

**HESPERIA CITY COUNCIL  
PUBLIC SAFETY ADVISORY COMMITTEE**

**AGENDA**

Regular Meetings

2<sup>nd</sup> Tuesday

*January, April, July, and October*

**Date: July 12, 2011** (Regular Meeting)

**Time: 6:00 P.M.**

**COMMITTEE MEMBERS**

Chair Ella "Lee" Rogers

Vice Chair Joline Bell Hahn

Kim Jones

Leisa Lewis

Al Vogler

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Council Member Bill Holland,  
Council Liaison

Mike Podegracz, City Manager



**City of  
Hesperia**

**Council Chambers  
9700 Seventh Avenue  
Hesperia, CA 92345**

**Committee Secretary: (760) 947-1040**

**Agendas and Staff Reports are  
available on the City Website  
[www.cityofhesperia.us](http://www.cityofhesperia.us)**

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HEPHERIA CITY COUNCIL  
PUBLIC SAFETY ADVISORY COMMITTEE

AGENDA



City of  
Heperia



**NOTE:** In compliance with the Americans with Disability Act, if you need special assistance to participate in this meeting, please contact the City Clerk's Office at (760) 947-1007 or (760) 947-1056. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility.

JULY 12, 2011  
REGULAR MEETING

AGENDA  
HESPERIA CITY COUNCIL  
PUBLIC SAFETY COMMITTEE

**CALL TO ORDER**

6:00 p.m.

- A. Roll Call:  
Chair Rogers  
Vice Chair Hahn  
Member Jones  
Member Lewis  
Member Vogler
- B. Pledge of Allegiance to the Flag

**ITEMS FOR CONSIDERATION**

1. Approval of Minutes of regular meetings held on April 12, 2011
2. City of Hesperia Emergency Operation Status by Emergency Services Coordinator Brigit Bennington
3. Safety Element from the 2010 General Plan Update by Dave Reno, Principal Planner
4. Fire Department Quarterly/update report by Battalion Chief Chris Norton
5. Police Department Quarterly/update report by Captain Steve Higgins

**PUBLIC COMMENTS**

*Please complete a "Comment Card" and give it to the Recording Secretary. Comments are limited to three (3) minutes per individual. State your name and address for the record before making your presentation. This request is optional, but very helpful for the follow-up process.*

*Under the provisions of the Brown Act, Members are prohibited from taking action on oral requests. However, Members may respond briefly or refer the communication to staff.*

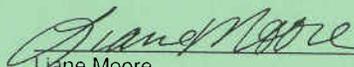
**COMMITTEE MEMBER AND STAFF COMMENTS**

*Committee Members may make comments of general interest and/or direct staff to add specific items to the next agenda.*

**ADJOURNMENT**

The Chair will adjourn the meeting of the Committee to the next regularly scheduled meeting of October 11, 2011

I, Liane Moore, Recording Secretary of the City of Hesperia, California do hereby certify that I caused to be posted the foregoing agenda on Wednesday, July 6, 2011, at 6:00 p.m. pursuant to California Government Code §54954.2.



Liane Moore,  
Recording Secretary

**HESPERIA CITY COUNCIL PUBLIC SAFETY COMMITTEE  
REGULAR MEETING  
APRIL 12, 2011  
MINUTES**

The Regular Meeting of the City Council Public Safety Committee was called to order at 6:00 p.m. by Chair Rogers in the Council Chambers, 9700 Seventh Avenue, Hesperia, California.

**CALL TO ORDER**

A. Roll Call:

Present: Chair Rogers  
Vice Chari Hahn  
Member Jones  
Member Vogler

Absent: Member Lewis

B. Pledge of Allegiance to the Flag

**ITEMS FOR CONSIDERATION**

**1. Approval of Minutes of the Regular Meeting held on January 11, 2011**

Motion by Vice Chair Hahn to approve the Minutes of January 11, 2011 as submitted/amended, seconded by Member Jones, and passed 4-0-1 with Member Lewis not in attendance.

**2. Emergency Capital Improvement Program – Scott Priester, Director of Development Services**

Provided handouts on the Capital Improvement Program update and proposals; the Public Safety Needs Report 2006; and updates on the City Fire Stations.  
Regarding flood control; San Bernardino County Flood Control has advised they are looking into creating a basin upstream from Aqueduct/Antelope Valley Channel

**3. Fire Department Quarterly Report – Battalion Chief Chris Norton**

Provided handout with quarterly statistics  
Hospitals very busy, ambulances held while waiting for beds or doctors to become available.  
Carpet is a safety hazard to personnel at Station 302, per Scott Priester there are work programs and work-release crews that could do the work of ripping up the carpet and getting rid of it, but they don't want the fire personnel doing it.  
Fire personnel Welsh and McClintock represented the Fire Department during planning of 305 and 301

**4. Police Department Quarterly Report – Lieutenant Mike Stansell**

Captain Higgins at the FBI Academy until 6/10/11  
City Code Enforcement moved into the Police Department building  
There are five vacant deputy positions, and three employees on modified duty due to injuries.  
There is one sergeant and four deputies on duty 24/7  
Graffiti task force, identified and arrested person responsible for over \$30,000 in damage, Public Works has seen a 75% reduction in graffiti throughout the city. Gang team, Graffiti Task Force, and School Police working together on graffiti problems  
Police Activities League (PAL) program has up to 75 juveniles involved, Sergeant Schilling, Sergeant Savage, and Deputy Farrar work with the kids as well as numerous other volunteers. PAL is seeking funds to assist in covering regular expenses. There is a golf tournament/fundraiser to help the program.

## PUBLIC COMMENTS

None

## COMMITTEE MEMBERS AND STAFF COMMENTS

Member Jones – Thanks to the Police, Fire, and City Council, thanks for keeping the support/assistance animals

Member Vogler – Issue on Main Street with road rage, synchronization of signals up and down Main Street might help.

Vice Chair Hahn – Issue of major earthquake, how are we going to provide water to citizens without electricity  
Scott Priester – The City has generators, looked at issues and worked out a system to operate pumps, part of the Master plan, it has been addressed and we will have the ability to utilize the water in the tanks.

Chair Rogers – Regarding the possibility of fires going through the area, with the population growth, how about a snapshot of evacuation areas printed on the Quarterly news letter sent to the residents to let public know where to go and what to do in a major emergency

BC Norton – Evacuation areas are determined at the time of the emergency, no predictable areas due to wind and areas being affected. Typically the Fire and Police personnel direct residents for evacuation.

Scott Priester – There is also the Reverse 911 system to let residents know what is recommended for them to do.

Member Jones – CERT training was very good, recommends it to anyone, and thanks Scott Priester

Chair Rogers – Spots have been reserved for all committee members in the June CERT training

Chair Rogers – Request to City Council to change our meetings from quarterly to monthly or by-monthly

Vice Chair Hahn – By-monthly meetings would be good, Code Enforcement could alternate with Fire and Police Departments for info, seems like a lot of time in-between meetings and we would serve the City better if we met more often.

Chair Rogers – Thanks for all the time put into the information given

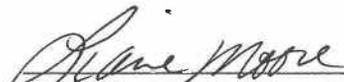
For the next agenda:

Vice Chair Hahn would like to know what is happening with the problems at Fire Station 302

Chair Rogers would like a proposal for a flood basin

## ADJOURNMENT

Chair Rogers adjourned the meeting at 7:38 p.m. to a Regular Meeting on Tuesday, July 12, 2011 at 6:00 p.m.

  
\_\_\_\_\_  
Liane Moore,  
Recording Secretary

City of Hesperia  
STAFF REPORT



**DATE:** July 12, 2011  
**TO:** Public Safety Advisory Committee  
**FROM:** Scott Priester, Director of Development Services  
Dave Reno, AICP, Principal Planner  
**SUBJECT:** General Plan Safety Element

In response to the Committee's request for information, Development Services staff will provide an update to the Public Safety Advisory Committee on the Safety Element of the General Plan. The State requires every city and county to have a General Plan and the plan must contain seven required elements (Land Use, Circulation, Housing, Open Space, Noise, Conservation and Safety).

The purpose of the Safety Element is to provide the public, decision makers and City staff a guide to set policy that will help create a community that is minimally at risk from natural hazards, and that responds quickly, effectively and efficiently to such hazards. To this end, the Safety Element 1) identifies the potential hazards that can significantly impact the City of Hesperia; 2) provides policies that if implemented, can minimize the potential risk to residents; 3) provides policies that can reduce losses to property resulting from a given disaster; and 4) identifies procedures that the City can use to respond to emergency situations.

Section 65302 (g) of the Government Code requires that the Safety Element address seismic, geologic, flooding and fire hazards. In addition, the element also discusses hazardous materials and identifies potential shelters and evacuation routes.

Seismic and geologic hazards are based on the City's proximity to the San Andreas Fault, among other faults. Exhibit SF-1 shows areas subject to liquefaction and landslides. Applicable policies include construction according to current building codes, geotechnical studies for new development and city capital improvement projects and to encourage seismic retrofitting of unreinforced structures.

Flood hazards are based on the City proximity to the Mojave River, and from natural drainage courses that traverse the City in a northeasterly direction. Since Hesperia is subject to intense desert thunderstorms, runoff may buildup and flow uncontrolled across developed properties. Applicable policies include requirements for on-site retention or detention basins for new development, participation in the National Flood Insurance Program, construction and maintenance of storm drain systems along the City's major drainage courses, and regulation of development within Federal Emergency Management Agency (FEMA) designated areas.

Fire hazards are defined by the City's interface with wild land areas with flammable vegetation including desert scrub, creosote bush shrub and succulent scrub, located primarily south of the City in Summit Valley. Several historical wildfires have occurred between 1930 and 2008. Exhibit SF-3 shows the Very High Fire Hazard Severity zones. Applicable policies include construction to current fire and building codes, weed abatement and maintenance of clear areas around buildings, requiring automatic fire sprinklers, retrofitting older structures and buildings,

and training of City staff and residents in the Community Emergency Response Team (CERT) program.

Hazardous Materials are used every day in industrial, commercial and medical uses. The primary concern discussed in the Safety Element is the effects of exposure to the public from these substances. Applicable policies include coordination with the County Fire Department to maintain response teams for any accident involving hazardous materials, to support the use of lower-risk alternatives where possible and to continue support for programs that collect and recycle wastes such as motor oil and paint, including the City's drop-off facility on Lemon Street.

The Safety Element includes a general discussion of disaster preparedness measures and lists potential locations that may be utilized as emergency shelters, including schools, parks and churches. (Table SF-3) Exhibit SF-4 shows the City's fire stations, schools, parks and potential evacuation routes. Applicable policies include maintenance of a Local Hazard Mitigation Plan, continuing existing mutual aid agreements with adjacent jurisdictions, and participation in regional and local emergency exercises, including the Great California Shake-out, held in October.

The Safety Element has been provided under separate cover and is also available on the City's website, along with the remainder of the General Plan. Staff will be available to answer any questions.

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# SAFETY ELEMENT

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# SAFETY

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## PURPOSE STATEMENT

The Safety Element seeks to protect life and property from impacts associated with natural and man-made disasters. To that end, the Safety Element: 1) identifies the potential hazards that can significantly impact the City of Hesperia, 2) provides policies that if implemented can minimize the potential risk to residents, workers and visitors; 3) provides policies that if implemented can reduce the losses to property resulting from a given disaster; and 4) identifies procedures that the City can use to respond to emergency situations. Investing in public safety helps make the community more sustainable, viable and prosperous.

The purpose of the Safety Element is to provide the public, decision makers and City staff a guide to set policy that will help create a community that is minimally at risk from natural hazards, and that responds quickly, effectively and efficiently to such hazards. This involves the design, development and maintenance of neighborhoods, commercial areas and industrial districts as safe places to live, shop, work, and interact. It also involves the development and maintenance of essential facilities that remain fully functional following a disaster. This Element identifies a variety of disaster preparedness, response, and recovery systems that can be used to reduce loss of life, injury, damage to private property and infrastructure, and economic losses and social dislocation, and in the process promote the sustainability of the City of Hesperia.



**SAFETY**

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## **BACKGROUND**

### **RELATIONSHIP TO STATE LAW**

Section 65302 of the State of California Government Code identifies seven mandatory elements in a General Plan, including Safety. Section 65302 (g) defines the hazards that need to be identified and addressed.

These include:

- seismic hazards, including strong ground shaking, surface fault rupture, and seismically induced ground failure, such as liquefaction and slope failures;
- geologic hazards, including slope instability due to non-seismic causes, and subsidence;
- flooding hazards, including storm-induced flooding, inundation resulting from the failure of water reservoirs, dams, and levees, and areas vulnerable to flooding after wildfires; and
- fire hazards, including both wildland fires and structure fires in the urban area.

All of these hazards are discussed in this Element, in addition to hazardous materials. This Element also discusses potential shelters and evacuation routes.

### **RELATIONSHIP TO OTHER ELEMENTS**

The Safety Element is written in conjunction with, and is designed to work together with all other elements of the General Plan, most notably the Housing, Conservation, and Open Space elements. One of the goals of the Open Space Element is to identify and preserve natural open space in order to protect sensitive environments and preserve amenities such as washes, bluffs, Joshua tree forests, or juniper woodlands. The washes,



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bluffs and other similar geomorphic features are the result of active processes, such as flooding, seismic uplift, and slope failure, that have the potential to cause damage to the built environment and are therefore best left either undeveloped, or developed following strict design guidelines. These issues are discussed in the Safety Element. The goals of the Conservation Element echo this concern by identifying some of these safety constraints as resources that merit conservation.

Several measures have been taken to ensure consistency, such as the inclusion of one map land use system. Areas designated by the General Plan/Land Use map as open space are so designated based upon criteria established by all elements, including the Safety, Open Space and Conservation Elements.

Table SF-1 identifies the issues discussed in this Safety Element and identifies other elements which include discussions which also address these issues.

**TABLE SF-1  
COORDINATION WITH OTHER ELEMENTS**

ISSUES	Circulation	Conservation	Housing	Land Use	Noise	Open Space
Safety						
Seismic and Geologic Hazards		X		X		X
Flooding Hazards	X	X		X		X
Hazardous Materials	X			X		
Disaster Preparedness, Response, and Recovery	X	X		X		



## **ISSUES**

### **SEISMIC AND GEOLOGIC HAZARDS**

The physiographic setting and geologic history of the Hesperia area are important because they control to a great extent the geologic hazards, as well as the natural resources, within the city. For example, the city receives great quantities of runoff during storms, flowing through unimproved drainage channels, which can lead to flooding problems within the developed areas. Regional tectonic subsidence along the valley floor, concurrent with uplift of the adjacent mountains, is responsible to a great extent for the rapid deposition of poorly consolidated alluvium that is susceptible to settlement and consolidation. On the other hand, the deep alluvium-filled basin, which is bounded by relatively impermeable rocks and faults, provides a natural underground reservoir (aquifer) for groundwater, the city's source for all its domestic water.

Hesperia lies across the boundary of two very distinct geomorphic provinces, each having a unique landscape that reflects the geologic, seismic and climatic processes that have impacted this region in the last few million years. The very southern edge of the city encroaches into the Transverse Ranges Province, a region whose characteristic features are a series of east-west trending ranges that include the San Gabriel and San Bernardino Mountains. The ranges are called "transverse" because they lie at an oblique angle to the prominent northwesterly grain of the southern California landscape, a trend that is aligned with the San Andreas fault. The Transverse Ranges are being intensely compressed by active tectonic forces, therefore they are some of the fastest rising (and fastest eroding) mountains in the world. The rocks that form these mountains have been sheared and fractured under the strain of tectonic movement.



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North of the mountains, the greater part of Hesperia lies within the Mojave Desert Province, an arid region of overlapping alluvial fans, desert plains, dry lakebeds, and scattered mountain ranges. Hesperia is underlain by the informally named Victorville Fan, which is composed of sediments ranging in age from early Pleistocene to Holocene (approximately 1 million years to less than 10,000 years old), shed primarily from the San Gabriel Mountains. Their composition reflects that of the rocks eroded by the various streams that enter the valley from the south. Deposition is still ongoing, with the youngest alluvium filling drainage channels and the Mojave River floodplain.

Faults in the Mojave Desert Province have a predominant northwesterly trend; however, some faults aligned with the Transverse Ranges are also present. The east-west trending Garlock fault defines the northern boundary of the province, whereas the northwest-trending San Andreas fault roughly defines its western boundary. Hesperia is near the San Andreas fault and several other seismically active earthquake sources, including the North Frontal, Cleghorn, Cucamonga, Helendale, and San Jacinto faults. All of these have the potential to generate moderate to large earthquakes that will shake Hesperia. The North Frontal fault, given its location relative to Hesperia, has the potential to cause the most severe shaking in the city; loss estimation modeling indicates that a maximum magnitude 7.2 earthquake on this fault would be a worst-case scenario for the city.

In addition to ground shaking, earthquakes may generate surface fault rupture, and secondary ground failure, either in the form of liquefaction or slope failure. [Secondary effects of ground shaking, such as catastrophic failure of reservoirs, fires, and spills of hazardous materials are discussed in the flooding, fire and hazardous materials sections, respectively.]

Fault rupture refers to offset of the ground surface along a rupturing fault during an earthquake. Structures that straddle a rupturing fault generally do not perform well. Thus, the Alquist-Priolo Earthquake Fault Zoning Act prohibits the construction of new habitable structures astride an active fault, and requires that geologic studies to locate and evaluate whether the fault has moved in the Holocene be conducted prior to development. The State geologist has identified (zoned) several faults in California for which these studies are required, but there are several other active faults that have not yet been zoned that should be evaluated in the same way. There



are no faults zoned by the State of California within the Hesperia General Plan area. The closest zoned faults include the North Frontal approximately 2 miles east of Hesperia, and the San Andreas, located at its closest approximately 4 miles to the southwest. However, some of the faults on the east side of Summit Valley, within and just south of the General Plan area may be active (see Exhibit SF-1). Similarly, the east- to northeast-trending faults that extend across Hesperia's southeastern corner may be transferring strain between the San Andreas and the North Frontal fault. Critical facilities should not be placed across the trace of any of these faults without first conducting site-specific studies to evaluate the location and activity of the fault in question.

Liquefaction is a secondary effect of seismic shaking that can cause various types of ground failure. Soils that liquefy lose the ability to support structures; buildings may sink or tilt, with the potential for extensive structural damage. For liquefaction to occur, three conditions must be met: 1) loose, recently deposited sediments typically sandy in composition; 2) shallow groundwater, typically within 50 feet of the ground surface; and 3) seismic shaking with ground accelerations over 0.2g. Geologically young, loose, unconsolidated sediments occur throughout the Hesperia area, but shallow groundwater occurs only within the Mojave River floodplain, where water at depths of less than 30 feet has been recorded. Ground shaking of 0.2g and relatively long duration can be expected in the Hesperia area as a result of an earthquake on any of several faults in the region. Based on this information, the Mojave River floodplain has been identified as a liquefaction-susceptible area (see Exhibit SF-1). Liquefaction-related lateral spreads can occur adjacent to stream channels and deep washes that provide a free face along which the liquefied mass of soil fails. Lateral spreads can cause extensive damage to pipelines, utilities, bridges, roads and other structures.

Seismic shaking can also cause loose, geologically young deposits to become more tightly packed, resulting in a reduction of the soil column, and differential settlement at the ground surface. Several areas in Hesperia are underlain by unconsolidated, young alluvial deposits and artificial fill that may be susceptible to settlement. Geotechnical studies prior to development should address this hazard on a site-specific basis.



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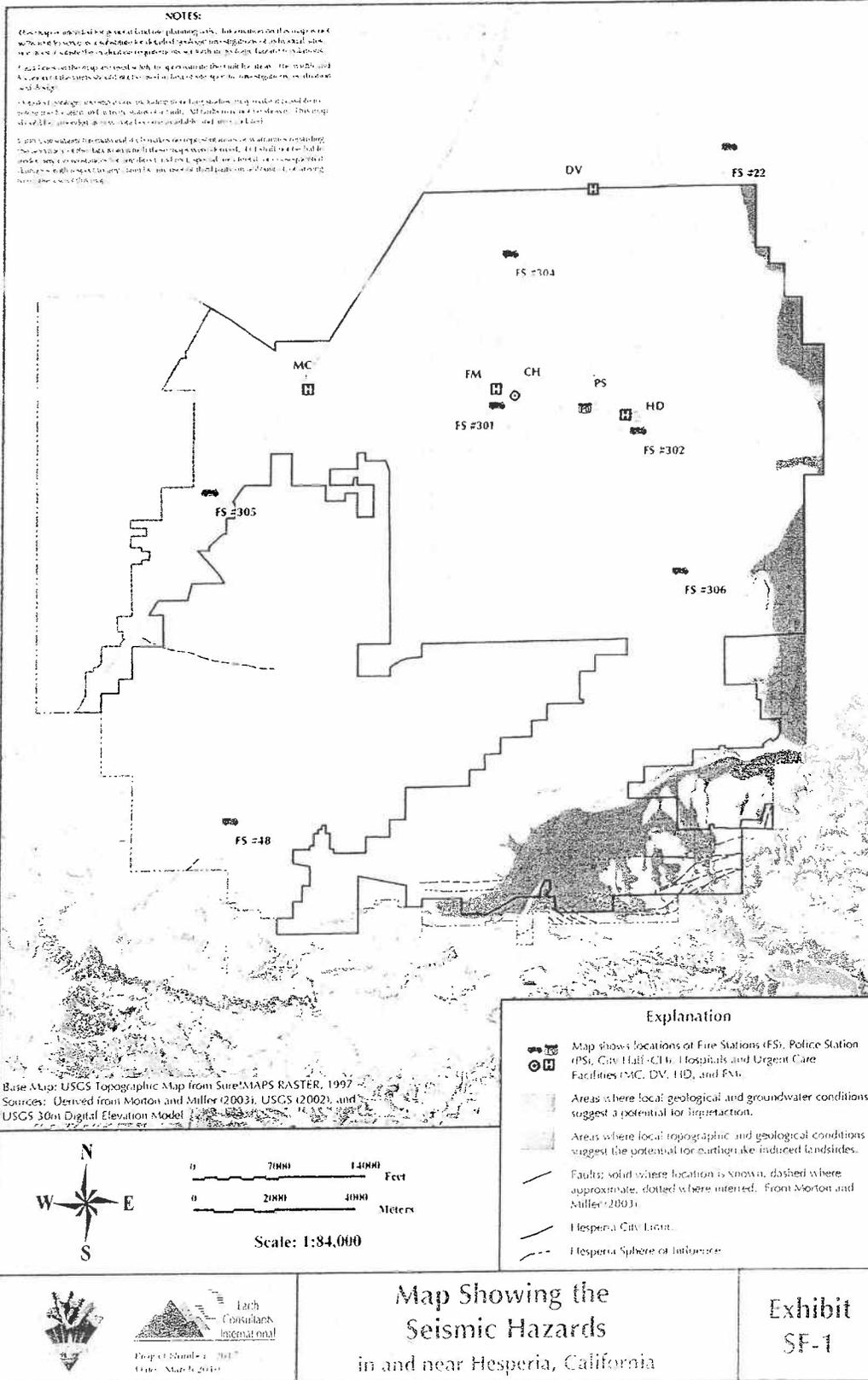
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Seismically induced slope failure is a common secondary effect of seismic shaking. Although most of Hesperia is on relatively level to gently sloping terrain, there are a few natural slopes in the city that could be vulnerable to this hazard (see Exhibit SF-1).

The hazards of sidehill fill deformation, ridgetop fissuring and shattering, and seiching may occur locally only in a few areas of Hesperia. Sidehill deformation could potentially occur along some of the approaches to the bridges that extend across the I-15 or the Mojave River, where minor settlement of the bridge embankment could result in a step-up of a few inches to the actual bridge. Failure of sidehill fills could also occur locally in the foothills of the San Bernardino Mountains, on lots where grading involved the placement of fill to make a level building pad. Ridgetop shattering may occur locally in the southern part of Hesperia, in the San Bernardino Mountains and in the foothills at the base of the mountains, to the south and east of Summit Valley Road. Seiches due to seismic shaking could occur in Silverwood Lake, Hesperia Lake, and any recharge basin in the city, if filled with water at the time of the earthquake. In unlined lakes and basins, sloshing of water against the basin sides could result in erosion and even some surficial slope failures. Water in swimming pools is also known to slosh during earthquakes, although in most cases, the sloshing water does not cause any significant damage. Given its distance from the ocean, Hesperia does not have a tsunami hazard.



### EXHIBIT SF-1 SEISMIC HAZARDS





Although the shaking from an earthquake can be upsetting or terrifying on its own, it is the effect of this shaking on the built environment that makes earthquakes deadly. The interaction between earthquake-induced ground motion and human-made structures is complex: some of the governing factors include the structure's height, construction quality, stiffness, architectural design, condition, and age. Great advances in earthquake engineering have been made in the last about 15 years, in great part as a result of the lessons learned from the 1994 Northridge, California, 1995 Kobe, Japan, 1999 Izmit, Turkey, and 1999 Chi-Chi, Taiwan earthquakes. These advances are in great part reflected in the most recent building codes, and thus, newer structures built to these codes are theoretically stronger and more likely to survive an earthquake. However, the main purpose of building codes is to prevent structures from collapsing; significant damage that may make a structure uninhabitable following a large earthquake is possible. Furthermore, building codes are not retroactive. This is reflected in the loss estimation analyses conducted for this study that indicate that up to 20% of the buildings in the Hesperia area could be at least moderately damaged by an earthquake on the North Frontal fault. Therefore, comprehensive hazard mitigation programs that include the retrofitting and rehabilitation of older, weak structures are important to significantly reduce the potential scope of an earthquake's effects and avoid disaster.



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The following Goal and Implementation Policies aim to reduce the effects of earthquakes and geologic hazards in the city of Hesperia:

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Goal: SF-1	<b>Minimize injury, loss of life, property damage and economic and social disruption caused by seismic shaking and other earthquake-induced hazards, and by geologic hazards such as slope instability, compressible and collapsible soils, and subsidence.</b>
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Implementation Policy: SF-1.1	Require that all new habitable structures be designed and built in accordance with the most recent California Building Code adopted by the City, including the provisions regarding lateral forces and grading.
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Implementation Policy: SF-1.2	Require all discretionary development proposals, as well as capital improvement projects in the City to conduct, as a condition of approval, geotechnical and engineering geological investigations, prepared by State-certified professionals (geotechnical engineers and engineering geologists, as appropriate) following the most recent guidelines by the California Geological Survey and similar organizations, that address, at a minimum, the site-specific seismic and geologic hazards identified in the Technical Background Report. These reports shall provide mitigation measures to reduce those hazards identified at a site to an acceptable level. Recent reports completed for adjacent projects may be used if they meet the standards described above, and the project proponents receives approval from the City's Building Department to rely on previously obtained data from an adjacent lot.
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**Implementation Policy: SF-1.3** City Staff or City representatives will conduct routine inspection of grading operations to ensure site safety and compliance with approved plans and specifications.

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**Implementation Policy: SF-1.4** City Staff that review geotechnical, geological and structural reports submitted by development applicants, and that review grading operations, shall have the necessary professional credentials and certifications within their area of expertise to conduct these reviews.



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**Implementation Policy: SF-1.5** Liquefaction assessment studies shall be conducted as a condition of approval for all projects proposed in areas identified as potentially susceptible to liquefaction (see the Technical Background Report). The studies shall be conducted in accordance with the California Geological Survey's Special Publication 117: Guidelines for Evaluating and Mitigating Seismic Hazards in California (2008 or more recent version), and the Earthquake Engineering Research Center's Report No. EERC-2003-06 (or more recent version): Recent Advances in Soil Liquefaction Engineering.



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**Implementation Policy: SF-1.6** If and when the California Geological Survey issues a Seismic Hazards Zonation Map that includes the City, the Planning and Building Departments will adopt this map as a replacement for the Seismic Hazards Map that is currently part of the Technical Background Report. Similarly, if new or revised Alquist-Priolo Earthquake Fault Zone maps that include the City or its Sphere are issued, these maps will be adopted and enforced in conformance with the requirements of the Alquist-Priolo Earthquake Fault Zone Act.

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## SAFETY

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Implementation  
Policy: SF-1.7

If a critical facility is proposed across the trace of any of the secondary faults mapped within the City or its Sphere, the City's Building Department shall require, as a condition of approval, that geological studies to assess the location and recency of activity of the fault be conducted. These studies shall be conducted at the level of detail required by the California Geological Survey for fault studies in Alquist-Priolo earthquake fault zones (following the guidelines in California Geological Survey's Note 49). Critical facilities include fire and police stations; City communication centers; hospitals, schools, pre-schools, nursing homes and other limited-mobility or high-occupancy populations; electrical substations and towers, water reservoirs, high-pressure or large-diameter pipelines, and bridges or other key transportation structures.

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Implementation  
Policy: SF-1.8

The City's Building Department will encourage owners of potentially hazardous buildings, including pre-1952 wood-frame structures, concrete tilt-ups, pre-1971 reinforced masonry, soft-story structures, and the one unreinforced masonry building, to assess the seismic vulnerability of their structures and conduct seismic retrofitting as necessary to improve the buildings' resistance to seismic shaking.

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Implementation  
Policy: SF-1.9

The City shall develop and make available to all residents and businesses literature on hazard prevention and disaster response, including information on how to earthquake-proof residences and places of business, and information on what to do before, during and after an earthquake. Reminders should be issued periodically to encourage the review and renewal of earthquake-preparedness kits and other emergency preparedness materials and procedures.

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## SAFETY

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Implementation  
Policy: SF-1.10

The Public Works Department will encourage the City's utility service providers to continue upgrading their facilities and infrastructure in Hesperia, to improve their survivability in the event of an earthquake in the area. The aboveground water storage tanks will be evaluated to assess their potential inundation hazard in the event of catastrophic failure, and those not yet seismically retrofitted will be fitted with shut-off valves, flexible fittings and/or other seismic safeguards as appropriate and in accordance with the most recent water tank design guidelines.

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 *Sustainable Policy*



## SAFETY

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### FLOODING HAZARDS

Similarly to earthquakes, floods are natural and recurrent events that generally do not pose a hazard when they occur in an undeveloped area; it is only when floods interact with the built environment, typically in the form of structures built on the floodplain, where they obstruct floodwaters, that they become hazardous. Unfortunately, as development in floodplains has increased, the average annual losses due to flooding have steadily increased.

Like most of southern California, Hesperia is subject to unpredictable seasonal rainfall. Every few years, the region is subjected to periods of intense and sustained precipitation. Most of the flooding occurs in the numerous washes, natural drainage courses, drainage easements, and floodways. Construction of the Mojave Forks Dam in 1971 greatly reduced the impact of flooding along the Mojave River, although a few parcels adjacent to the river are still at risk. Most of Hesperia is located on alluvial fans, relatively flat to sloping areas covered with sediment deposited by shallow, intermittent streams that spread out away from their source in the mountains to the south. The historical and geological record show that alluvial fan flooding is unpredictable, and floodwaters can travel at dangerously high speeds, be highly erosive, and can carry large amounts of sediment and other debris. These characteristics make it difficult to assess the flood risk and develop reliable mitigations for alluvial fans.

Hesperia has participated in the National Flood Insurance Program since 1989. The extent of flooding in the Mojave River, Antelope Wash, the Oro Grande Wash and the Summit Valley area has been analyzed through Flood Insurance Studies, but the entire Hesperia area has not been studied, and the flood zones are incomplete (see Exhibit SF-2). Inundation due to a 100-year flood (a flood that has a 1-percent probability of being equaled or exceeded in any given year) can occur along the Mojave River, Antelope Valley Wash and Summit Valley. Several structures in the Antelope Valley Wash area are located within this zone. In the Summit Valley area, most homes are above the flood zone, but access to these homes can be cut off during severe flooding of the West Fork of the Mojave River. Highways 138 and 173, and several major roadways, including I Avenue, Rock Springs Road and Ranchero Road extend across these 100-year flood zones. Federally subsidized flood insurance is available to all



Hesperia residents. Owners of all structures with the 100-year flood zone are required to purchase and maintain flood insurance as a condition of receiving a federally related mortgage or home equity loan on that structure. Residents outside the 100-year flood zone but in areas of recurrent flooding should consider flood insurance also.

Development in the Hesperia area began gradually and in a piecemeal fashion, without the benefit of a planned drainage network. Development occurred with only minor alterations to the natural topography. As a result, natural drainage courses meander through developed areas, and most streets follow the natural contours of the land, often without culverts or bridges across drainage channels. Underground pipelines, culverts, bridges, and basins are present, but are not common. This leads to localized flooding, road closures, erosion damage, and sedimentation during and following strong storms, particularly if the ground is already saturated. More recent developments, since the City's incorporation, include on-site retention basins and other engineered structures, as needed. Furthermore, in the last decade, the City has constructed several drainage facilities, including portions of the H-01, G-01, D-02, D-01-02 and A-01 lines that drain several portions of the city (for additional information regarding these structures, refer to the Background Report). Asphalt berms along several roadways control surface flows, and a nearly two-mile long channel with levees affords some protection to the homes near the bottom of the Antelope Valley Wash.

Flood losses in other parts of the city are caused by structures that obstruct runoff. The bermed or elevated rail lines, for example, pond water on the upstream side. The California Aqueduct has overchutes and drop inlets where it crosses the larger natural drainages, but these are sometimes inadequate, and the smaller drainages may be blocked altogether. The cumulative effect of obstructions in flood hazard areas can lead to increased flood heights and velocities. Maintenance of the numerous natural drainages is also challenging, since many channels meander through private properties. The City has planned additional improvements to the City's drainage infrastructure, including several new storm drains and the Ranchero Road Grade Separation Project. This project will not only significantly improve east-west travel across the city, but will elevate the road where it crosses Antelope Valley Wash, thereby reducing the potential for flood-induced road closures.



## SAFETY

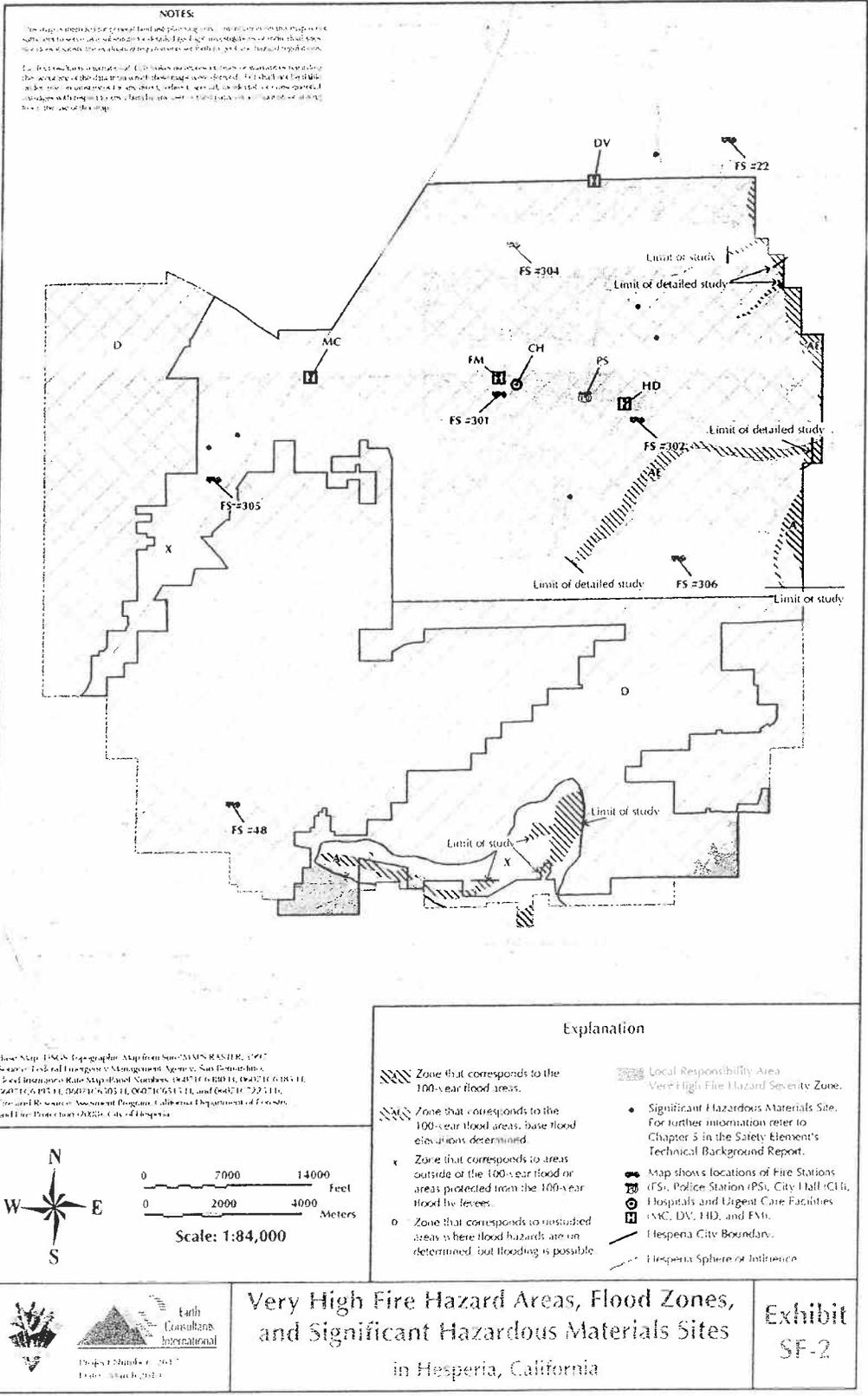
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Seismically induced inundation refers to flooding that results when water retention structures, such as dams, fail due to an earthquake. There are three dams near Hesperia that can inundate portions of the city should they fail catastrophically. These are the Mojave Forks Dam, Cedar Springs Dam, and Lake Arrowhead Dam. Water released by the Mojave Forks Dam would be confined to the Mojave River bed, the mouth of Antelope Valley Wash channel, and several other smaller tributaries. Water released by the Cedar Springs Dam would flood a significant portion of eastern Summit Valley, an area for the most part presently undeveloped, except for Highway 173. Water from Lake Arrowhead Dam would most likely be contained within the Mojave Forks reservoir. Inundation in a smaller scale can also occur if an aboveground water storage tank suffers damage as a result of ground shaking, releasing the water stored therein. Flexible joints at the inlet/outlet connections, in addition to bracing and baffling, can help mitigate the damage resulting from water sloshing inside the tank. Nine of the water tanks in the city currently meet the latest standards in water tank design; the remaining eight need to have their inlet connections retrofitted. Maintaining the structural integrity of these water tanks during an earthquake is important not only to provide water to residents, but also to fight any fires that may occur as a result of the earthquake. This is especially important given that an earthquake could damage the California Aqueduct and the groundwater wells in the region.

In order to reduce the impacts of flooding, the City will act upon the following goal and implementation policies:



**EXHIBIT SF-2  
HIGH FIRE HAZARD AREAS, FLOOD ZONES,  
AND SIGNIFICANT HAZARDOUS MATERIALS SITES**





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**Goal: SF-2**      **Minimize injury, loss of life, property damage and economic and social disruption caused by flooding and inundation hazards.**

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**Implementation Policy: SF-2.1**      The City shall continue enforcing the City's Municipal Code provisions for flood hazard reduction (Title 8: Safety, Chapter 8.28: Flood Hazard Protection and Regulations). This code, which applies to new construction and existing projects undergoing substantial improvements, provides constructions standards that address the major causes of flood damage, and includes provisions for anchoring, placement of utilities, raising floor elevations, using flood-resistant construction materials, and other methods to reduce flood damage.

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**Implementation Policy: SF-2.2**      The City will require that new discretionary development proposals include, as a condition of approval, hydrological studies prepared by a State-certified engineer with expertise in this area, that assess the impact that the new development will have on the flooding potential of existing development down-gradient. The studies shall provide mitigation measures to reduce this impact to an acceptable level. Single-family residences on existing lots shall be exempt.

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**Implementation Policy: SF-2.3**      The City shall continue participation in the National Flood Insurance Program and require that all owners of properties located within the 100-year floodplain (Zones A and AE), and repeat-flood properties in Zone X purchase and keep flood insurance for those properties.

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Implementation  
Policy: SF-2.4

The City will continue to participate in the Storm Ready Program with the National Weather Service, including the monitoring of precipitation and snow levels on the mountains to the south, providing storm watches and warnings in real-time, and issuing evacuation notices for affected neighborhoods in a timely manner, such as with a citizen notification or similar system.

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Implementation  
Policy: SF-2.5

The City will not permit any new facilities that use or store hazardous materials in quantities that would place them in the State's TRI or SQG databases to be located in the flood zone (Zones A, AE, and X), unless all standards of elevation, anchoring and flood proofing have been implemented to the satisfaction of the City's Building Department and the San Bernardino County Fire Department. The hazardous materials shall be stored in watertight containers that are not capable of floating or similar flood-proof receptacles or tanks.

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Implementation  
Policy: SF-2.6

The City will require all essential and critical facilities (including but not limited to essential City offices and buildings, medical facilities, schools, child care centers, and nursing homes) in or within 200 feet of Flood Zones A, AE and X, or the dam inundation pathways, to develop disaster response and evacuation plans that address the actions that will be taken in the event of flooding or inundation due to catastrophic failure of a dam.

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Implementation  
Policy: SF-2.7

The City will regulate development in drainages, especially in Flood Zones A and AE, pursuant to FEMA regulations.

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Implementation Policy: SF-2.8

The City will continue to maintain, and improve where needed, the storm drain systems, with an emphasis on those areas of the City that flood repeatedly. This entails maintaining and regularly cleaning the storm drains and other flood-control structures in low-lying areas, as necessary, such that floodwaters can be effectively conveyed away from structures.



Implementation Policy: SF-2.9

The City will identify repetitive flood properties in the City and develop feasible mitigation options for these sites. Funding to implement the mitigation measures may be available through FEMA's Hazard Mitigation Grant and Flood Mitigation Assistance Programs and their Pre-disaster Mitigation Program.



Implementation Policy: SF-2.10

The City will encourage the development of areas in the floodplains as parks, nature trails, equestrian parks, golf courses, or other types of recreational facilities that can withstand periodic inundation, and will offer incentives to developers to retain these areas as open space.

 Sustainable Policy

## FIRE HAZARDS

Wildfires are a necessary part of the natural ecosystem in southern California, but they become a hazard when they extend out of control into developed areas, with a resultant loss of property, and sometimes, unfortunately, injuries or loss of life. The wildfire risk in the United States has increased in the last few decades with the increasing encroachment of residences and other structures into the wildland environment, and the increasingly larger number of people living and playing in wildland areas.

Hesperia is located in the lower Mojave section of the Southeastern Deserts Bioregion. The predominant vegetation assemblages in this area



## SAFETY

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include desert shrub, creosote bush shrub and succulent shrub. Other important vegetation types include Joshua Tree woodland, shad-scale scrub, blackbrush scrub, and desert scrub-steppe. About one-third of the desert floor in the Mojave section is devoid of vegetation, limiting the amount of surface fuel loads available to burn. Variations in the annual precipitation for the Mojave region, and as a result, there is a significant variation in the frequency and extent of wildland fires in the area. Several historical wildland fires have occurred primarily in the southern part of Hesperia and its Sphere between 1930 and 2008. The very high fire hazard severity zones under the jurisdiction of the City of Hesperia are shown on Exhibit SF-2. In the City's Sphere of Influence, the California Department of Forestry and Fire Protection (CDF or CalFire) has mapped fire hazard zones that are under the jurisdiction of either the State or Federal agencies. These zones are shown on Exhibit SF-3.

Dozens of small vegetation fires, typically less than one acre in size, are reported in the Hesperia area annually. Experience and research have shown that vegetation management or fuel modification is an effective means of reducing the wildland fire hazard. Therefore, property owners are encouraged to follow maintenance guidelines aimed at reducing the amount and continuity of vegetation fuel available. If high weeds, plant material, and other prohibited items are present on a property, the Fire Marshal has authority to give the property owner of record a notice to abate the hazard. If the owner does not comply within 30 days of receiving the order, the City has authority to abate the hazard and charge the property owner for the cost. Vegetation treatments include the thinning or removal of vegetation within a given distance from habitable structures to create a defensible space. A fuel modification zone is a ribbon of land surrounding a development that is designed to diminish the intensity of a wildfire as it approaches the structures. Fuel modification treatments are being developed for the Rancho Las Flores area in Hesperia.

Building construction standards can also help reduce the fire hazard. Fire-resistant and non-combustible roofing materials, finely screened attic ventilation openings, non-combustible exterior siding materials, multiple-pane windows and tempered glass windows all can help a structure perform better in the event of a fire. Every proposed construction project in Hesperia is reviewed by the San Bernardino County Fire Department



for compliance with the most recent version of the California Fire Code adopted by the City, including City-amendments to the code.

California State law requires that the fact a property is located in a very high fire hazard severity zone (areas shown on Exhibit SF-2), or in State responsibility area (Exhibit SF-3) be disclosed in real estate transactions. This is important because the relatively rapid turnover of residential ownership can create an information gap; as a result, uninformed homeowners in fire hazard areas may attempt landscaping or other modifications to their houses that could be a detriment to the fire-resistant qualities of the original structure, with potentially negative consequences. Fire hazard education of homeowners is critical.

A relatively small number of structure fires are reported annually in Hesperia, but depending on the size, age and occupancy of the structure, the economic and social losses can be substantial. Fire prevention and suppression services in Hesperia are provided, on a contract basis, by the San Bernardino County Fire Department. The County Fire Department also provides ambulance service to the three local High Desert hospitals. Fire-fighting resources in and near Hesperia include six fire stations. Due to the rapid increase in population and associated rise in traffic in the last few years, emergency calls to the Fire Department have steadily risen by about 3 to 5% each year. Based on data provided by the City, average Fire Department response time in Hesperia during the 2007-2009 years is approximately 7 minutes, 16 seconds. Response times are controlled by the distance between the responding fire station and the site; factors that may affect the response time include obstructions provided by the aqueduct and the railroad lines, multiple alarms, and traffic congestion. Based on a cumulative point system that weighs a community's fire-suppression delivery system, including fire dispatch, fire department representation (in the form of equipment, personnel, training, distribution of fire stations), and water supply adequacy and condition, the Insurance Services Office (ISO) ranks a community's fire protection needs and services. Rating varies from Class 1 (best) to Class 10 (worst). Hesperia currently has a Class 5 ISO rating in the developed portions of the City and a rating of Class 9 in the outlying areas.



## SAFETY

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If needed, fire stations from adjacent communities, such as Victorville and Apple Valley, may respond to emergency calls in Hesperia. All three cities are part of the San Bernardino County Operational Area. The jurisdictions that form an Operational Area have mutual aid agreements that allow the response of additional emergency resources, as needed, from non-affected members in the group. Numerous other local, state and federal agencies are available to assist the San Bernardino County Fire Department as needed, depending on the type of incident. Emergency response in every jurisdiction in the State of California is handled in accordance with the Standardized Emergency Management System (SEMS). Since 2004, and in response to the 2001 terrorist attacks and the 2004-05 hurricane season, Federal, State, tribal and local governments, in addition to non-governmental organizations and the private sector, are required to work together to “prevent, protect against, respond to, recover from, and mitigate the effects of incidents, regardless of cause, size, location, or complexity.” This is referred to as the National Incident Management System (NIMS). Cities are required to adopt NIMS as a condition of receiving Federal preparedness assistance.

Earthquakes can cause multiple ignitions distributed over a broad geographic area. Fires can be ignited by a variety of sources, including arcing downed electrical lines, sparks near ruptured gas pipelines, overturned electrical appliances, such as water heaters, and spills of reactive chemicals. If the earthquake has also impaired the water distribution system, limiting the water available to fight these fires, and fire department personnel are busy conducting search and rescue operations, earthquake-induced fires have the potential to be the worst-case fire-suppression scenarios for a community.

The following goal and implementation policies aim to reduce the fire hazard in Hesperia.



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**Goal: SF-3**      **Reduce the risk of death, injury, property damage and economic loss due to vegetation and structure fires.**

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Implementation Policy: SF-3.1      The City shall continue to require that all new habitable structures be designed in accordance with the most recent California Building and Fire Codes with local amendments adopted by the City.

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Implementation Policy: SF-3.2      The City will continue to conduct regular inspections of parcels throughout the city, and will direct property owners to bring their property into compliance with fire inspection standards. This includes enforcing the weed abatement and notification program, to reduce the potential for vegetation fires to occur in vacant or poorly maintained lots, and encouraging homeowners to follow fire-safe practices, including maintaining a fire-safe landscape, and keeping combustibles (such as fire wood) a safe distance away from all structures.

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Implementation Policy: SF-3.3      Select City staff will coordinate with the San Bernardino County Fire Department and train in NIMS-compliant emergency response procedures to provide assistance as needed during emergency situations. This includes conducting emergency response exercises, including mock earthquake-induced fire-scenario exercises, to evaluate and improve, as needed, the City's ability to respond to the multiple ignitions that an earthquake is likely to generate.

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Implementation  
Policy: SF-3.4

In conformance with Assembly Bill 2140 (2006) the City will adopt its Hazard Mitigation Plan (HMP) as an addendum to the Safety Element of the General Plan. In addition, the HMP needs to be updated every 5 years, per the requirements of the Federal Disaster Mitigation Act of 2000.

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Implementation  
Policy: SF-3.5

The City, in cooperation with the San Bernardino County Fire Department, will evaluate citizen notification systems that can be used to warn residents of an approaching wildfire and to provide evacuation instructions.

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Implementation  
Policy: SF-3.6

The City will encourage owners of non-sprinklered high-occupancy structures to retrofit their buildings to include automatic fire sprinklers.

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Implementation  
Policy: SF-3.7

The City, in cooperation with the San Bernardino County Fire Department, will ensure, to the maximum extent possible, that fire services, such as fire fighting equipment and personnel, infrastructure, and response times, are adequate for all sections of the City. The City shall continue to utilize the San Bernardino County Fire Department "Community Safety Division Standards" and the latest adopted addition of the California Building and Fire Codes.

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Implementation  
Policy: SF-3.8

The City, in cooperation with the San Bernardino County Fire Department, will ensure that the Hesperia Water District conducts annual fire flow tests and addresses any deficiencies found as soon as possible.

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Implementation Policy: SF-3.9      The City, in cooperation with the San Bernardino County Fire Department, will develop and hold regular training exercises that involve residents as much as possible, such as through the City's Community Emergency Response Team (CERT) program, to empower individuals and neighborhoods to be self-reliant in the aftermath of a natural or man-made disaster.

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Implementation Policy: SF-10      The City will adopt the most recent version of the Wildland-Urban Interface Code and Chapter 7A of the California Building Code for use in the City where the Insurance Services Offices (ISO) number exceeds 5 (greater than 5).

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 *Sustainable Policy*

## HAZARDOUS MATERIALS

Hazardous materials are used every day in industrial, commercial, medical, and residential applications. The primary concern associated with a hazardous materials release is the short- and/or long-term effect to the public from exposure to these substances. Compared to other cities in southern California, Hesperia has a relatively low number of sites that generate, use or store hazardous materials. According to the Environmental Protection Agency (EPA), there are no Superfund sites in Hesperia, although there is one CERCLIS (Comprehensive Environmental Response, Compensation and Liability Act of 1980) site that is not on the National Priority List. There are three facilities in Hesperia listed in the most recent Toxics Release Inventory (TRI). There is also one TRI facility in Victorville that is within ½ mile of Hesperia. There are approximately 46 registered small-quantity and two large-quantity generators of hazardous materials in Hesperia. The CERCLIS site, TRI facilities and large-quantity generators of hazardous materials in or near Hesperia are shown on Exhibit SF-2.

There are two registered transporters of hazardous waste in Hesperia. Several more are registered in Victorville and Apple Valley. Hazardous



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materials are transported through the city on Interstate 15, a prescribed route for all types of non-radioactive hazardous materials, radioactive materials and toxic inhalation hazard materials, and on the Burlington-Northern Santa Fe and Union Pacific railroad lines. Vehicles transporting hazardous materials are required to have placards that indicate, at a glance, the chemicals being carried, and whether they are corrosive, flammable and/or explosive. The conductors are required to carry detailed "material data sheets" for each of the substances on board. These documents are designed to help emergency response personnel assess the situation immediately upon arrival at the scene of an accident, and take the appropriate precautionary and mitigation measures. The California Highway Patrol is in charge of spills that occur in or along freeways, with Caltrans, and local sheriffs and fire departments responsible for providing additional enforcement and routing assistance.

High-pressure gas and hazardous liquid pipelines also extend across the city. Pipeline operators are responsible for the continuous maintenance and monitoring of their pipelines. All excavations or drilling to be conducted near pipelines should be conducted only after proper clearance by the appropriate utility agencies or companies. This is done locally by the Underground Services Alert of Southern California, or DigAlert.

All businesses that handle more than a specified amount of hazardous or extremely hazardous materials are required to submit a Hazardous Materials Business Plan to the local Certified Unified Program Agency (CUPA). In Hesperia, the local CUPA is the San Bernardino County Fire Department, Hazardous Materials Division (SBCFD-HMD). These businesses are also required to prepare Risk Management Plans, detailed engineering analyses that identify the potential accident factors present and the mitigation measures that can be implemented to reduce this accident potential. The County of San Bernardino is designated as the Administering Agency for hazardous materials in the city of Hesperia.

Leaking underground storage tanks (LUSTs) are the primary cause of groundwater contamination by gasoline compounds and solvents. There are several Federal and State programs aimed at leak reporting, investigation regulations, and standards for cleanup and remediation. California now requires all fuel tanks to be double-walled, and prohibits the delivery of gasoline or diesel to non-compliant tanks. The State Water Resources Control Board (SWRCB) is the lead regulatory agency in the



development of regulations and policy for underground storage tanks. The SWRCB, in cooperation with the Office of Emergency Services, maintains an inventory of LUSTs in a statewide database called GeoTracker. As of January 2010, there were twelve reported LUST cases in Hesperia. All of these sites have been remediated; and additional actions, in the form of monitoring, testing and remediation, are not necessary. The GeoTracker list should be reviewed on a regular basis for new leaks, especially since there are at least 31 permitted underground storage tanks in the city.

The Hesperia Water District provides drinking water to the residents of Hesperia, except for those that have their own private well on their property. The City's water comes from a network of 14 groundwater wells located throughout the city. Since 1993, when data recording began, the Water District has had only one health-based violation, in February 2005, for the concentration of total coliform (bacteria) exceeding the Maximum Contaminant Level (MCL). This is a particularly good record compared to all other water purveyors that provide data to the EPA. Perchlorates, substances that are persistent in the environment, and that can pose a health hazard, especially to infants and women, have been detected in water from three of the City wells. Regular monitoring of these wells will help determine whether the perchlorate readings were anomalous, or whether the water in these wells is indeed impacted and requires remediation. According to the Consumer Confidence Reports issued by the Water District in 2007 and 2008, drinking water in the community does not contain this contaminant.

Given that hazardous materials are often used at home, and any surplus of these materials cannot be disposed in the regular trash, San Bernardino County and the City of Hesperia have adopted a Household Hazardous Waste and Oil-Recycling Program free to residents. The local drop-off facility is located at 17443 Lemon Street. The City also has a series of programs designed to reduce the amount of waste that is taken to the landfill. There are no active landfills in Hesperia; the Hesperia Sanitary Landfill closed in 2005.



## SAFETY

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The most serious concern regarding the significant hazardous materials sites in Hesperia is the potential for leaks and reactive chemical interactions to occur as a result of an earthquake compromising their storage containers. Past earthquake have shown that hazardous materials spills can occur even when the building does not suffer significant damage.



The following goal and implementation policies are aimed at reducing the hazard of hazardous materials in Hesperia.

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<b>Goal: SF-4</b>	<b>Reduce the potential for hazardous materials contamination in Hesperia.</b>
Implementation Policy: SF-4.1	The City, in cooperation with the San Bernardino County Fire Department, Hazardous Materials Division, will continue to enforce disclosure laws that require all users, generators, and transporters of hazardous materials and wastes to clearly identify the materials that they store, use or transport, and to notify the appropriate City, County, State and Federal agencies of a change in quantity or type of materials, and in the event of a violation.
Implementation Policy: SF-4.2	The City, in cooperation with the San Bernardino County Fire Department, will ensure that they can continue to respond safely and effectively to a hazardous materials incident in the City, whether it is a spill at a permitted facility, or the result of an accident along a section of the freeway or railroads that extend across the City. To do this, the City will continue to coordinate with regional providers of emergency services, including the County's Fire and Sheriff Departments, to ensure that all residents, workers and visitors to Hesperia are protected from exposure to hazardous materials and wastes.
Implementation Policy: SF-4.3	The City will identify roadways along which hazardous materials are routinely transported. If critical facilities, such as schools, medical facilities, child care centers or other facilities with special evacuation needs are located along these routes, the City, together with these facilities, will identify emergency response plans that can be implemented in the event of an roadway accident nearby that results in the unauthorized release of hazardous materials.

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## SAFETY

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**Implementation**  
Policy: SF-4.4

The City will continue to reduce or eliminate the use of hazardous materials by using instead non-toxic, safer alternatives that do not pose a threat to the environment, or buying and using only the smallest amount of a hazardous substance to get the intended job done. The City will encourage residents and businesses in the City to do the same.

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**Implementation**  
Policy: SF-4.5

Proposed new facilities that will be involved in the production, use, storage, transport or disposal of hazardous materials will not be allowed within the 100-year floodplain, or near existing land uses that may be adversely impacted by such activities. Conversely, new sensitive facilities (like schools, child care centers, nursing homes) will not be allowed to be located near existing sites that use, store, or generate hazardous materials without prior review and consideration by the Local Emergency Planning Committee.

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**Implementation**  
Policy: SF-4.6

The City will continue to support the operation of programs and recycling centers that accept hazardous substances, such as paint, paint thinner, used waste oil, etc., such as the City's Drop-Off facility.

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**Implementation**  
Policy: SF-4.7

The City will work with the Hesperia Water District to monitor the potential presence of perchlorate in well water. If perchlorate continues to be detected at measurable concentrations, programs to find and eradicate the source of this contaminant and to cleanup the perchlorate already in the water will be evaluated and implemented as appropriate.

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 *Sustainable Policy*

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## **DISASTER PREPAREDNESS, RESPONSE AND RECOVERY**

A disaster is a sudden and dramatic emergency. When a disaster occurs, the threatened community strives to: 1) protect its residents to the extent possible, 2) care for victims, and 3) restore basic services as soon as possible. To do this, a community needs to respond quickly and dynamically, and as effectively as possible. This requires preparation at all levels, from the Federal government (for large-scale disasters) down to individual neighborhoods, families and businesses. Emergency managers note, however, that it is difficult to sustain interest in disaster preparedness at the local level because most of us are too preoccupied with the day-to-day details of work, school and family to worry about a potential disaster that may or may not occur in our lifetime. Having said this, history shows that people impacted by a disaster generally respond actively to the situation, seeking safety for themselves, their families and others, improvising if necessary to respond to changing conditions. Some basic level of preparedness, however, can be very useful.

To that end, emergency managers realize the need to regularly educate and/or remind the public about these potential hazards, and encourage individuals, families and businesses to be prepared. Agencies responsible for emergency response need to review and update their preparedness plans and emergency operations plan as new conditions and requirements develop – this is a continuous process. Emergency response personnel need to be familiar with the preparedness plans by reviewing these documents regularly and practicing their assigned roles during drills held frequently. Since January 1, 2008, jurisdictions have been required to adopt their Local Hazard Mitigation Plan (or Disaster Mitigation Plan) as part of their Safety Element. The City of Hesperia participated in the development of the San Bernardino County Operational Area Multi-Jurisdictional Hazard Mitigation Plan (HMP), adopted in April 2005. FEMA requires that these types of documents be reviewed on a yearly basis, and updated every 5 years. Thus, the County's HMP needs to be updated this year. Data provided in the Technical Background Report to the Safety Element can be used to update the City's portion of the County's HMP. The revised HMP should be adopted as an addendum to the Safety Element.



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Planning issues pertaining to emergency response, disaster preparedness, and disaster recovery require an assessment of the hazards, identification of functions and resources to handle both short-term and long-term response, and development of recovery procedures. Planning can help speed the response to an emergency, while ensuring that the response is appropriate to the situation. Coordination between all levels of responders is critical. Direct, clear updates on the situation, provided in a timely manner by public officials, are important; this engenders cooperation from the public. Emergency preparedness includes having an alerting system that can be put to use immediately to warn the community of impending danger, and to transfer information post-disaster. It is also essential to have provisions in place to deal with handicapped individuals, and people that do not understand or speak English and need to be notified of the disaster preparedness, response and recovery efforts in their native language. Recognizing and being sensitive to cultural differences are also important for effective emergency preparedness and response in multi-ethnic communities.

### Risk Analysis

Earthquakes typically pose the greatest challenge because they occur with little or no warning, and can set into motion a number of linked events, but other natural and man-made hazards also have the potential to cause damage to the community. The risk that the various hazards discussed in the Safety Element and its Technical Background Report pose to essential facilities, schools and other facilities in Hesperia are summarized in Table SF-2.



**TABLE SF-2  
RISK ANALYSIS OF THE ESSENTIAL FACILITIES, SCHOOLS  
AND OTHER FACILITIES**

*(based on their location relative to the hazards described in the Technical Report only)*

Map Identifier	Essential / Critical Facility	Ground Shaking	Surface Fault Rupture	Liquefaction	Slope Instability	Wildfire Susceptibility	Flooding, Inundation	Near Hazardous Materials Site
<b>Essential Facilities: for their locations, refer to Exhibits SF-1 and SF-2</b>								
CH	City Hall	M				L	L	
PS	Police Station	M				L-M	L	
FS-301	Fire Station #301	M				H-M	L	
FS-302	Fire Station #302	M-S				H		Y
FS-304	Fire Station #304	M				M-L	L	
FS-305	Fire Station #305	M				H	L	Y
FS-306	Fire Station #306	S				H	L	
FS-22	Fire Station #22 (Victorville)	M		M-H		L	H	Y
FS-48	Fire Station #48	S	L*		L-M	VH-H	L-M	
DV	Desert Valley Hospital	M				L	L	Y
MC	Meridian Urgent Care (12821 Main St.)	M				M		
FM	Friendly Medical Center (15462 Main Street)	M				H-M	L	
HD	High Desert Primary Care (17073 Main St.)	M-S				H-M	L	Y
<b>Schools: for their locations, refer to Exhibit SF-3</b>								
S1	Ranchero Middle School	S				H	L	
S2	Kingston Elementary	S				H-M	L	
S3	Lime Street Elementary	M				H	L	Y
S4	Sultana High	M				H-M	L	Y



## SAFETY

Map Identifier	Essential / Critical Facility	Ground Shaking	Surface Fault Rupture	Liquefaction	Slope Instability	Wildfire Susceptibility	Flooding, Inundation	Near Hazardous Materials Site
S5	Cottonwood Elementary	M				H	L	
S6	Summit Elementary	M				M	L	Y
S7	Mesa Grande Elementary	M				M-H	L	Y
S8	Juniper Elementary	M				L-M	L	Y
S9	Carmel Elementary	S				M-H	L	
S10	Topaz Elementary	M				M	L	
S11	Joshua Circle Elementary	M				L	L	
S12	Maple Elementary	M				L-H	L	
S13	Mojave High	M				L-M	L	Y
S14	Eucalyptus Elementary	M				L	L	
S15	Hesperia High	M				H-L	L	
S16	Hesperia Junior High	M				L-M	L	
S17	Crosswalk Hesperia Experiential Learning Pathways	M				H	L	Y
S18	Oasis Charter Academy	M				L	L	Y
S19	Mesquite Trails Elementary	M				M	L	
<i>Parks and Community Centers that can be used as shelters – for their locations, refer to Exhibit SF-3 for additional information regarding these sites, refer to Table SF-4.</i>								
P1	Lime Street Park and Community Center	M				H	L	Y
P2	Timberlane Park and Youth Activity Center	M-S				L	L	Y
P3	Rick Novack Community Center and Palm Street Park	M				H-M	L	
P4	Hesperia Lake and John Swisher Community Center	S		M-H	L	H-L	H	
P5	Malibu Park	M				M	L	Y
<i>Churches that can be used as shelters – for their locations refer to Exhibit SF-5 for additional information regarding these sites, refer to Table SF-5.</i>								
C1	Sonrise Christian Fellowship	S				H-M	L	
C2	River of Life Church of God	M				H	L	
C3	Hesperia Church of the Nazarene	M				H	L	
C4	Hesperia United Methodist Church	S				H	L	



Map Identifier	Essential / Critical Facility	Ground Shaking	Surface Fault Rupture	Liquefaction	Slope Instability	Wildfire Susceptibility	Flooding, Inundation	Near Hazardous Materials Site
C5	Hesperia Community Church	M				H	L	Y
C6	First Baptist Church	M				H	L	
C7	Church of Jesus Christ of Latter Day Saints	M				H	L	
C8	Faith Lutheran Church	M				L-M	L	
C9	High Desert Christian Fellowship	M				M	L	
C10	Grace Baptist Church of Hesperia	M				M	L	
C11	Calvary Baptist Church	M				M	L	Y
C12	New Life Chapel	M				L	L	
C13	Church of Jesus Christ of Latter Day Saints	M				H	L	
C14	Victor Valley Christian Church	M				L-M	L	
C15	Tri-City Christian Center	M				L	L	Y
C16	Manna in the Desert	M				L-M	L	
C17	Iglesia Oasis	M				M	L	Y
C18	Biblical International Home	S	L*			H-VH	H	

Legend: S = Strong; L = Low, M = Moderate, H = High, VH = Very High; Y = Yes.

**Explanation for Table SF-2:**

The entire city of Hesperia can experience ground shaking as a result of a regional earthquake, but the eastern portion of the city has the potential to experience strong ground shaking as a result of an earthquake on the North Frontal fault, while the southern portion of the city would experience strong shaking as a result of earthquakes on the San Andreas and Cleghorn faults. Sites in the eastern and southern portions of the city were assigned a strong (S) rating for ground shaking, whereas sites in the central and northern reaches of the city were assigned a moderate (M) rating for ground shaking.

Y: Site is located within about 1 mile of a facility that handles significant hazardous materials (see Exhibit SF-2).



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- \*: Fire Station #48 is located to the northeast, along strike, of a northeast-trending fault identified by Morton and Miller (2003). Although the fault, according to their map, does not extend far enough to the northeast to impact the fire station, no site-specific studies have been conducted to evaluate whether or not this fault extends farther to the northeast, or the fault's recency of activity. Similarly, the Biblical International Home is located just west of two west-trending faults mapped by Morton and Miller (2003).

### Emergency Shelters

Earthquakes, flooding, wildland fires and other disasters can cause loss of function or habitability of buildings that provide housing. Displaced households may need alternative short-term shelter provided by family, friends, temporary rentals, or public shelters established by relief organizations such as the Red Cross or Salvation Army in facilities around the city.

Potential shelter locations in Hesperia include parks, schools and churches. These locations are generally ideal as shelters because they have: 1) open space where people can set up tents, 2) restroom facilities and possibly kitchens, and 3) fairly large parking lots where displaced families can park their cars and, if they have them, their recreational vehicles, which can be used for housing. Given that not all of these facilities may be available or fully functional after a disaster, having several options is ideal. Table P-2 includes several potential shelter locations distributed throughout the northern and central sections of the city. Some of these facilities could be impacted by natural disasters, particularly wildfire and flooding. Thus, the selection of which sites to open during an emergency should be made after consideration of the hazard involved, and the potential for that hazard to progress (think a northward-moving wildfire) into the area where a shelter has been established. The parks included herein have restroom facilities; those parks in the city that do not have restrooms were not considered. These are short-term shelter facilities to be used for a few hours to a few days.



**TABLE SF-3**  
**POTENTIAL EMERGENCY SHELTERS IN HESPERIA**  
*(For locations, refer to Exhibit SF-3)*

**Parks and Community Centers**

<i>Map Identifier</i>	<i>Name</i>	<i>Address</i>	<i>Size (Approx. Acres)</i>	<i>Amenities</i>
P1	Lime Street Park and Community Center	16292 Lime Street	20	Meeting room, assembly hall, community building, accessible to individuals with disabilities; picnic area; playground; open areas with turf.
P2	Timberlane Park and Youth Activity Center	9480 Timberlane Avenue	7	Activity room and community building accessible to individuals with disabilities; playground; open areas with turf.
P3	Rick Novack Community Center and Palm Street Park	13558 Palm Street	10	Meeting room, community building accessible to individuals with disabilities; playground equipment; picnic area; open areas with turf.
P4	John Swisher Community Center and Hesperia Lake	7500 Arrowhead Lake Road	200	Meeting room, community building, accessible to individuals with disabilities; picnic areas, open areas with turf; playground equipment.
P5	Malibu Park	13157 Muscatel	7	Picnic areas; open areas with turf; playground equipment.

**Schools**

<i>Map Identifier</i>	<i>Name</i>	<i>Address</i>
S1	Ranchero Middle School	17607 Ranchero Road
S2	Kingston Elementary	7473 Kingston Avenue
S3	Lime Street Elementary	16852 Lime Street
S4	Sultana High	17311 Sultana Street
S5	Cottonwood Elementary	8850 Cottonwood Avenue
S6	Summit Elementary	12850 Muscatel Street
S7	Mesa Grande Elementary	9172 Third Avenue
S8	Juniper Elementary	9400 I Avenue
S9	Carmel Elementary	9321 Glendale Avenue
S10	Topaz Elementary	14100 Beech Street
S11	Joshua Circle Elementary	10140 8 <sup>th</sup> Avenue
S12	Maple Elementary	10616 Maple Avenue
S13	Mojave High	16633 Lemon Street
S14	Eucalyptus Elementary	11224 10 <sup>th</sup> Avenue
S15	Hesperia High	9898 Maple Avenue

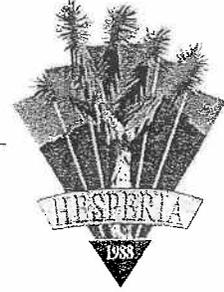


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S16	Hesperia Junior High	10275 Cypress Avenue
S17	Crosswalk Hesperia Experiential Learning Pathways	15817 Cactus Street
S18	Oasis Charter Academy	11988 Hesperia Road
S19	Mesquite Trails Elementary	13884 Mesquite Street

Churches			
Map Identifier	Church Name	Address	Amenities, Opportunities
C1	Sonrise Christian Fellowship	7885 Arcadia Avenue	Large parking lot, building with restrooms, kitchen, open space to the north and east of building.
C2	River of Life Church of God	8519 Maple Avenue	Parking lot, two buildings, open space to the north and east of buildings.
C3	Hesperia Church of the Nazarene	8518 Maple Avenue	Parking lot, building, open space to the north and west of building.
C4	Hesperia United Methodist Church	18623 Main Street	Large parking lot, two buildings, some open space to the northwest of building.
C5	Hesperia Community Church	16775 Olive	40-acre school and church campus; several buildings; large open spaces, including athletic fields.
C6	First Baptist Church	9280 Maple Street	Large parking lot, building; open areas to the west and south of building.
C7	Church of Jesus Christ of Latter Day Saints	9553 Hickory Avenue	Large parking lot; building; no open areas.
C8	Faith Lutheran Church	9600 7 <sup>th</sup> Avenue	Building; large parking lot; open space to the west of building, although space may not belong to church.
C9	High Desert Christian Fellowship	15660 Juniper Street	Building; large parking lot; open space to the east of building, although space may not belong to church.
C10	Grace Baptist Church of Hesperia	9969 11 <sup>th</sup> Avenue	Building; parking lot; open space to east of parking lot and building.
C11	Calvary Baptist Church	9966 I Avenue	Four buildings; large parking lot; open space to west of church.
C12	New Life Chapel	10184 7 <sup>th</sup> Avenue	Building; large parking lot; no open space.
C13	Church of Jesus Christ of Latter Day Saints	10862 Maple Avenue	Building; parking lot; no open space.
C14	Victor Valley Christian Church	11223 11 <sup>th</sup> Avenue	Two buildings; large parking lot; open space to the north of church.
C15	Tri-City Christian Center	11616 Hesperia Road	School and child care center; several buildings; parking lot; open space to the west and south of buildings.
C16	Manna in the Desert	10433 11 <sup>th</sup> Avenue	Buildings; parking lot; open space to east and north of church.
C17	Iglesia Oasis	17508 Hercules Street	Three buildings; parking lot surrounding structures; open space to east and west, although it may not belong to church.
C18	Biblical International Home	13250 State Hwy. 138	Unknown; open space.

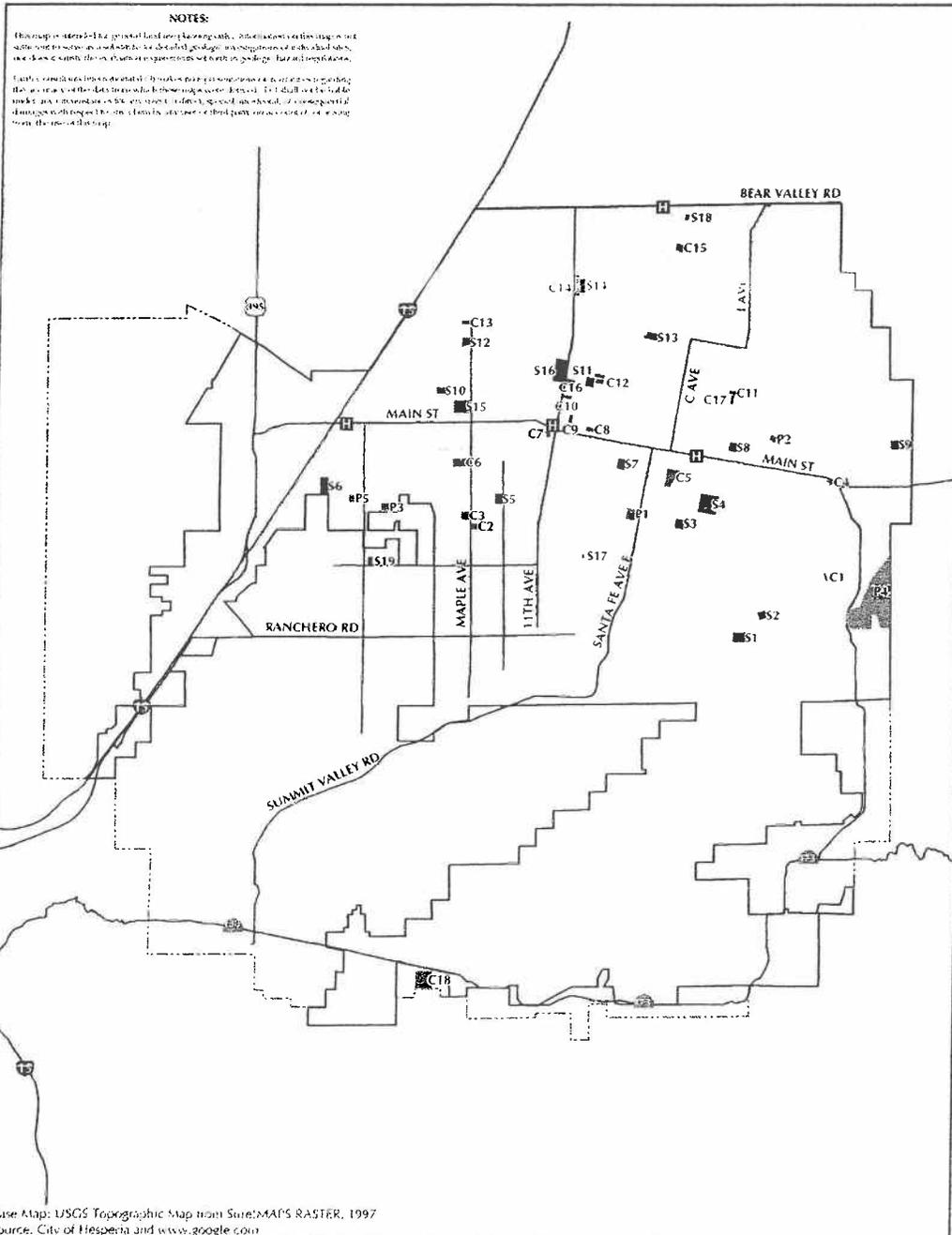
**SAFETY**



Long-term alternative housing may require import of manufactured homes, occupancy of vacant units, net emigration from the impacted area, or, eventually, the repair or reconstruction of new private and public housing.



**EXHIBIT SF-4  
POTENTIAL EMERGENCY SHELTERS AND EVACUATION ROUTES**



Base Map: USGS Topographic Map from SureMAPS RASTER, 1997  
 Source: City of Hesperia and www.google.com

		<p><b>Explanation</b></p> <ul style="list-style-type: none"> <li> School Property</li> <li> Park</li> <li> Church Property</li> <li> Evacuation Route</li> <li> Hesperia City Limit</li> <li> Hesperia Sphere of Influence</li> </ul>
	<p>Scale: 1:84,000</p>	

For additional information regarding these facilities refer to Tables SF-1 & SF-2.

<p>Earth Consultants International                  Project Number: 0417                  Date: March 2011</p>	<p><b>Potential Emergency Shelters and Evacuation Routes</b>                  Hesperia, California</p>	<p><b>Exhibit SF-4</b></p>
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## Evacuation Routes

Evacuation refers to the movement of people that are at risk of being impacted by a disaster to a safer location, using routes that do not pose a significant danger to the evacuees. Thus, both the destination and the route need to be scrutinized, preferably before the evacuation orders are issued. This involves making a decision as to which of the potential temporary shelters identified in the previous section will be opened, based on the shelters' locations relative to the approaching disaster, and their ease of accessibility from the routes identified as safest.

The Sheriff's Department typically serves as the lead organization in carrying out evacuations, supported by the Fire Department as appropriate. The Public Works department typically assists in the identification of the best evacuation routes and in barricading the evacuated areas.

Exhibit SF-4 identifies several potential evacuation routes. Which routes should be used will depend on the specific disaster:

### *Earthquakes*

Earthquakes occur suddenly and for the most part without warning. Evacuation may be necessary post-disaster if the ground shaking or fault rupture causes a secondary disaster, such as the failure of a dam or water reservoir, or the release of a toxic cloud from ruptured containers of hazardous materials. Post-earthquake fires may also require the evacuation of certain areas, but these are generally localized areas with a limited number of affected individuals. Which evacuation routes to use will depend on which area is at risk from any of these secondary hazards.

### *Fires*

Fires in the Hesperia area typically start in the mountains or foothills to the south. If the prevailing winds fan a fire so that it moves north and into the urban-wildland fire interface, then evacuation of the potentially affected communities may be required. In general, evacuees would take roads leading north, toward the more developed areas of the city. Those roads that cross the Aqueduct are obviously preferable to expedite the



evacuation process. Several of these roads are identified on Exhibit SF-3, and include Summit Valley Road, Santa Fe Avenue, 11th Avenue, Maple Avenue, and the I-15.

### *Flooding and inundation*

Flooding and inundation in Hesperia will impact the southern, eastern and central portions of the city preferentially. Localized flooding due to storm events can occur throughout the planning area, typically where the railroad berms and aqueduct obstruct the flow of floodwaters. The appropriate evacuation routes to use in the event of this disaster will therefore depend on where localized flooding is more severe, and on the destination (i.e., shelter location). In general, routes leading west, away from the Mojave River floodplain with bridges that span the river are preferable. Evacuation may involve merely getting out of the floodplain and onto higher ground. Residents from the Summit Valley area may be able to travel north, using the same routes identified for a fire evacuation, unless Summit Valley Road is flooded. In that case, it may be best to take State Highway 138 to the I-15, and from there on to shelter in the west-central part of Hesperia. Potential east-west evacuation routes to be used during flood and inundation disasters are shown on Exhibit SF-3, and include Rancho Road, Main Street and Bear Valley Road. Notice that several of the evacuation routes identified were selected because they lead to the potential emergency shelters discussed above.

### *Release of hazardous materials*

Releases of hazardous materials, either as a result of a leak in one of the facilities that handle these substances in the area, or as a result of an accident-caused spill on the freeway or railroad tracks, generally will require the evacuation of a relatively small area, possibly within a 1- to 2-mile radius of the release. The evacuation routes to follow would be designated by the Sheriff Department based on an assessment of prevailing wind directions, traffic flow and location of the emergency shelter opened for that event.

## **Recovery**

Many communities do well in preparing for a disaster but are ill-prepared for the recovery phase, possibly in part because they hope that if their pre-



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disaster planning is effective, their long-term damages will be relatively small. This is certainly what an emergency planning organization aims for. However, some post-disaster, recovery efforts may be necessary to restore community life. This includes the re-establishment of essential services and the rebuilding and repair of impacted properties. Recovery is an opportunity to improve the community so that it becomes more sustainable and less likely to be impacted by a future, similar disaster. Examples include avoiding reconstruction projects in areas likely to flood again, unless an area-wide flood control structure is built to mitigate the hazard. Having a recovery plan in place can help with the decision-making process of reconstruction, improves communication with other levels of government that were involved in the disaster response phase and now have a vested interest in the recovery process, and possibly most importantly, engenders support for mitigation efforts. If plans for a major mitigation effort exist prior to a disaster, public and government support (at the State and Federal levels) for such a project, including the appropriation of money to fund such a project, may become available.

The Federal Emergency Management Agency (FEMA) encourages the development and regular update of emergency preparedness documents by providing grant money to communities that have approved and adopted Local Hazard Mitigation Plans. Similarly, the State of California, through the California Disaster Assistance Act, limits the State share for an eligible project that is in response to a fire disaster to no more than 75% of total state eligible costs, except if the local agency has adopted a Local Hazard Mitigation Plan as part of their Safety Element, and complies with several requirements imposed by the State Fire Marshal (Senate Bill 1764, 2008). If the community complies with all requirements, the state share may be up to 100% of the cost.



The following goal and implementation policies aim to make Hesperia more disaster-resistant.

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**Goal: SF-5**      **Plan for emergency response and recovery from natural disasters, especially from flooding, fire, and earthquakes, and from civil unrest that may occur following a natural disaster.**

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**Implementation Policy: SF-5.1**      The City will maintain, update and adopt on a regular basis, as mandated by FEMA, a Local Hazard Mitigation Plan.

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**Implementation Policy: SF-5.2**      The City will continue to maintain and update its emergency response organization consisting of representatives from all City departments, the San Bernardino County Fire and Sheriff Departments, local quasi-governmental agencies, private businesses, citizens, and other community partners involved in emergency relief and/or community-wide services.

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**Implementation Policy: SF-5.3**      Will continue to maintain mutual aid agreements with neighboring cities and the San Bernardino County Operational Area.

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**Implementation Policy: SF-5.4**      Will participate in regional and local emergency exercises, such as the Great California ShakeOut, an annual statewide earthquake drill that is generally held in October.

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Implementation  
Policy: SF-5.5

Will ensure to the fullest possible extent that, in the event of a major disaster, critical, dependent care and high-occupancy facilities remain functional. The San Bernardino County Fire Department, in their annual review of these facilities, will encourage owners and operators to maintain alternate emergency exits, emergency evacuation plans, emergency generators, and to anchor computers, shelving, and other non-structural elements.

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Implementation  
Policy: SF-5.6

Will compile and maintain a list of facilities that because of population demands (such as mobility issues), construction type, location relative to a high hazard area, or other factors, may have a high risk and specific needs requiring special response during a disaster.

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Implementation  
Policy: SF-5.7

Will enhance public awareness and preparedness by encouraging residents and businesses to store supplies for self-reliance following a disaster. Emergency preparedness kits should include, at a minimum, a three-day supply of drinking water and food for all members of the household or business, including pets. Seven-day supplies of water are better.

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Implementation  
Policy: SF-5.8

Will offer educational programs for residents and businesses regarding mitigation measures to take prior to, during, and after an emergency, and will involve the public in the awareness of City emergency response plans, resources, risk reduction, and mitigation measures.

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**Implementation  
Policy: SF-5.9**

The City will review the potential shelter locations and draw agreements, as needed, with the owners and operators of those facilities. Specific sheltering amenities that each of these facilities could provide, including restrooms and showers, whether cooking can be done on site, and whether family pets are allowed, should be identified so that this information is available in advance of a disaster. Shelter locations for horses and other animals also need to be identified and procured.

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**Implementation  
Policy: SF-5.10**

The City will continue to support the development of local preparedness plans and multi-jurisdictional cooperation and communication for emergency situations consistent with regional, state (SIMS), and Federal standards, guidelines and/or recommendations (NIMS).



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### SUMMARY OF GOALS AND IMPLEMENTATION POLICIES SAFETY ELEMENT

 *Sustainable Policy*

#### Seismic and Geologic Hazards

**Goal: SF-1**                      **Minimize injury, loss of life, property damage and economic and social disruption caused by seismic shaking and other earthquake-induced hazards, and by geologic hazards such as slope instability, compressible and collapsible soils, and subsidence.**

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**Implementation Policy: SF-1.1**                      Require that all new habitable structures be designed and built in accordance with the most recent California Building Code adopted by the City, including the provisions regarding lateral forces and grading.

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**Implementation Policy: SF-1.2**                      Require all development proposals in the City to conduct, as a condition of approval, geotechnical and engineering geological investigations, prepared by State-certified professionals (geotechnical engineers and engineering geologists, as appropriate) following the most recent guidelines by the California Geological Survey and similar organizations, that address, at a minimum, the site-specific seismic and geologic hazards identified in the Technical Background Report. These reports shall provide mitigation measures to reduce those hazards identified at a site to an acceptable level.

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**Implementation Policy: SF-1.3**                      City Staff or City representatives will conduct routine inspection of grading operations to ensure site safety and compliance with approved plans and specifications.

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**Implementation  
Policy: SF-1.4**

City Staff that review geotechnical, geological and structural reports submitted by development applicants, and that review grading operations, shall have the necessary professional credentials and certifications within their area of expertise to conduct these reviews.



**Implementation  
Policy: SF-1.5**

Liquefaction assessment studies shall be conducted as a condition of approval for all projects proposed in areas identified as potentially susceptible to liquefaction (see the Technical Background Report). The studies shall be conducted in accordance with the California Geological Survey's Special Publication 117: Guidelines for Evaluating and Mitigating Seismic Hazards in California (2008 or more recent version), and the Earthquake Engineering Research Center's Report No. EERC-2003-06 (or more recent version): Recent Advances in Soil Liquefaction Engineering.



**Implementation  
Policy: SF-1.6**

If and when the California Geological Survey issues a Seismic Hazards Zonation Map that includes the City, the Planning and Building Departments will adopt this map as a replacement for the Seismic Hazards Map that is currently part of the Technical Background Report. Similarly, if new or revised Alquist-Priolo Earthquake Fault Zone maps that include the City or its Sphere are issued, these maps will be adopted and enforced in conformance with the requirements of the Alquist-Priolo Earthquake Fault Zone Act.



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Implementation  
Policy: SF-1.7

If a critical facility is proposed across the trace of any of the secondary faults mapped within the City or its Sphere, the City's Building Department shall require, as a condition of approval, that geological studies to assess the location and recency of activity of the fault be conducted. These studies shall be conducted at the level of detail required by the California Geological Survey for fault studies in Alquist-Priolo earthquake fault zones. Critical facilities include fire and police stations; City communication centers; hospitals, schools, pre-schools, nursing homes and other limited-mobility or high-occupancy populations; electrical substations and towers, water reservoirs, high-pressure or large-diameter pipelines, and bridges or other key transportation structures.

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Implementation  
Policy: SF-1.8

The City's Building Department will encourage owners of potentially hazardous buildings, including pre-1952 wood-frame structures, concrete tilt-ups, pre-1971 reinforced masonry, soft-story, and the one unreinforced masonry building, to assess the seismic vulnerability of their structures and conduct seismic retrofitting as necessary to improve the buildings' resistance to seismic shaking.

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Implementation  
Policy: SF-1.9

The City shall develop and make available to all residents and businesses literature on hazard prevention and disaster response, including information on how to earthquake-proof residences and places of business, and information on what to do before, during and after an earthquake. Reminders should be issued periodically to encourage the review and renewal of earthquake-preparedness kits and other emergency preparedness materials and procedures.

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Implementation  
Policy: SF-1.10

The Public Works Department will encourage the City's utility service providers to continue upgrading their facilities and infrastructure in Hesperia, to improve their survivability in the event of an earthquake in the area. The aboveground water storage tanks will be evaluated to assess their potential inundation hazard in the event of catastrophic failure, and those not yet seismically retrofitted will be fitted with shut-off valves, flexible fittings and/or other seismic safeguards as appropriate and in accordance with the most recent water tank design guidelines.

Implementation  
Policy: SF-1.11

The City will initiate and/or participate in regional efforts to ensure that the local medical care facilities will remain functional after a large regional earthquake and can provide emergency medical care to all residents and workers that need medical attention following a disaster. This includes conducting an inventory of regional hospitals to identify potential alternate medical providers and assess the need for new facilities to service the increasingly larger population in the region. Based on these results, collaborate with neighboring cities and the Southern California Association of Governments to identify those areas with insufficient medical coverage and engage medical service providers to consider establishing new medical care facilities in those areas, as needed.



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### Flooding Hazards

**Goal: SF-2**      **Minimize injury, loss of life, property damage and economic and social disruption caused by flooding and inundation hazards.**

Implementation  
Policy: SF 2.1

The City shall continue enforcing the City's Municipal Code provisions for flood hazard reduction (Title 8: Safety, Chapter 8.28: Flood Hazard Protection and Regulations). This code, which applies to new construction and existing projects undergoing substantial improvements, provides constructions standards that address the major causes of flood damage, and includes provisions for anchoring, placement of utilities, raising floor elevations, using flood-resistant construction materials, and other methods to reduce flood damage.

Implementation  
Policy: SF 2.2

The City will require that new discretionary development proposals include, as a condition of approval, hydrological studies prepared by a State-certified engineer with expertise in this area, that assess the impact that the new development will have on the flooding potential of existing development down-gradient. The studies shall provide mitigation measures to reduce this impact to an acceptable level. Single-family residences on existing lots should be exempted.

Implementation  
Policy: SF 2.3

The City shall continue participation in the National Flood Insurance Program and require that all owners of properties located within the 100-year floodplain (Zones A and AE), and repeat-flood properties in Zone X purchase and keep flood insurance for those properties.

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Implementation  
Policy: SF 2.4

The City will continue to participate in the Storm Ready Program with the National Weather Service, including the monitoring of precipitation and snow levels on the mountains to the south, providing storm watches and warnings in real-time, and issuing evacuation notices for affected neighborhoods in a timely manner, such as with a reverse a citizen notification or similar system.

Implementation  
Policy: SF 2.5

The City will not permit any new facilities that use or store hazardous materials in quantities that would place them in the State's TRI or SQG databases to be located in the flood zone (Zones A, AE, and X), unless all standards of elevation, anchoring and flood proofing have been implemented to the satisfaction of the City's Building Department and the San Bernardino County Fire Department. The hazardous materials shall be stored in watertight containers that are not capable of floating or similar flood-proof receptacles or tanks.

Implementation  
Policy: SF 2.6

The City will require all essential and critical facilities (including but not limited to essential City offices and buildings, medical facilities, schools, child care centers, and nursing homes) in or within 200 feet of Flood Zones A, AE and X, or the dam inundation pathways, to develop disaster response and evacuation plans that address the actions that will be taken in the event of flooding or inundation due to catastrophic failure of a dam.

Implementation  
Policy: SF 2.7

The City will regulate development in drainages, especially in Flood Zones A and AE, pursuant to FEMA regulations.



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**Implementation**  
Policy: SF 2.8

The City will continue to maintain, and improve where needed, the storm drain systems, with an emphasis on those areas of the City that flood repeatedly. This entails maintaining and regularly cleaning the storm drains and other flood-control structures in low-lying areas, as necessary, such that floodwaters can be effectively conveyed away from structures.

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**Implementation**  
Policy: SF 2.9

The City will identify repetitive flood properties in the City and develop feasible mitigation options for these sites. Funding to implement the mitigation measures may be available through FEMA's Hazard Mitigation Grant and Flood Mitigation Assistance Programs and their Pre-disaster Mitigation Program.

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**Implementation**  
Policy: SF 2.10

The City will encourage the development of areas in the floodplains as parks, nature trails, equestrian parks, golf courses, or other types of recreational facilities that can withstand periodic inundation, and will offer incentives to developers to retain these areas as open space.

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**Fire Hazards**

**Goal: SF-3** Reduce the risk of death, injury, property damage and economic loss due to vegetation and structure fires.

**Implementation Policy: SF-3.1** The City shall continue to require that all new habitable structures be designed in accordance with the most recent California Fire Code with local amendments adopted by the City, including the use of fire sprinklers in residential structures.

**Implementation Policy: SF-3.2** The City will continue to conduct regular inspections of parcels throughout the city, and will direct property owners to bring their property into compliance with fire inspection standards. This includes enforcing the weed abatement and notification program, to reduce the potential for vegetation fires to occur in vacant or poorly maintained lots, and encouraging homeowners to follow fire-safe practices, including maintaining a fire-safe landscape, and keeping combustibles (such as fire wood) a safe distance away from all structures.

**Implementation Policy: SF-3.3** Select City staff will coordinate with the San Bernardino County Fire Department and train in NIMS-compliant emergency response procedures to provide assistance as needed during emergency situations. This includes conducting emergency response exercises, including mock earthquake-induced fire-scenario exercises, to evaluate and improve, as needed, the City's ability to respond to the multiple ignitions that an earthquake is likely to generate.



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Implementation  
Policy: SF-3.4

In conformance with Assembly Bill 2140 (2006) the City will adopt its Hazard Mitigation Plan (HMP) as an addendum to the Safety Element of the General Plan. The HMP needs to be updated every 5 years, per the requirements of the Federal Disaster Mitigation Act of 2000.

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Implementation  
Policy: SF-3.5

The City, in cooperation with the San Bernardino County Fire Department, will evaluate public notification systems (such as a reverse 911 system) that can be used to warn residents of an approaching wildfire and to provide evacuation instructions.

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Implementation  
Policy: SF-3.6

The City will encourage owners of non-sprinklered high-occupancy structures to retrofit their buildings to include internal sprinklers.

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Implementation  
Policy: SF-3.7

The City, in cooperation with the San Bernardino County Fire Department, will ensure, to the maximum extent possible, that fire services, such as fire fighting equipment and personnel, infrastructure, and response times, are adequate for all sections of the City. To that end, the City will continue to regularly evaluate specific fire hazard areas, and adopt reasonable safety standards, such as adequacy of nearby water supplies, fire-retardant roofing materials, fire-equipment accessible routes, clarity of addresses, street signage, and street maintenance.

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Implementation  
Policy: SF-3.8

The City, in cooperation with the San Bernardino County Fire Department, will ensure that the Hesperia Water District conducts annual fire flow tests and addresses any deficiencies found as soon as possible.

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**Implementation**  
Policy: SF-3.9

The City, in cooperation with the San Bernardino County Fire Department, will develop and hold regular training exercises that involve residents as much as possible, such as through the City's Community Emergency Response Team (CERT) program, to empower individuals and neighborhoods to be self-reliant in the aftermath of a natural or man-made disaster.

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**Implementation**  
Policy: SF-3.10

The City will adopt the most recent version of the Wildland-Urban Interface Code and Chapter 7A of the California Building Code for use in the City where the Insurance Services Offices (ISO) number exceeds 5 (greater than 5).

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## SAFETY

### Hazardous Materials

**Goal: SF-4** Reduce the potential for hazardous materials contamination in Hesperia.

Implementation  
Policy: SF-4.1

The City, in cooperation with the San Bernardino County Fire Department, Hazardous Materials Division, will continue to enforce disclosure laws that require all users, generators, and transporters of hazardous materials and wastes to clearly identify the materials that they store, use or transport, and to notify the appropriate City, County, State and Federal agencies of a change in quantity or type of materials, and in the event of a violation.

Implementation  
Policy: SF-4.2

The City, in cooperation with the San Bernardino County Fire Department, will ensure that they can continue to respond safely and effectively to a hazardous materials incident in the City, whether it is a spill at a permitted facility, or the result of an accident along a section of the freeway or railroads that extend across the City. To do this, the City will continue to coordinate with regional providers of emergency services, including the County's Fire and Sheriff Departments, to ensure that all residents, workers and visitors to Hesperia are protected from exposure to hazardous materials and wastes.

Implementation  
Policy: SF-4.3

The City will identify roadways along which hazardous materials are routinely transported. If critical facilities, such as schools, medical facilities, child care centers or other facilities with special evacuation needs are located along these routes, the City, together with these facilities, will identify emergency response plans that can be implemented in the event of an roadway accident nearby that results in the unauthorized release of hazardous materials.

**SAFETY**



Implementation  
Policy: SF-4.4

The City will continue to reduce or eliminate the use of hazardous materials by using instead non-toxic, safer alternatives that do not pose a threat to the environment, or buying and using only the smallest amount of a hazardous substance to get the intended job done. The City will encourage residents and businesses in the City to do the same.



Implementation  
Policy: SF-4.5

Proposed new facilities that will be involved in the production, use, storage, transport or disposal of hazardous materials will not be allowed within the 100-year floodplain, or near existing land uses that may be adversely impacted by such activities. Conversely, new sensitive facilities (like schools, child care centers, nursing homes) will not be allowed to be located near existing sites that use, store, or generate hazardous materials.



Implementation  
Policy: SF-4.6

The City will continue to support the operation of programs and recycling centers that accept hazardous substances, such as paint, paint thinner, used waste oil, etc., such as the City's Drop-Off facility.



Implementation  
Policy: SF-4.7

The City will work with the Hesperia Water District to monitor the potential presence of perchlorate in well water. If perchlorate continues to be detected at measurable concentrations, programs to find and eradicate the source of this contaminant, and to cleanup the perchlorate already in the water will have to be developed.



## SAFETY

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### Disaster Preparedness, Response, and Recovery

#### Goal: SF-5

**Plan for emergency response and recovery from natural disasters, especially from flooding, fire, and earthquakes, and from civil unrest that may occur following a natural disaster.**

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#### Implementation Policy: SF-5.1

The City will maintain, update and adopt on a regular basis, as mandated by FEMA, a Local Hazard Mitigation Plan.

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#### Implementation Policy: SF-5.2

The City will continue to maintain and update its emergency response organization consisting of representatives from all City departments, the San Bernardino County Fire and Sheriff Departments, local quasi-governmental agencies, private businesses, citizens, and other community partners involved in emergency relief and/or community-wide services.

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#### Implementation Policy: SF-5.3

Will continue to maintain mutual aid agreements with neighboring cities and the San Bernardino County Operational Area.

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#### Implementation Policy: SF-5.4

Will participate in regional and local emergency exercises, such as the Great California ShakeOut, an annual statewide earthquake drill that is generally held in October.

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## SAFETY



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Implementation Policy: SF-5.5

Will ensure to the fullest possible extent that, in the event of a major disaster, critical, dependent care and high-occupancy facilities remain functional. The San Bernardino County Fire Department, in their annual review of these facilities, will encourage owners and operators to maintain alternate emergency exits, emergency evacuation plans, emergency generators, and to anchor computers, shelving, and other non-structural elements.

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Implementation Policy: SF-5.6

Will compile and maintain a list of facilities that because of population demands (such as mobility issues), construction type, location relative to a high hazard area, or other factors, may have a high risk and specific needs requiring special response during a disaster.

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Implementation Policy: SF-5.7

Will enhance public awareness and preparedness by encouraging residents and businesses to store supplies for self-reliance following a disaster. Emergency preparedness kits should include, at a minimum, a three-day supply of drinking water and food for all members of the household or business, including pets. Seven-day supplies of water are better.

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Implementation Policy: SF-5.8

Will offer educational programs for residents and businesses regarding mitigation measures to take prior to, during, and after an emergency, and will involve the public in the awareness of City emergency response plans, resources, risk reduction, and mitigation measures.

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## SAFETY

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Implementation  
Policy: SF-5.9

The City will review the potential shelter locations and draw agreements, as needed, with the owners and operators of those facilities. Specific sheltering amenities that each of these facilities could provide, including restrooms and showers, whether cooking can be done on site, and whether family pets are allowed, should be identified so that this information is available in advance of a disaster. Shelter locations for horses and other animals also need to be identified and procured.

Implementation  
Policy: SF-5.10

The City will continue to support the development of local preparedness plans and multi-jurisdictional cooperation and communication for emergency situations consistent with regional, state (SIMS), and Federal standards, guidelines and/or recommendations (NIMS).