriate, as long as each jurisdiction has participated in the process … Statewide plans will not be accepted as multi-jurisdictional plans.*

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE NOT MET	SCORE MET
A. Does the plan describe **how** each jurisdiction participated in the plan's development?	N/A			
		SUMMARY SCORE		

PLANNING PROCESS: *§201.6(b): An open public involvement process is essential to the development of an effective plan.*

Documentation of the Planning Process

Requirement §201.6(b): *In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process* ***shall*** *include:*
(1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;
(2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and
(3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.
Requirement §201.6(c)(1): *[The plan* ***shall*** *document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.*

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE N	SCORE S
A. Does the plan provide a narrative description of the process followed to prepare the plan?	Pages 4-1 and 4-2			
B. Does the plan indicate who was involved in the planning process? (For example, who led the development at the staff level and were there any external contributors such as contractors? Who participated on the plan committee, provided information, reviewed drafts, etc.?)	Pages 4-1 and 4-2			
C. Does the plan indicate how the public was involved? (Was the public provided an opportunity to comment on the plan during the drafting stage and prior to the plan approval?)	Page 4-3			
D. Was there an opportunity for neighboring communities, agencies, businesses, academia, nonprofits, and other interested parties to be involved in the planning process?	Page 4-3			
E. Does the planning process describe the review and incorporation, if appropriate, of existing plans, studies, reports, and technical information?	Page 4-4, Table 6-1			
		SUMMARY SCORE		

Local Capabilities Assessment (State OES Requested Information)

Requirement §201.4(c)(3)(ii): *– Of the Federal Register Interim Final Rule 44 CFR Parts 201 and 206 states, "[The State mitigation strategy shall include] a general description and analysis of the effectiveness of local mitigation policies, programs, and capabilities.*

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE N	SCORE S
A. Does the plan provide a description of the human, technical and financial resources available within this jurisdiction to engage in a mitigation planning process and to develop a local hazard mitigation plan? (These resources are described in Section 2.2 of the OES LHMP Development Guide).	Pages 6-1 through 6-4	***Note: This information is required to complete the State Hazard Mitigation Plan and must be covered. However, a "Needs Improvement" score on this requirement will not preclude the plan from being recommended by OES or approved by FEMA.***		
B. Does the plan list local mitigation funding sources (taxes, fees, assessments or fines) which affect or promote mitigation within the reporting jurisdiction?	Page 6-4 and 6-5	***Note: This information is required to complete the State Hazard Mitigation Plan and must be covered. However, a "Needs Improvement" score on this requirement will not preclude the plan from being recommended by OES or approved by FEMA.***		
C. Does the plan list local ordinances which affect or promote disaster mitigation, preparedness, response or recovery within the reporting jurisdiction?	Pages 6-2 and 6-3	***Note: This information is required to complete the State Hazard Mitigation Plan and must be covered. However, a "Needs Improvement" score on this requirement will not preclude the plan from being recommended by OES or approved by FEMA.***		
D. Does the plan describe the details of in-progress, ongoing or completed mitigation projects and programs within the reporting jurisdiction?	Page 6-2 ("Programs" row and any "continue or "maintain" action item in the GOA on pages 7-2 through 7-6)	***Note: This information is required to complete the State Hazard Mitigation Plan and must be covered. However, a "Needs Improvement" score on this requirement will not preclude the plan from being recommended by OES or approved by FEMA.***		
		SUMMARY SCORE		

RISK ASSESSMENT: *§201.6(c)(2): The plan shall include a risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards.*

Identifying Hazards - ***§201.6(c)(2)(i):*** *[The risk assessment **shall** include a] description of the type … of all natural hazards that can affect the jurisdiction.*

Element	Location in the Plan	Reviewer's Comments	SCORE N	SCORE S
A. Does the plan include **a description** of the types of **all natural hazards** that affect the jurisdiction? If the hazard identification omits (without explanation) any hazards commonly recognized as threats to the jurisdiction, this part of the plan cannot receive a Satisfactory score.	Page 5-3, Table 5-1	Consult with the State Hazard Mitigation Officer to identify applicable hazards that may occur in the planning area.		
		SUMMARY SCORE		

Profiling Hazards

Requirement §201.6(c)(2)(i): *[The risk assessment **shall** include a] description of the … location and extent of all natural hazards that can affect the jurisdiction. The plan **shall** include information on previous occurrences of hazard events and on the probability of future hazard events.*

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE N	SCORE S
A. Does the risk assessment identify the **location** (i.e., geographic area affected) of each natural hazard addressed in the plan?	Appendix B Dam Failure 5-5 EQ 5-7 Expan Soil 5-8 Flood 5-9, 5-10 HazMat 5-12 Landslide 5-14 Wildfire 5-16			
B. Does the risk assessment identify the **extent** (i.e., magnitude or severity) of each hazard addressed in the plan?	Dam Failure 5-5 EQ 5-7 Expan Soil 5-8 Flood 5-9, 5-10, 5-11 HazMat 5-12, 5-13 Landslide 5-14 Wildfire 5-16			
C. Does the plan provide information on **previous occurrences** of each hazard addressed in the plan?	Dam Failure 5-5 EQ 5-6 Expan Soil 5-7 Flood 5-9 HazMat 5-12 Landslide 5-14 Wildfire 5-15			
D. Does the plan include the **probability of future events** (i.e., chance of occurrence) for each hazard addressed in the plan?	Dam Failure 5-5 EQ 5-7 Expan Soil 5-8 Flood 5-9, 5-10, 5-11 HazMat 5-12, 5-13 Landslide 5-14 Wildfire 5-16			
		SUMMARY SCORE		

Assessing Vulnerability: Overview

Requirement §201.6(c)(2)(ii): *[The risk assessment **shall** include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description **shall** include an overall summary of each hazard and its impact on the community.*

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE N	SCORE S
A. Does the plan include an **overall summary** description of the jurisdiction's **vulnerability** to each hazard?	Tables 5-7, 5-8, 5-9 Pages 5-24 and 5-25			
B. Does the plan address the **impact** of each hazard on the jurisdiction?	Tables 5-7, 5-8, 5-9 Pages 5-24 and 5-25			
		SUMMARY SCORE		

Assessing Vulnerability: Identifying Structures

Requirement §201.6(c)(2)(ii)(A): *The plan **should** describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard area … .*

			N	S
A. Does the plan describe vulnerability in terms of the **types and numbers** of **existing** buildings, infrastructure, and critical facilities located in the identified hazard areas?	Tables 5-7, 5-8, 5-9	***Note: This information must be included, however a "Needs Improvement" score on this requirement will not preclude the plan from being approved by FEMA.***		
B. Does the plan describe vulnerability in terms of the **types and numbers** of **future** buildings, infrastructure, and critical facilities located in the identified hazard areas?	No.	***Note: This information must be included, however a "Needs Improvement" score on this requirement will not preclude the plan from being approved by FEMA.***		
		SUMMARY SCORE		

Assessing Vulnerability: Estimating Potential Losses

Requirement §201.6(c)(2)(ii)(B): *[The plan **should** describe vulnerability in terms of an] estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) of this section and a description of the methodology used to prepare the estimate … .*

Element	Location in the Plan	Reviewer's Comments	SCORE N	SCORE S
A. Does the plan estimate **potential dollar losses** to vulnerable structures?	Tables 5-7, 5-8, 5-9	***Note: This information must be included, however a "Needs Improvement" score on this requirement will not preclude the plan from being approved by FEMA.***		
B. Does the plan describe the **methodology** used to prepare the estimate?	Page 5-20	***Note: This information must be included, however a "Needs Improvement" score on this requirement will not preclude the plan from being approved by FEMA.***		
		SUMMARY SCORE		

Assessing Vulnerability: Analyzing Development Trends

Requirement §201.6(c)(2)(ii)(C): *[The plan **should** describe vulnerability in terms of] providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.*

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE N	SCORE S
A. Does the plan describe land uses and development trends?	Pages 5-25 and 5-26	***Note: This information must be included, however a "Needs Improvement" score on this requirement will not preclude the plan from being approved by FEMA.***		
		SUMMARY SCORE		

Multi-Jurisdictional Risk Assessment - ***Requirement §201.6(c)(2)(iii):*** *For multi-jurisdictional plans, the risk assessment **must** assess each jurisdiction's risks where they vary from the risks facing the entire planning area.*

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE N	SCORE S
A. Does the plan include a risk assessment for each participating jurisdiction as needed to reflect unique or varied risks?	N/A			
		SUMMARY SCORE		

MITIGATION STRATEGY: *§201.6(c)(3): The plan shall include a mitigation strategy that provides the jurisdiction'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.*

Local Hazard Mitigation Goals

Requirement §201.6(c)(3)(i): *[The hazard mitigation strategy **shall** include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.*

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE N	SCORE S
A Does the plan include a description of mitigation **goals** to reduce or avoid long-term vulnerabilities to the identified hazards? (**GOALS** are long-term; represent what the community wants to achieve, such as "eliminate flood damage"; and are based on the risk assessment findings.)	Pages 7-2 through 7-6			
		SUMMARY SCORE		

Identification and Analysis of Mitigation Actions

Requirement §201.6(c)(3)(ii): *[The mitigation strategy **shall** include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.*

Element	Location in the Plan	Reviewer's Comments	SCORE N	SCORE S
A. Does the plan identify and analyze a **comprehensive range** of specific mitigation actions and projects for each hazard?	Pages 7-2 through 7-6			
B Do the identified actions and projects address reducing the effects of hazards on **new** buildings and infrastructure?	Pages 7-2 through 7-6			
C. Do the identified actions and projects address reducing the effects of hazards on **existing** buildings and infrastructure?	Pages 7-2 through 7-6			
		SUMMARY SCORE		

Implementation of Mitigation Actions

Requirement: §201.6(c)(3)(iii): *[The mitigation strategy section **shall** include] an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization **shall** include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.*

Element	Location in the Plan	Reviewer's Comments	SCORE N	SCORE S
A. Does the mitigation strategy include how the actions are **prioritized**? (For example, is there a discussion of the process and criteria used?)	Page 7-7			
B. Does the mitigation strategy address how the actions will be **implemented and administered**? (For example, does it identify the responsible department, existing and potential resources, and timeframe?)	Table 7-1 Pages 7-8 and 7-9			
C. Does the prioritization process include an emphasis on the use of a **cost-benefit review** (see page 3-36 of *Multi-Hazard Mitigation Planning Guidance*) to maximize benefits?	Page 7-7 and Table 7-1 "Economic Justification" column			
		SUMMARY SCORE		

Multi-Jurisdictional Mitigation Actions

Requirement §201.6(c)(3)(iv): *For multi-jurisdictional plans, there **must** be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.*

Element	Location in the Plan (section or annex and page #)	Reviewer's Comments	SCORE N	SCORE S
A Does the plan include at least one identifiable **action item** for each jurisdiction requesting FEMA approval of the plan?	N/A			
		SUMMARY SCORE		

PLAN MAINTENANCE PROCESS

Monitoring, Evaluating, and Updating the Plan

Requirement §201.6(c)(4)(i): *[The plan maintenance process **shall** include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.*

Element	Location in the Plan	Reviewer's Comments	SCORE N	SCORE S
A. Does the plan describe the method and schedule for **monitoring** the plan? (For example, does it identify the party responsible for monitoring and include a schedule for reports, site visits, phone calls, and meetings?)	Pages 8-1 and 8-2			
B. Does the plan describe the method and schedule for **evaluating** the plan? (For example, does it identify the party responsible for evaluating the plan and include the criteria used to evaluate the plan?)	Pages 8-1 and 8-2			
C. Does the plan describe the method and schedule for **updating** the plan within the five-year cycle?	Pages 8-1 and 8-2			
		SUMMARY SCORE		

Incorporation into Existing Planning Mechanisms

Requirement §201.6(c)(4)(ii): *[The plan **shall** include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.*

			N	S
A. Does the plan identify other local planning mechanisms available for incorporating the requirements of the mitigation plan?	Pages 8-2 and 8-3			
B. Does the plan include a process by which the local government will incorporate the requirements in other plans, when appropriate?	Page 8-3			
		SUMMARY SCORE		

Continued Public Involvement

Requirement §201.6(c)(4)(iii): *[The plan maintenance process **shall** include a] discussion on how the community will continue public participation in the plan maintenance process.*

			N	S
A. Does the plan explain how **continued public participation** will be obtained? (For example, will there be public notices, an on-going mitigation plan committee, or annual review meetings with stakeholders?)	Page 8-3			
		SUMMARY SCORE		

Matrix A: Profiling Hazards

This matrix can assist FEMA and the State in scoring each hazard. Local jurisdictions may find the matrix useful to ensure that their plan addresses each natural hazard that can affect the jurisdiction. **Completing the matrix is not required**.

Note: First, check which hazards are identified in requirement §201.6(c)(2)(i). Then, place a checkmark in either the N or S box for each applicable hazard. An "N" for any element of any identified hazard will result in a "Needs Improvement" score for this requirement. List the hazard and its related shortcoming in the comments section of the Plan Review Crosswalk.

Hazard Type	Hazards Identified Per Requirement §201.6(c)(2)(i)	A. Location		B. Extent		C. Previous Occurrences		D. Probability of Future Events	
	Yes	N	S	N	S	N	S	N	S
Avalanche	☐	☐	☐	☐	☐	☐	☐	☐	☐
Coastal Erosion	☐	☐	☐	☐	☐	☐	☐	☐	☐
Coastal Storm	☐	☐	☐	☐	☐	☐	☐	☐	☐
Dam Failure	☐	☐	☐	☐	☐	☐	☐	☐	☐
Drought	☐	☐	☐	☐	☐	☐	☐	☐	☐
Earthquake	☐	☐	☐	☐	☐	☐	☐	☐	☐
Expansive Soils	☐	☐	☐	☐	☐	☐	☐	☐	☐
Extreme Heat	☐	☐	☐	☐	☐	☐	☐	☐	☐
Flood	☐	☐	☐	☐	☐	☐	☐	☐	☐
Hailstorm	☐	☐	☐	☐	☐	☐	☐	☐	☐
Hurricane	☐	☐	☐	☐	☐	☐	☐	☐	☐
Land Subsidence	☐	☐	☐	☐	☐	☐	☐	☐	☐
Landslide	☐	☐	☐	☐	☐	☐	☐	☐	☐
Severe Winter Storm	☐	☐	☐	☐	☐	☐	☐	☐	☐
Tornado	☐	☐	☐	☐	☐	☐	☐	☐	☐
Tsunami	☐	☐	☐	☐	☐	☐	☐	☐	☐
Volcano	☐	☐	☐	☐	☐	☐	☐	☐	☐
Wildfire	☐	☐	☐	☐	☐	☐	☐	☐	☐
Windstorm	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other _____	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other _____	☐	☐	☐	☐	☐	☐	☐	☐	☐
Other _____	☐	☐	☐	☐	☐	☐	☐	☐	☐

To check boxes, double click on the box and change the default value to "checked."

Legend:
§201.6(c)(2)(i) Profiling Hazards
A. Does the risk assessment identify the location (i.e., geographic area affected) of each hazard addressed in the plan?
B. Does the risk assessment identify the extent (i.e., magnitude or severity) of each hazard addressed in the plan?
C. Does the plan provide information on previous occurrences of each natural hazard addressed in the plan?
D. Does the plan include the probability of future events (i.e., chance of occurrence) for each hazard addressed in the plan?

Matrix B: Assessing Vulnerability

This matrix can assist FEMA and the State in scoring each hazard. Local jurisdictions may find the matrix useful to ensure that their plan addresses each requirement. **Completing the matrix is not required.**

Note: First, check which hazards are identified in requirement §201.6(c)(2)(i). Then, place a checkmark in either the N or S box for each applicable hazard. An "N" for any element of any identified hazard will result in a "Needs Improvement" score for this requirement. List the hazard and its related shortcoming in the comments section of the Plan Review Crosswalk.

Note: Receiving an N in the shaded columns will not preclude the plan from passing.

To check boxes, double click on the box and change the default value to "checked."

Hazard Type	Hazards Identified Per Requirement §201.6(c)(2)(i)	§201.6(c)(2)(ii) Assessing Vulnerability: Overview					§201.6(c)(2)(ii) Assessing Vulnerability: Identifying Structures					§201.6(c)(2)(ii) Assessing Vulnerability: Estimating Potential Losses			
		A. Overall Summary Description of Vulnerability		B. Hazard Impact			A. Types and Number of Existing Structures in Hazard Area (Estimate)		B. Types and Number of Future Structures in Hazard Area (Estimate)			A. Loss Estimate		B. Methodology	
	Yes	N	S	N	S		N	S	N	S		N	S	N	S
Avalanche	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Coastal Erosion	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Coastal Storm	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Dam Failure	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Drought	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Earthquake	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Expansive Soils	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Extreme Heat	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Flood	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Hailstorm	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Hurricane	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Land Subsidence	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Landslide	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Severe Winter Storm	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Tornado	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Tsunami	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Volcano	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Wildfire	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Windstorm	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Other _____	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Other _____	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐
Other _____	☐	☐	☐	☐	☐		☐	☐	☐	☐		☐	☐	☐	☐

Legend:

§201.6(c)(2)(ii) Assessing Vulnerability: Overview

A. Does the plan include an overall summary description of the jurisdiction's vulnerability to each hazard?

B. Does the plan address the impact of each hazard on the jurisdiction?

§201.6(c)(2)(ii)(A) Assessing Vulnerability: Identifying Structures

A. Does the plan describe vulnerability in terms of the types and numbers of existing buildings, infrastructure, and critical facilities located in the identified hazard areas?

B. Does the plan describe vulnerability in terms of the types and numbers of future buildings, infrastructure, and critical facilities located in the identified hazard areas?

§201.6(c)(2)(ii)(B) Assessing Vulnerability: Estimating Potential Losses

A. Does the plan estimate potential dollar losses to vulnerable structures?

B. Does the plan describe the methodology used to prepare the estimate?

Matrix C: Identification and Analysis of Mitigation Actions

This matrix can assist FEMA and the State in scoring each hazard. Local jurisdictions may find the matrix useful to ensure consideration of a range of actions for each hazard. **Completing the matrix is not required.**

Note: First, check which hazards are identified in requirement §201.6(c)(2)(i). Then, place a checkmark in either the N or S box for each applicable hazard. An "N" for any identified hazard will result in a "Needs Improvement" score for this requirement. List the hazard and its related shortcoming in the comments section of the Plan Review Crosswalk.

Hazard Type	Hazards Identified Per Requirement §201.6(c)(2)(i)	A. Comprehensive Range of Actions and Projects	
	Yes	N	S
Avalanche	☐	☐	☐
Coastal Erosion	☐	☐	☐
Coastal Storm	☐	☐	☐
Dam Failure	☐	☐	☐
Drought	☐	☐	☐
Earthquake	☐	☐	☐
Expansive Soils	☐	☐	☐
Extreme Heat	☐	☐	☐
Flood	☐	☐	☐
Hailstorm	☐	☐	☐
Hurricane	☐	☐	☐
Land Subsidence	☐	☐	☐
Landslide	☐	☐	☐
Severe Winter Storm	☐	☐	☐
Tornado	☐	☐	☐
Tsunami	☐	☐	☐
Volcano	☐	☐	☐
Wildfire	☐	☐	☐
Windstorm	☐	☐	☐
Other _____	☐	☐	☐
Other _____	☐	☐	☐
Other _____	☐	☐	☐

To check boxes, double click on the box and change the default value to "checked."

Legend:
§201.6(c)(3)(ii) Identification and Analysis of Mitigation Actions
A. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects for each hazard?