

SAFETY ELEMENT

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HAWTHORNE

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GENERAL

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SAFETY ELEMENT

CITY OF HAWTHORNE GENERAL PLAN

March, 1989

Prepared by:  
City of Hawthorne

#487

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## **SAFETY ELEMENT**

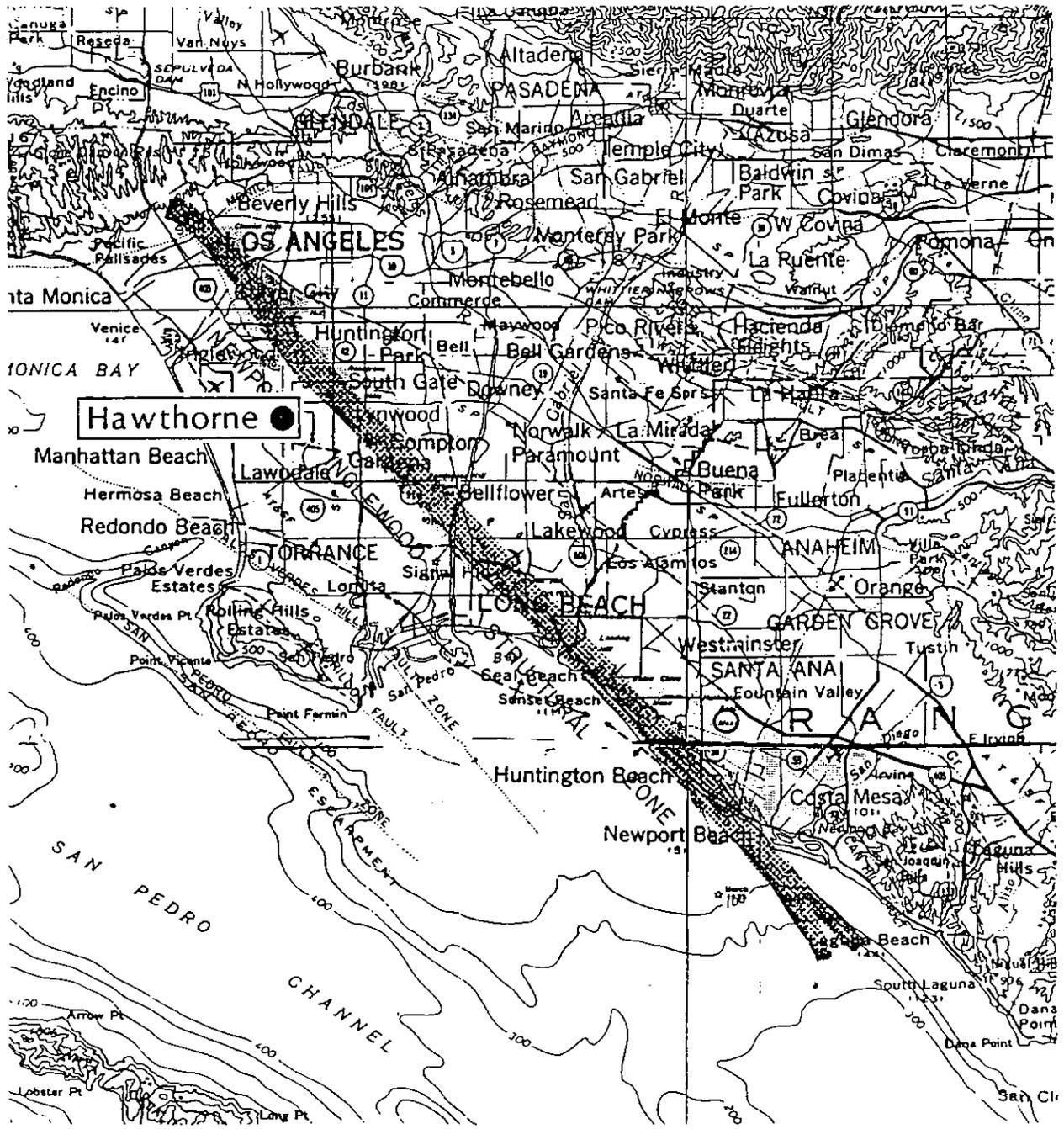
### **SECTION I - INTRODUCTION TO THE SAFETY ELEMENT**

Disasters such as urban fires, flooding, and earthquakes are common to California. In Hawthorne, a city almost totally built out, there is the danger, for example, of urban fires. In addition, the ever-present possibility of hazardous-materials spills is due both to the presence of industry in the city and Hawthorne's geographical location in the center of a traffic arterial network. Furthermore, Hawthorne is in the immediate vicinity of the Newport-Inglewood fault and the Charnock fault.

The Safety Element provides the direction necessary for the protection of the community from natural and man-made hazards. This is achieved by reducing the risks, property damage, injuries, or loss of life in the event of a natural or man-made disaster.

## SECTION II - EXISTING CONDITIONS

- Seismic Hazards** The City of Hawthorne is directly affected by two faults: the active Newport-Inglewood structural zone and the potentially active Charnock fault (See Figure 1 ).
- The potential for significant damage by ground-shaking in Hawthorne in general is low. "Ground-shaking is often greater on young, loose sedimentary deposits" (Tinsley, Fuman:113), typically unconsolidated soils. Much of Hawthorne lies atop late Quaternary (Pleistocene) compact-to-very-dense deposits of gravel, silt, and clay. About a third of the eastern half of the City, however, is underlain by the more recent Holocene deposits, which are more susceptible to shaking (Tinsley, Youd-:288)(Gulliver:Map). Potential damage, however, is more a function of structure than of shaking intensity.
- Newport-Inglewood Structural Zone** The Newport-Inglewood structural zone is made up of a broad range of discontinuous faults which trend northwest from Newport Beach, across the Los Angeles basin to near Santa Monica. This structural zone lies to the immediate northeast of Hawthorne. No part of the City, therefore, has been designated as an Alquist-Priolo Special Studies Zone, which must "encompass the trace of an active fault". Such a zone requires a geologic investigation before a local government can approve most development projects, thus assuring that structures for human occupancy are not built on active faults (Guidelines: 252).
- Charnock Fault** The Charnock fault, considered part of the Newport-Inglewood zone, passes through the center of the City. Roughly seven miles long, the fault has no surface folds dating from the late Quaternary and therefore is not considered active.
- San Andreas Fault** The southern segment of the San Andreas fault, which traverses the length of California, lies some 40 miles east of Hawthorne. The San Andreas fault is considered active, having had surface displacement within Holocene Time (within the last 11,000 years).
- Liquefaction** Liquefaction is the sudden and temporary transformation of loose, water-saturated soil to a liquid mass when subjected to shock or strain (Gulliver:9-5).



 Newport-Inglewood Structural Zone

↑ North

0 2 4 6 8  
scale in miles

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Figure 1  
Fault Zones

If depth to groundwater exceeds 30 feet, liquefaction is unlikely to occur (Tinsley, et al:315). A review of the static water levels of Hawthorne's four wells shows a depth of 106 feet as the highest measurement from the surface of the ground to the top of the water (Static Water Well Levels:9,10). Further, development of ground water resources in Southern California has had the most effect in reducing or eliminating the liquefaction hazard in many areas because extractive pumping of ground water has maintained the water table in many areas to depths that make liquefaction unlikely (Tinsley, et al:275).

The sediment of much of Hawthorne is largely older (Pleistocene) and well consolidated, putting areas of such soil in the "very low" category of potential for liquefaction.

**Ground Failure**

Hawthorne does not appear to have the topography that would fail under seismic shaking, since it is relatively flat. In the central part of the City, the slope ranges from three to ten percent. The extreme northeast section of Hawthorne includes a small area where slopes range from one to eight percent. However, the risk of slope instability in these areas is considered low.

**Fire Hazards**

Significant damage occurs infrequently, but it is most likely to occur where industrial chemicals and fuels are used and where these substances are stored or transported. This danger, however, is mitigated by stringent enforcement of recent State requirements.

**Response Time and Water Availability**

Emergency response time is within three-to-four minutes. Water availability is well documented for the City of Hawthorne water system, which serves roughly half the City. Within this area ten sections were tested in 1986 for fire flow capability. Table 1 shows the current available flow in gallons per minute (gpm) at the ten sites and future fireflows required to deliver water at twenty pounds per square inch (psi).

The necessary improvements to achieve ideal flow are already under way and have been scheduled through 1991. Current peak hour demand is determined to be 400 percent, or 13,604 gpm, of the average annual demand (AAD) (3,401 gpm (Boyle:3-3)). Hawthorne water supplies are capable of maintaining adequate fireflow.

**Fire Hazard Reduction**

A sprinkler ordinance was established in 1982 for buildings of at least 5,000 square feet. Additionally, in those areas where fire-flow is weak, sprinklers are recommended to lessen the hazard or potential damage of fire.

**TABLE 1**  
**CURRENT AND FUTURE FIRE-FLOW CAPACITY**

Test No.	Hydrant No.	Location	Future Fire Flow Rec'd. at 20 psi Residual (gpm)	Current Available Flow at Residual (gpm)
1	448	North end Wilkie north of El Segundo	3,500	3,563
2	262	139th and Prairie	2,500	591
3	216	134th and east side Hawthorne Blvd.	3,000	1,507
4	288	140th and Inglewood	3,000	1,847
5	248	Sundale and 117th	2,000	2,130
6	92	118th and Grevillea	2,000	1,380
7	365	116th and Acacia	3,000	1,700
8	296	Broadway and York	3,000	2,235
9	42	Broadway and Gale	2,000	1,455
10	198	Southwest 142nd and Hawthorne Blvd.	3,000	881

psi: pounds per square inch  
gpm: gallons per minute  
(Water System:4-1)

Besides the sprinkler ordinance, the Fire Department utilizes the services of a public education specialist, who presents fire prevention programs to different groups in the community, such as schools and senior citizens. The specialist works with Hawthorne Cable TV and writes articles for the Chamber of Commerce on fire prevention, first aid, and other emergency care procedures.

**Hazardous Materials**

To protect the public from exposure to hazardous materials, the City of Hawthorne has implemented the following measures:

- zoning controls over permitted uses to carefully regulate hazardous use;
- conditions for approval by the Planning Commission for conditional use permits and site plan review;
- hazardous materials disclosure and regulatory procedures;
- the appointment of a hazardous materials specialist (assigned to the Fire Department).

**Disclosure and Regulatory Procedures**

As the administering agency of the Hazardous Material Disclosure Ordinance, AB 2185 City Ordinance 1398, since August 1986, the Hawthorne Fire Department maintains the mandatory disclosure file on use (or non-use), handling, and storage practices of hazardous materials and hazardous wastes annually of all businesses. Inventories of hazardous materials are data-processed for immediate availability to fire, police, and other first-responder (i.e., first at the scene of an incident) departments.

These potential risks are carefully monitored and controlled through annual inspection. The biggest user of hazardous materials in Hawthorne is Northrop Corporation which has its own waste-control management system and therefore its own transfer system, plus its own response team. There are no major refineries located within the City.

**Transportation of Hazardous Materials**

The transportation of hazardous materials is concentrated on major arterials and other streets away from residential areas to the greatest extent possible. (See Figure 2).

**Sites and Facilities**

City staff is completing the map of sites and facilities for the production, use, storage, and disposal of hazardous materials. The principal area of such use is bounded on the

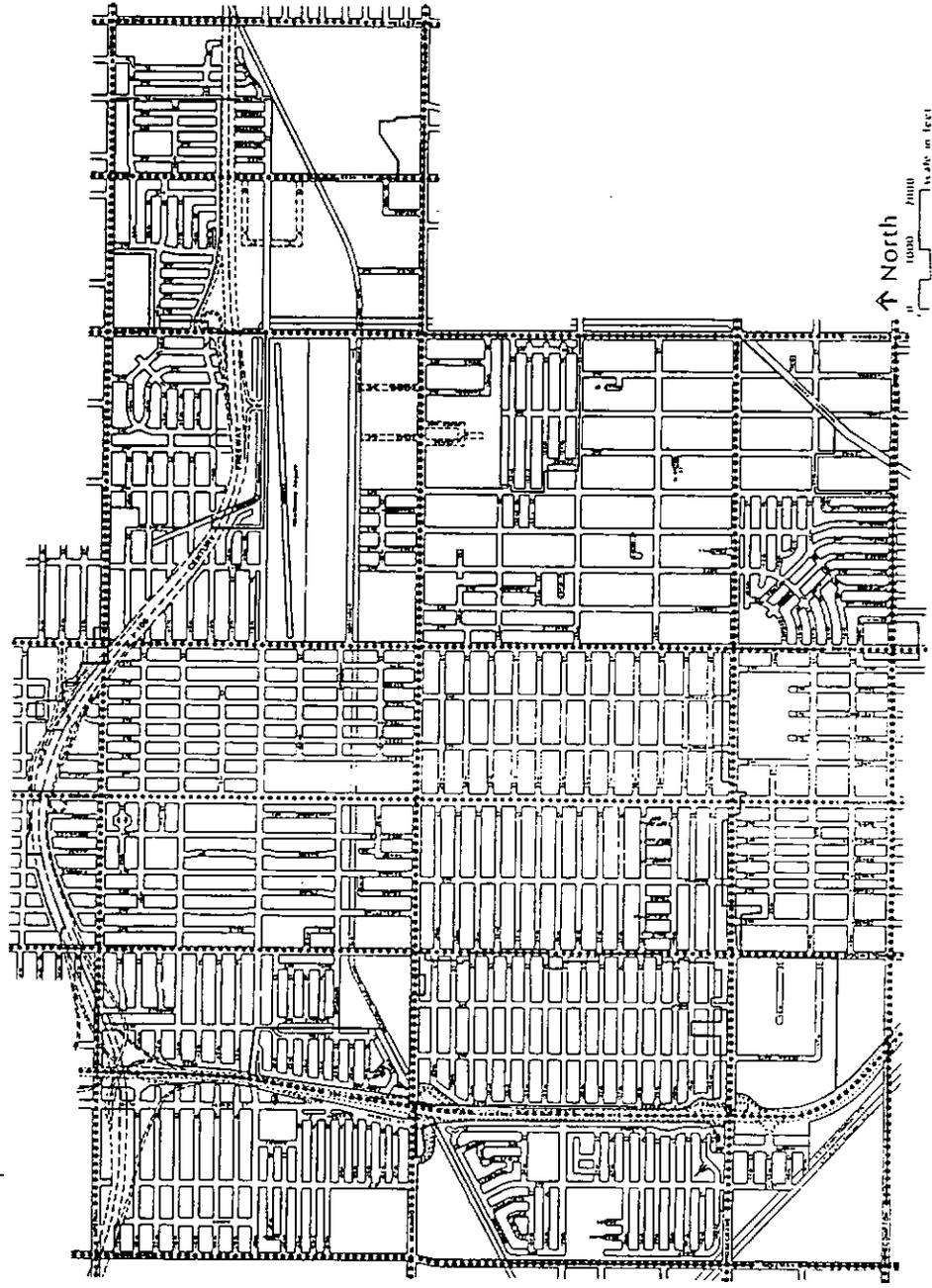
Designated Routes for  
Hazardous Wastes



SOURCE: City of Hawthorne

Figure 2  
Hazardous Waste  
Routes

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north and south by 120th and 132nd Streets, respectively, and east and west by Crenshaw Boulevard and Prairie Avenue. Residential zones limited to the Prairie Avenue perimeter, is designated as R-3 (High Density Residential), which includes multiple-family dwellings and apartments.

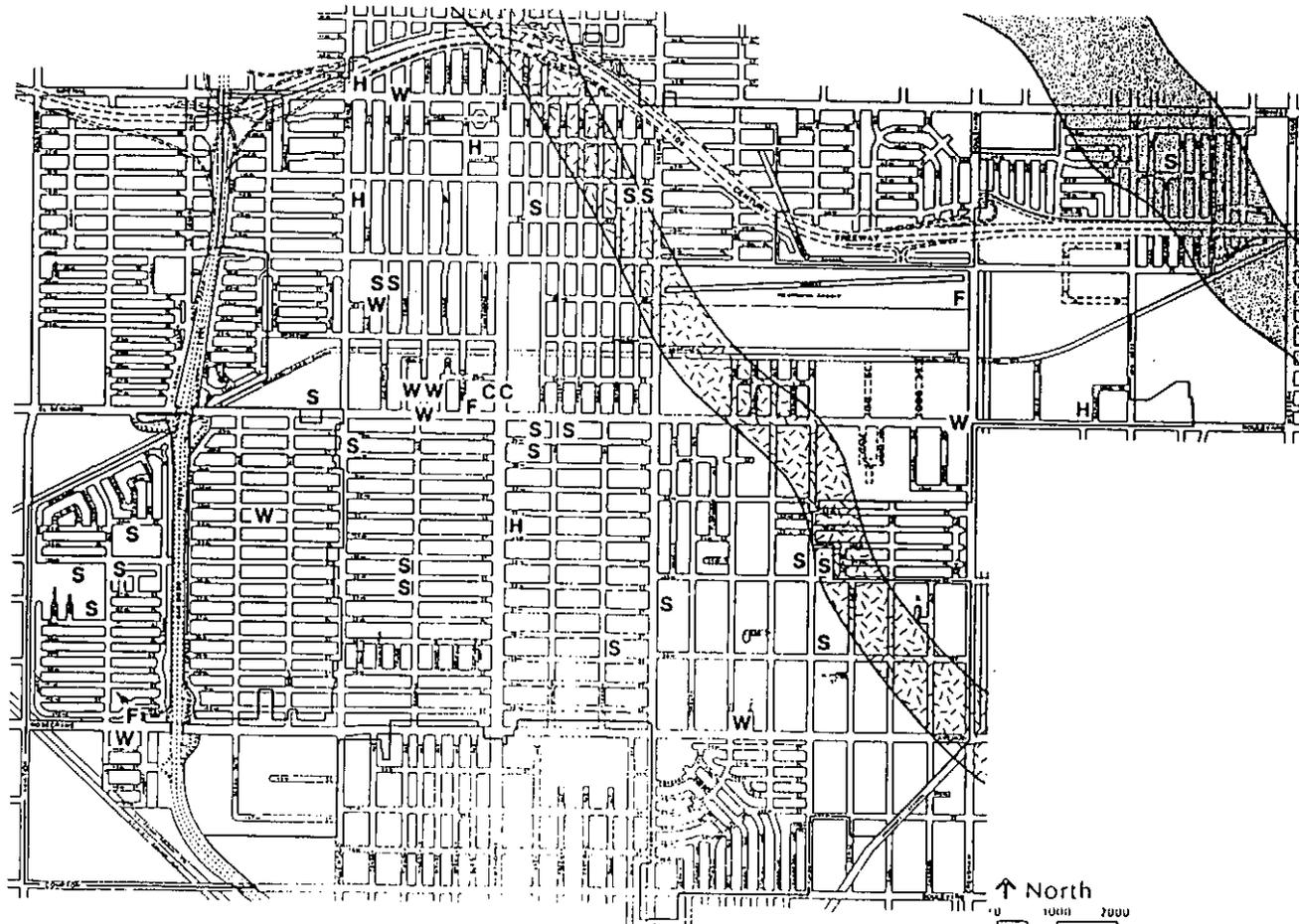
**Critical Facilities**

Critical facilities are those facilities in which damage or malfunction during an earthquake would have serious and far-reaching consequences. Generally included in this category are hospitals, fire, police, and emergency service facilities; utility lifeline facilities, such as water, electricity, and gas supply, sewage disposal, and communication and transportation facilities. (Figure 3).

**Preparedness Plans**

Emergency Preparedness and Evaluation. The following plans represent the City of Hawthorne's preparations for disasters or major hazards.

- 1) Winter Storm and Preparedness Policy, February 1984
- 2) Area G Emergency Operational Plans, Los Angeles County Chapter: California Fire Chiefs Association, December 1985 - To cover a local emergency which cannot be met by the facilities of a given city, among fourteen cities, including Hawthorne.
- 3) Multi-Casualty Incident Operational Procedures - Establishes systematic sharing of emergency medical resources by all fire departments.
- 4) California Fire and Rescue Emergency Plan, revised June 1978 - covers both California Disaster and Civil Defense Master Mutual Aid Agreements.
- 5) Area (Area I) Plan - State-mandated, this is a pre-emergency plan for incident preparation, especially hazardous-materials spills, and the safe management of incidents, including emergency communications.
- 6) Emergency Preparedness Plan - Also state-mandated, this plan discusses and allocates within the city government those actions needed to be carried out under the various functions for responding to a damaging earthquake. Specifically involved would be the City emergency-response departments: Police, Fire, Public Works (i.e., Engineering), Recreation, and Public Information.



-  Newport-Inglewood Fault Zone
-  Charnock Fault Zone
-  Civic Center
-  Fire Station
-  Hospital
-  School
-  Water Storage, Connections and Plant Facilities

SOURCE: City of Hawthorne

Figure 3  
Critical Facilities

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- 7) South Bay Regional Emergency Communication Authority (911) - Dispatches police and fire calls for five municipalities, including the City of Hawthorne.

**Alternative  
Power  
Sources**

City emergency vehicles are normally fueled at the City maintenance yard, where a backup system is being installed, to be operational by March 1988. Should fuel become inaccessible at the yard, the Fire Department has its own diesel-fueling facility and could fuel its vehicles manually for about three days, until normal operating conditions were restored. The storage tank at the Police Department has its own power system and is therefore not totally dependent on the Equipment Department, City Hall's emergency source. The Equipment Department owns a diesel-engine-powered generator system fueled by a 2,000-gallon diesel-fuel tank (about two weeks' worth of power).

**Alternative  
Water Sources**

During an emergency, such as a chemical spill, water can be shut off block by block, depending on the time of day, or produced at greater pressure, from storage if necessary. Reserve water is available from storage tanks and reservoirs as well as four City-owned wells.

**Evacuation  
Plans**

A major disaster such as a large fire or hazardous-materials spill could necessitate evacuating a portion of the City. The City of Hawthorne has developed a Hazardous Materials Evacuation Plan. This Plan outlines procedures involving evacuation of residents in the event of hazardous materials upset conditions and identifies routes to be used for the orderly movement of people. Hawthorne's well maintained evacuation routes constitutes the major streets of Hawthorne and much of the rest of the South Bay are designated as federal FAU (federal assistance, air, urban) highways and thus are part of the County regional plan for evacuation.

### SECTION III - ISSUES AND OPPORTUNITIES

The City of Hawthorne is continually exposed to the potential loss of life or property due to natural phenomenon and human accident. These natural and human events include earthquake, fire, or hazardous material spills. Proper planning and adequate preparation, in most instances, can significantly reduce the risk of disaster. This section discusses issues relevant to natural and man-made hazards which will require consideration by the City in future planning and policy.

#### Seismic Hazards

The City of Hawthorne is directly affected by two faults: the Newport-Inglewood Fault which is considered active, and the Charnock Fault, considered to be potentially active. The Newport-Inglewood Fault lies to the immediate northeast of Hawthorne. The Charnock Fault is considered a part of the Newport-Inglewood structural zone which passes through the center of the City. No Alquist-Priolo Special Studies Zones have been designated within the city limits.

The potential for liquefaction exists, although the depth to groundwater and underlying soil characteristics make this possibility remote.

#### Fire Hazards

The Hawthorne Fire Department is one of the busiest fire departments in the State per capital and receives an average of 12-15 calls per day. Significant damage occurs infrequently, but it is most likely to occur where industrial chemicals and fuels are used, stored, or transported. There is potential for considerable damage where multi-family dwellings proliferate, such as in Moneta Gardens which has the highest density and the restricted access.

#### Hazardous Materials Spills

Situated at the hub of a major arterial traffic network, the City of Hawthorne is highly susceptible to the danger of hazardous materials spills. This danger is somewhat mitigated, however, by various State and federal legislation regulating the use, storage, and transportation of hazardous materials and the strict enforcement of these regulations.

#### Flooding

In 1980 the City of Hawthorne was removed from the Federal Insurance Rate Map after it was determined that a large majority of existing structures had been built above the base flood-elevation. For insurance purposes the City is now classified as Zone C, in which insurance coverage is optional, not mandatory.

Notification of this change was published by the Federal Emergency Management Agency (FEMA) in the Federal Register and the FEMA Region IX Flood Prone List of Communities in California.

**Tsunamis,  
Seiches, and  
Dam Failure**

A check of the dams subject to the jurisdiction of the State Department of Water Resources and dams owned by the federal government or subject to the requirements that a dam-inundated map prepared under Government Code Section 8589.5 indicates that the City of Hawthorne is at a low risk from Tsunamis, seiches, and dam failure according to the Los Angeles Office of the State Office of Emergency Services (Villere). Further, any (smaller) dams not subject to the above requirements have been determined by the County Department of Public Works not to affect Hawthorne.

**Airport  
Related  
Accidents**

The Hawthorne Municipal Airport Master Plan, when completed, will contain a description of existing and proposed facilities for the Hawthorne Municipal Airport; current and projected airport operations; an inventory of areas potentially affected by airplane crashes; policies and standards for land use and development within the airport planning boundaries to minimize safety hazards and noise problems; and an emergency preparedness plan for the airport. The report will be available from the airport administrative offices. The date of completion is not known at this time.

**Crime and  
Traffic Safety**

Recent crime statistics from the Hawthorne Police Department show a 19 percent decrease in crime from 1980 levels. This decrease reflects the technological and administrative changes that have occurred since that time. The Police Department serves an integrated city of some 63,000 residents, which is experiencing a significant drop in Part I crimes. Part I crimes include violent crimes such as murder, robbery and assault. Traffic accidents have also experienced a significant decrease since 1980. Traffic accident reports indicate an 18 percent decrease from 1980 figures.

**Evacuation  
Plan**

A major disaster such as a large fire or hazardous-materials spill could necessitate evacuating portions of the City. Hawthorne has a system of well-established evacuation routes.

**Loss of  
Lifelines**

A major disruption of water supply, electric power, gasoline, etc., would create a critical situation. Planning for emergency preparedness and response is a concern with respect to sources of energy for public buildings.

#### **SECTION IV - SAFETY ELEMENT GOALS AND POLICIES**

The purpose of the Safety Element is to ensure that the community is protected from injuries, property damage, or loss of life that may result from natural or man-made occurrences by reducing the risk of exposure. Goals and policies intended to provide the community with an acceptable level of safety and protection are listed below.

**GOAL 1.0: MINIMIZE THE HAZARDS TO PUBLIC HEALTH, SAFETY, AND WELFARE AND PREVENT LOSS OF LIFE, BODILY INJURY, AND PROPERTY DAMAGE RESULTING FROM NATURAL AND MAN-MADE OCCURRENCES.**

**POLICY 1.1:** Continue to cooperate with and support in every way possible the Federal, State, and County Agencies responsible for the enforcement of Federal, State and local health, safety, and environmental laws.

**POLICY 1.2:** New development shall not subject other property to unreasonable hazards or risk of natural disaster.

**POLICY 1.3:** The level of police and fire services should not be adversely affected by any urban development.

**POLICY 1.4:** The City shall maintain and update as needed a comprehensive emergency plan consisting of measures to be taken during and after an earthquake, flood, toxic/hazardous spill, or other disaster.

**POLICY 1.5:** The City shall identify existing or previously existing hazardous waste generators or disposal sites.

**POLICY 1.6:** The City shall identify all producers, users, and transporters of hazardous material and wastes within the City and establish a system to monitor the handling, transport, and disposal of such wastes.

**POLICY 1.7:** The City shall strongly encourage Neighborhood Watch and other similar public-involvement, crime-prevention programs.

**POLICY 1.8:** The City shall consider utilizing the services of a grantwriter in the emergency-preparedness section of the Fire Department.

**POLICY 1.9:** The City shall provide for the implementation of Chapter 250, Statutes of 1986; SB547 (Alquist); Gov. Code Section 8875 et seq. to identify and provide for rehabilitation of existing buildings which pose a hazard due to inadequate seismic design.