

General Plan for the City of Laguna Niguel  
**Chapter 7 - Seismic/Public Safety**

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*Chapter Seven*

**SEISMIC/PUBLIC SAFETY**

**I. INTRODUCTION**

Protecting the community from natural and man-made hazards is the primary purpose of the Safety Element. The Safety Element identifies hazards which have the potential to impact the human population, property and the natural environment in the City of Laguna Niguel. Geologic events, and seismic activity in particular, flooding and wildland fire are natural hazards to the City. Exposure to hazardous materials, threat of urban fire and crime are pertinent man-made hazards.

The Safety Element establishes goals, policies and implementation programs to guide and direct local government decision-making in safety-related matters. Through investigation of hazardous risks, and careful land use planning, the potential for disaster can be reduced. In addition, this Element includes policies and actions designed to foster coordination among the various local, state and federal agencies charged with public safety responsibilities.

## II. CONSISTENCY WITH STATE LAW

Government Code Section 65302(g) requires the Safety Element to include seismically induced surface rupture, ground shaking, ground failure, tsunamis (tidal waves), seiches, dam failure, mudflow and landslides, subsidence and other known geologic hazards, flooding, and wildland and urban fires. A Safety Element must also include mapping of known seismic and other geologic hazards and must address evacuation routes, peak load water supply requirements, and minimum road widths and clearances around structures.

### **III. RELATED PLANS AND PROGRAMS**

#### **A. California Division of Mines and Geology**

The California Division of Mines and Geology identifies and evaluates specific geologic and seismologic hazards with respect to their impact on land use planning and makes this information available to the public.

#### **B. Orange County Hazardous Waste Management Plan**

Developed pursuant to the Tanner Act (1986), AB 2948, the Orange County Hazardous Waste Management Plan (HWMP) identifies current and projected future hazardous waste generation and management needs in Orange County. The plan provides a framework for the development of facilities to manage hazardous wastes, i.e., facility siting criteria, and also sets in motion policy directives toward developing county-wide programs in areas such as waste reduction, and household and small quantity business hazardous waste collection.

The County's HWMP addresses only those hazardous waste issues with which local governments have responsibilities, namely land use decisions. The County and its Cities are required to take implementing actions to incorporate facility siting policies and criteria into local planning and permitting processes. The City is required to take one of three actions:

- Adopt a City hazardous waste management plan
- Incorporate by reference all applicable portions of the County Plan into its General Plan.
- Enact an ordinance requiring all applicable land use permitting and decisions to be consistent with the siting criteria set forth in the County's HWMP.

The Orange County Fire Department Hazardous Materials Program Office (HMPO) recently developed a Household Collection/Disposal Project. The goals of this program are to: educate County residents about household hazardous materials; reduce the amount of hazardous materials used by residents; and offer a safe and proper method to dispose of household hazardous materials. There are currently three collection sites in the County. The collection center located at the Prima Deshecha Landfill in San Juan Capistrano is closest to the City of Laguna Niguel. This site serves south Orange County, including the residents of Laguna Niguel.

#### **C. City Household Hazardous Waste Element**

The Household Hazardous Waste Element (HHWE) was prepared for the City pursuant to AB 2707, and Tanner hazardous waste management planning legislation (AB 2948). The Element recommends HHW management objectives for Laguna Niguel. The Element, however, recognizes that the County of Orange will take the

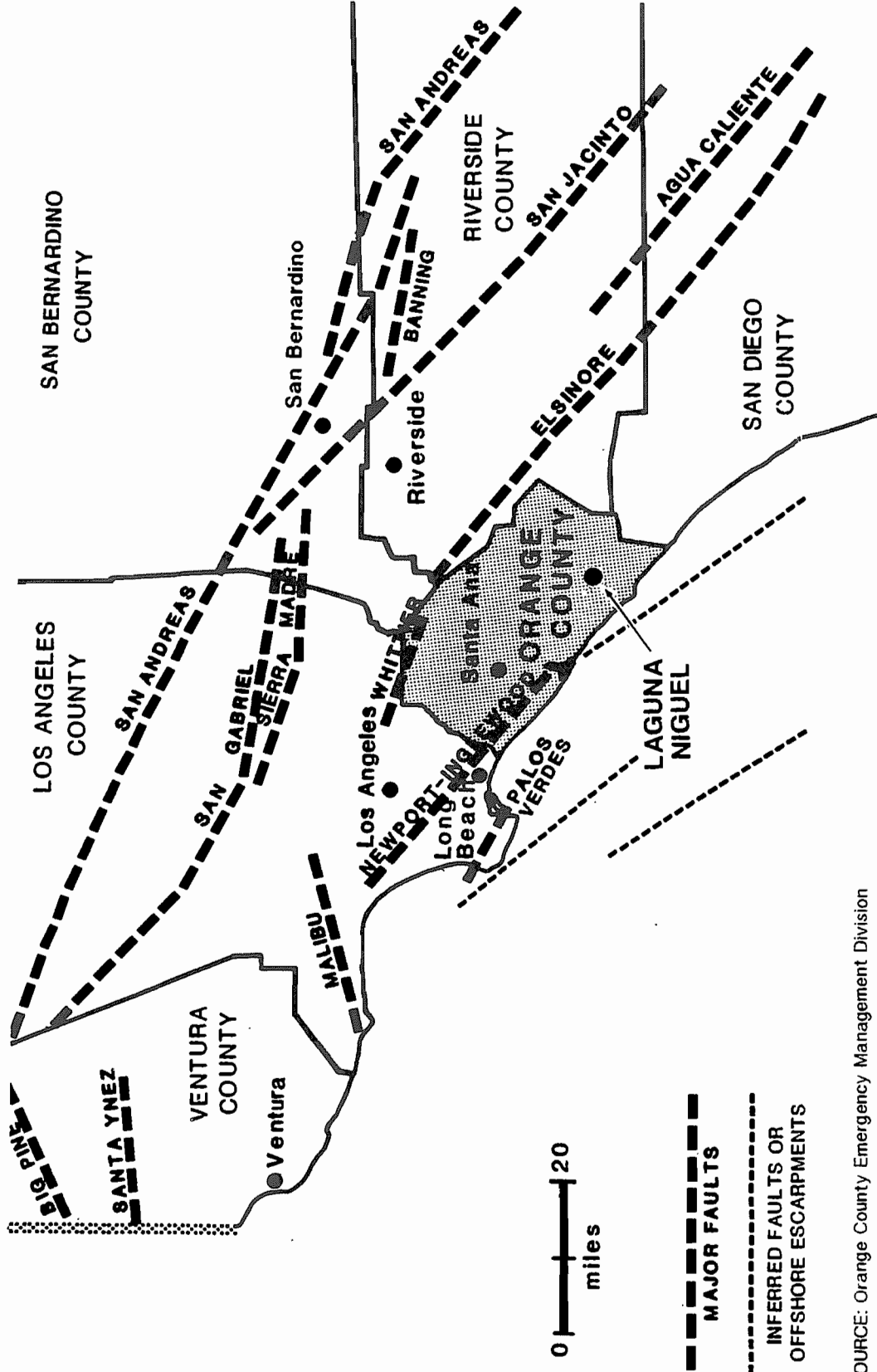
lead in implementing these recommendations. The City will provide technical and educational support to the County in implementing HHW management programs. As stated in the HHWE, the Prima Deshecha Landfill accepts household hazardous waste.

## IV. ENVIRONMENTAL SETTING

### A. Geologic/Seismic

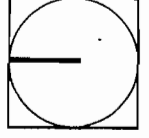
The City of Laguna Niguel is located in a highly active seismic region. Figure SA-1 shows active faults proximate to the City. Although there are no active or potentially active faults in the City, there are two active faults located within Orange County. The Newport-Inglewood Fault angles from offshore near Dana Point, and passes through the northwestern portion of the County. The Whittier Fault roughly parallels the Newport-Inglewood Fault across the northeasterly edge of the County. The Newport-Inglewood Fault is located southwest of the City and is believed capable of producing a maximum credible earthquake of 7.5 magnitude. The maximum credible earthquake estimated for the Whittier fault is 7.0 magnitude. Refer to Table SA-1 for a description of earthquake intensities.

# Regional Faults



SOURCE: Orange County Emergency Management Division

NOTE: This map is for informational purposes only.



SA-1

# The City of LAGUNA NIGUEL General Plan



**Table SA-1**  
**The Modified Mercalli Intensity Scale<sup>1</sup>**  
 (As modified by Charles F. Richter in 1956 and rearranged)

<i>If most of these effects are observed</i>	<i>then the intensity is:</i>	<i>If most of these effects are observed</i>	<i>then the intensity is:</i>	
<p>Earthquake shaking not felt. But people may observe marginal effects of large distance earthquakes without identifying these effects as earthquake caused. Among them: trees, structures, liquids, and bodies of water sway slowly, or doors swing slowly.</p>	I	<p><i>Effect on people:</i> Difficult to stand. Shaking noticed by auto drivers.</p>	VIII	
<p><i>Effect on people:</i> Shaking felt by those at rest, especially if they are indoors, and by those on upper floors.</p>	II	<p><i>Other effects:</i> Waves on ponds; water turbid with mud. Small slides and caving in along sand or gravel banks. Large bells ring. Furniture broken. Hanging objects quiver.</p>		
<p><i>Effect on people:</i> Felt by most people indoors. Some can estimate duration of shaking. But many may not recognize shaking of building as caused by an earthquake: the shaking is like that caused by the passing of light trucks.</p>	III	<p><i>Structural effects:</i> Masonry D* heavily damaged; Masonry C* damaged, partially collapses in some cases; some damage to Masonry B*; none to Masonry A*. Stucco and some masonry walls fall. Chimneys, factory stacks, monuments, towers, elevated tanks twist or fall. Frame houses moved on foundations if not bolted down; loose panel walls thrown out. Decayed piling broken off.</p>		
<p><i>Other effects:</i> Hanging objects swing.  <i>Structural effects:</i> Windows or doors rattle. Wooden walls and frames creak.</p>	IV	<p><i>Effect on people:</i> General fright. People thrown to ground.</p>		IX
<p><i>Effect on people:</i> Felt by everyone indoors. Many estimate duration of shaking. But they still may not recognize it as caused by an earthquake. The shaking is like that caused by the passing of heavy trucks, through sometimes, instead, people may feel the sensation of a jolt, as if a heavy ball had struck the walls.</p>	V	<p><i>Other effects:</i> Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes. Steering of autos affected. Branches broken from trees.</p>		
<p><i>Other effects:</i> Hanging objects swing. Standing autos rock. Crockery clashes, dishes rattle or glasses clink.  <i>Structural effects:</i> Doors close, open or swing. Windows rattle.</p>		<p><i>Structural effects:</i> Masonry D* destroyed; Masonry C* heavily damaged, sometimes with complete collapse; Masonry B* is seriously damaged. General damage to foundations. Frame structures, if not bolted, shifted off foundations. Frames cracked. Reservoirs seriously damaged. Underground pipes broken.</p>		
<p><i>Effect on people:</i> Felt by everyone indoors and by most people outdoors. Many now estimate not only the duration of shaking but also its direction and have no doubt as to its cause. Sleepers awakened.</p>	VI	<p><i>Effect on people:</i> General Panic.</p>		X
<p><i>Other effects:</i> Hanging objects swing. Shutters or pictures move. Pendulum clocks stop, start or change rate. Standing autos rock. Crockery clashes, dishes rattle or glasses clink. Liquids disturbed, some spilled. Small unstable objects displaced or upset.  <i>Structural effects:</i> Weak plaster and Masonry D* crack. Windows break. Doors close, open or swing.</p>		<p><i>Other effects:</i> Conspicuous cracks in ground. In areas of soft ground, sand is ejected through holes and piles up into a small crater, and, in muddy areas, water fountains are formed.</p>		
<p><i>Effect on people:</i> Felt by everyone. Many are frightened and run outdoors. People walk unsteadily.</p>	VII	<p><i>Structural effects:</i> Most masonry and frame structures destroyed along with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes and embankments. Railroads bent slightly.</p>	XI	
<p><i>Other effects:</i> Small church or school bells ring. Pictures thrown off walls, knickknacks and books fall off shelves. Dishes or glasses broken. Furniture moved or overturned. Trees, bushes shaken visibly, or heard to rustle.</p>		<p><i>Effect on people:</i> General Panic.</p>		
<p><i>Structural effects:</i> Masonry D* damaged; some cracks in Masonry C*. Weak chimneys break at roof line. Plaster, loose bricks, stones, tiles, cornices, unbraced parapets and architectural ornaments fall. Concrete irrigation ditches damaged.</p>		<p><i>Other effects:</i> Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land.</p>		
		<p><i>Structural effects:</i> General destruction of buildings. Underground pipelines completely out of service. Railroads bent greatly.</p>	XII	
		<p><i>Effect on people:</i> General Panic  <i>Other effects:</i> Same as Intensity X.  <i>Structural effects:</i> Damage nearly total, the ultimate catastrophe.  <i>Other effects:</i> Large rock masses displaced. Lines of sight and level distorted. Objects thrown into air.</p>		

\* Masonry A: Good workmanship and mortar, reinforced, designed to resist lateral forces.  
 Masonry B: Good workmanship and mortar, reinforced.  
 Masonry C: Good workmanship and mortar, unreinforced.  
 Masonry D: Poor workmanship and mortar and weak materials like adobe.

<sup>1</sup> From Urban Geology: Master Plan for California, Bulletin 198, California Division of Mines and Geology, Sacramento, California 1973.

Earthquakes on faults located outside Orange County can also cause damage within Laguna Niguel. Depending on their magnitude, earthquakes can cause minor to moderate damage to an area within a fifty-mile radius of their epicenter. Active perimeter faults that have the potential to impact the City are: San Andreas; San Jacinto; Malibu-Coast-Raymond; Palos Verdes; San Gabriel; and Sierra Madre-Santa Susana-Cucamonga faults.

Earthquakes create two types of hazards: primary and secondary. Primary seismic hazards include groundshaking, ground displacement and subsidence. These events can, in turn, produce the following secondary hazards: ground failure, liquefaction, seiching and dam failure.

The risk of damage due to ground rupture during an earthquake is minimal because of the absence of active faults in the City. However, the risk of structural damage (both above and underground), and loss of life as a result of groundshaking are considerable due to the combination of proximate active faults and the developed character of Laguna Niguel. It is recognized that low density residential development and low intensity land uses are less vulnerable to seismic hazards. The City is marked by relatively low intensity residential land use and is, therefore, at less risk than intensely developed 'urban' communities.

Liquefaction is another seismic hazard in the City. The potential for liquefaction is a function of soil type and a shallow groundwater. Soils that are poorly consolidated and combine with groundwater during an earthquake lose their shear strength and take on the properties of a heavy liquid. Liquefaction can result in the loss of foundation support, ground failure due to lateral spreading, and settlement of affected soils.

In addition to the safety hazards posed by seismic activity, other types of geologic processes occur in the City which have the potential to impact the community. These geologic processes, which include landslides and erosion, are primarily located in the hillside areas.

According to the Division of Mines and Geology, slope instability is a concern in the San Juan Capistrano Quadrangle, which encompasses most of the City. Areas underlain by shale and siltstone are more prone to landslides when compared to other bedrock geology, and the Capistrano, Monterey, and Topanga Formations, prevalent throughout hillside areas in the City, are most prone to slow-developing, slump-type failure.

Slope stability is dependent on a number of interrelated factors such as rock type and degree of porousness, and slope characteristics. In addition to geologic processes, climatic conditions, man-induced topographical alterations and earthquakes also trigger failure of unstable slopes. Slope stability hazards in the City relate to the undeveloped hillside areas, as grading activities and soil remediation techniques are used to mitigate

these hazards prior to development. The known landslide hazard areas in the City of Laguna Niguel are shown in Figure SA-2.

## **B. Flooding**

In conjunction with the national flood insurance program, flood-prone areas of Laguna Niguel have been delineated on Flood Insurance Rate Maps. According to the Flood Plain Map shown in Figure SA-3, portions of the City are subject to inundation from a 100 year flood. These areas are confined to the narrow waterways of San Juan Canyon and Salt Creeks in the southern portion of the City, and Sulphur and Oso Creeks in the northern portion of the City. There is no development currently located within the 100 year floodplain.

## **C. Hazardous Materials and Waste**

Modern technology and our high standard of living has led to a dependence on products containing hazardous materials. A material is considered hazardous when it exhibits corrosive, poisonous, flammable and/or reactive properties, and has the potential to harm human health and the environment. Hazardous materials are generally substances used to produce high technological products. In contrast, hazardous wastes are chemical remains. These substances are no longer usable and need treatment and/or disposal. Storage, transport and disposal of these materials require careful and sound management practices.

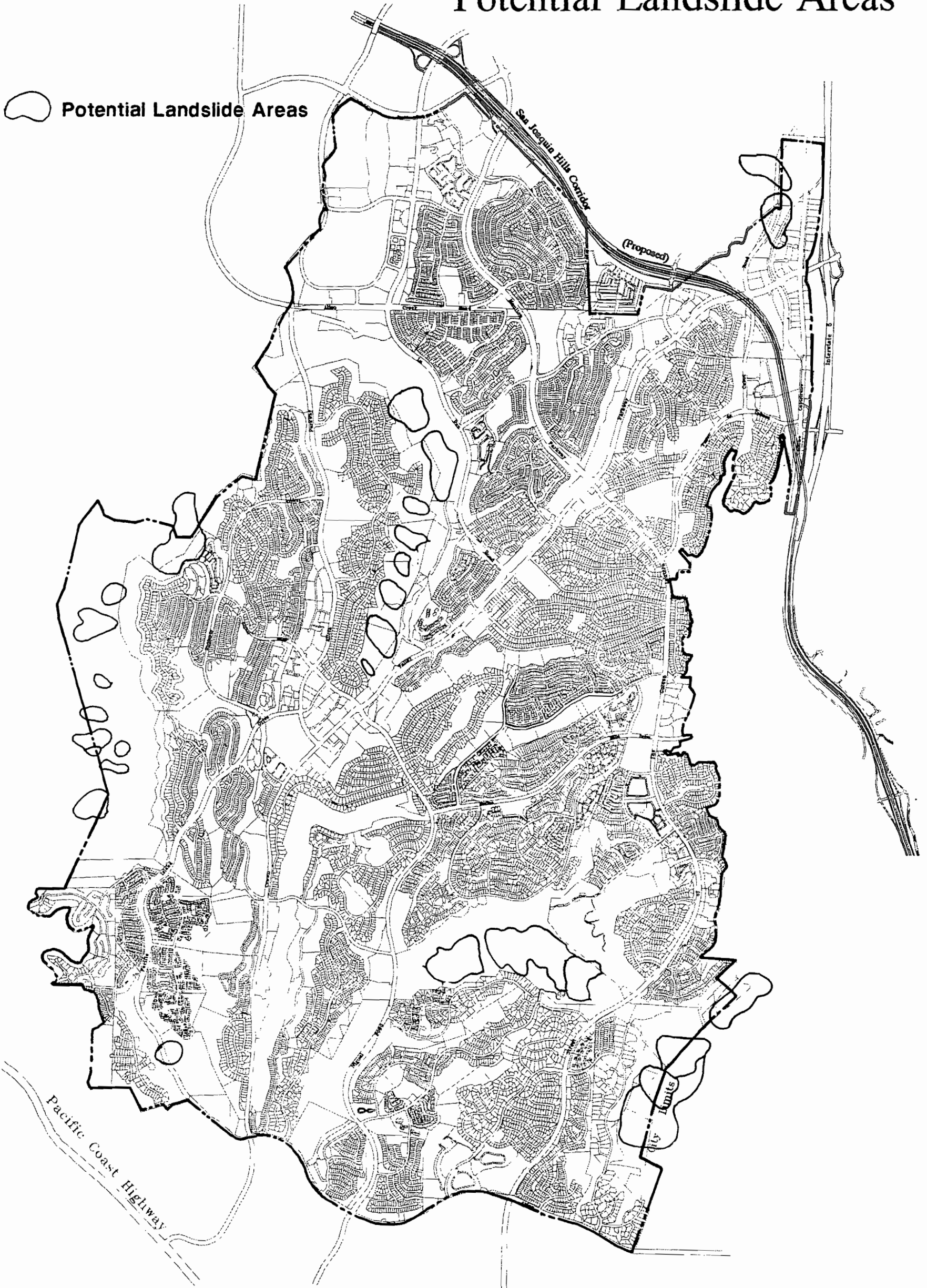
Hazardous materials are utilized by a number of businesses in Laguna Niguel. In addition, a number of common household products contain hazardous materials. Proper management and disposal of hazardous wastes is necessary to avoid adverse human health and environmental impacts.

### **1. Sites Containing Hazardous Waste**

Hazardous wastes can pose a threat to public health, and cause land, water and air pollution if not properly handled or disposed. A number of federal, state and local laws and regulations address proper management of hazardous wastes. Major federal and state laws governing hazardous waste are: the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, and the Superfund Amendments and Reauthorization Act (SARA) of 1986, govern the clean-up of hazardous waste sites; the Resource Conservation and Recovery Act (RCRA) and the California Hazardous Waste Control Law (HWCL) regulate business which generate, transport, treat and dispose of hazardous waste. Community-Right-To-Know laws require disclosure of hazardous wastes and emergency incident responses from various levels of government and private industry.

# Potential Landslide Areas

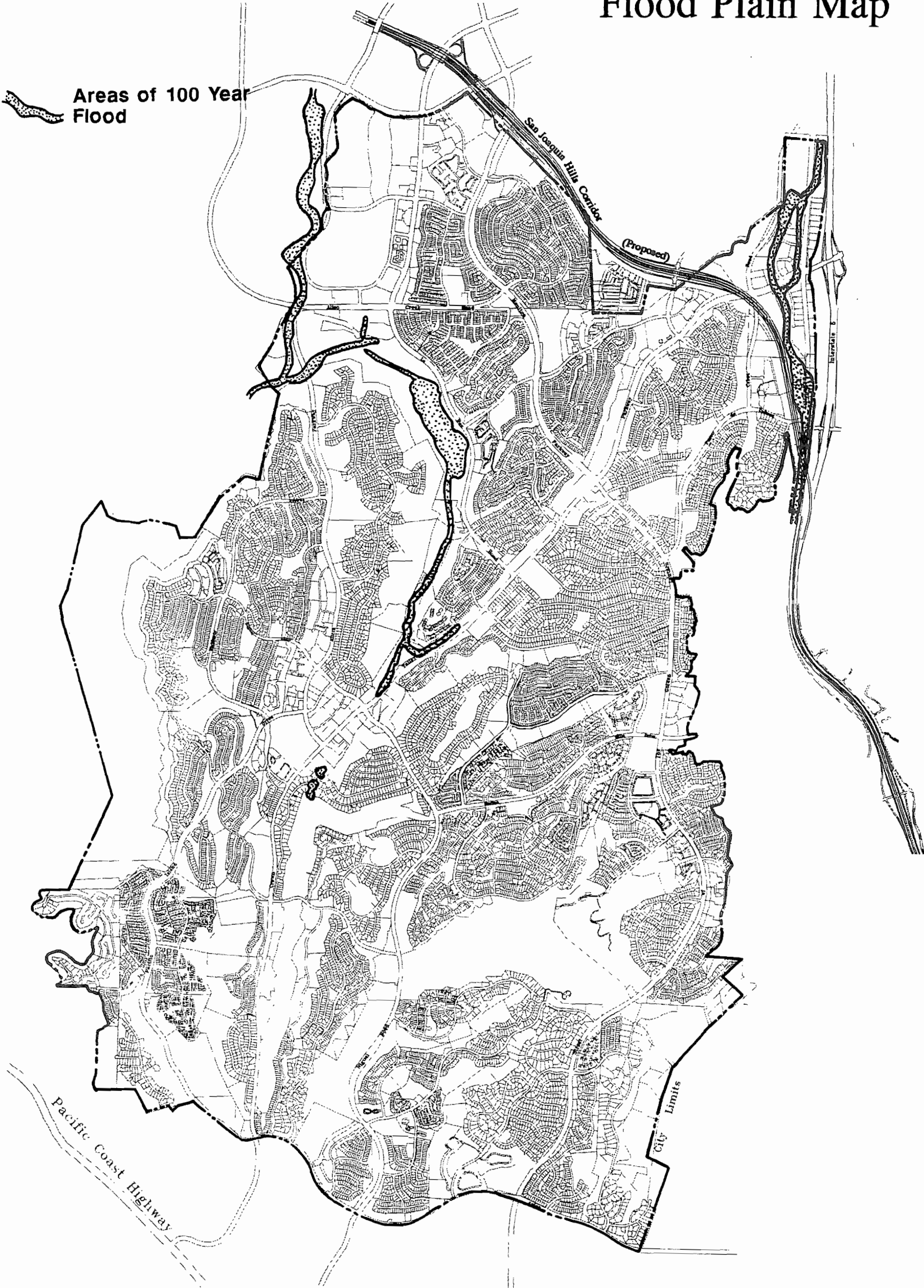
 Potential Landslide Areas



SOURCE: State of California Department of Conservation

# Flood Plain Map

Areas of 100 Year Flood



SOURCE: Federal Emergency Management Agency, Flood Insurance Rate Map

The City of  
**LAGUNA NIGUEL**  
General Plan

Job: LAG-04P  
Date: FEBRUARY 11, 1992  
SA-3

SCALE IN FEET  
0 100 200

A search of Federal and California databases indicate that there are ten confirmed hazardous waste sites located in the City. In all cases, the underlying cause was leaking of underground storage tanks (LUSTs). These LUSTs are impacting soil and/or groundwater and are being investigated by the Regional Water Quality Control Board and/or the State Department of Health Services.

## **2. Hazardous Waste Generators**

The database search also indicates that there are 38 registered hazardous waste generators in Laguna Niguel. The list of generators includes, but is not limited to, dry cleaning businesses, auto maintenance shops, photo development shops and telephone companies. These facilities are registered with the U.S. Environmental Protection Agency (EPA), and are not known to have violated any hazardous waste laws.

Future hazardous waste generators could locate within the Industrial/Business Park land use designation.

## **3. Transportation Routes**

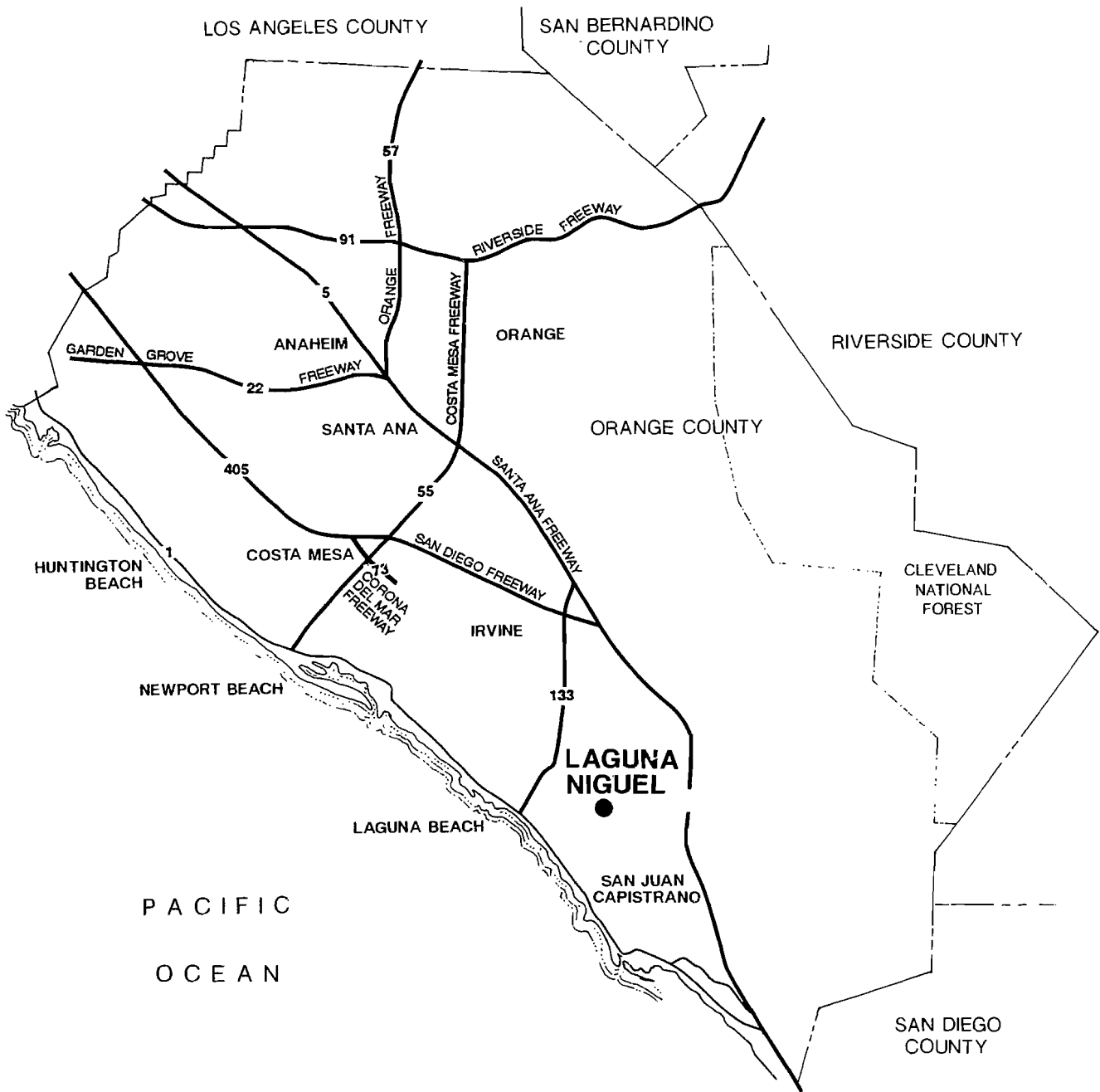
Large amounts of hazardous materials are transported daily on California's highways, railways, and waterways. Most of the hazardous materials transported are virgin chemical materials used in industry and agriculture; only a small amount of the material is hazardous waste. The transportation of hazardous waste in the County results in the potential for risk of upset due to accidents and spillage.

The transport of hazardous waste by freeways as well as rail is regulated by the Department of Transportation. In addition, transporters are required to register with the California Department of Health Services. Although local government has limited authority with respect to hazardous materials/waste, transportation of these materials can be regulated on local streets.

In Orange County, most hazardous waste is transported along major freeways including Interstate 5. Refer to Figure SA-4 for the location of regional hazardous materials transportation routes. Primary and secondary roads are used to access freeway routes from sites which generate hazardous waste.

The I-5 freeway abuts the northeast corner of the City, at the Crown Valley Parkway and Avery Parkway interchanges. To access the freeway, hazardous wastes must be transported on the City's primary and secondary roads. There are currently no designated routes or travel time restrictions for hazardous materials transporters on City streets.

# Regional Hazardous Material Transportation Routes



Rail is the second, and preferred, mode of hazardous waste transport. According to studies, rail transportation involves significantly fewer accidents on a ton per mile basis, in comparison to motor vehicle transport. In addition, the rail carriers in Southern California have a comprehensive emergency response program in the event of an accident. Rail, however, is not extensively used in Orange County. The large number of small quantity generators, dispersed throughout the County, renders rail transport less economically viable than motor vehicle transport. Currently, all hazardous waste generated in Laguna Niguel is transported by motor vehicle.

#### **D. Wildland Fire**

The topography, vegetation and development patterns in Laguna Niguel make the City highly susceptible to fire hazards. The City is marked by rolling hills and valleys, and residential development is located on/within the many ridgelines and valleys. The hilly terrain constrains accessibility to fires by the Fire Department ground crews. Vegetation in the City, including native plant communities i.e., chaparral and ruderal vegetation, is also highly combustible. The fire hazard is at its peak during the summer months when plant material that has built-up during the spring, dies, thus becoming a source of fuel.

Many of the residential subdivisions in the City provide access roads to the surrounding undeveloped hillsides. The homeowner associations for the subdivisions may also have active fuel modification programs to reduce fire hazards. Thinning combustible vegetation, sprinkler systems, and reintroduction of non-combustive vegetation are primary methods to reduce the threat of wildland fire.

#### **E. Urban Fire**

Urban fire is a threat to property and life in Orange County. As the number of structural features increase, so does the incidence of fire. Certain development patterns pose more difficult fire problems. These include multi-story, wood frame, high density apartment development; multi-story research development; large continuous developed areas with combustible roofing materials; and facilities that use and/or store hazardous materials. Features of structural conditions that affect fire control include: type and use of structure, area of building, number of stories, roofcovering, and exposures to the building. The Uniform Building Code regulates these features and requires certain built-in fire protection devices when maximum allowable uses or heights are exceeded, or the building use presents a life or property protection problem.

The City is marked by residential land uses and open space. Achieving a more balanced mix of land uses in the City is a major theme of the General Plan and the intensification of commercial areas in the City promotes this end. In addition, there are 4,615 remaining dwelling units to be developed in the City. Additional residential



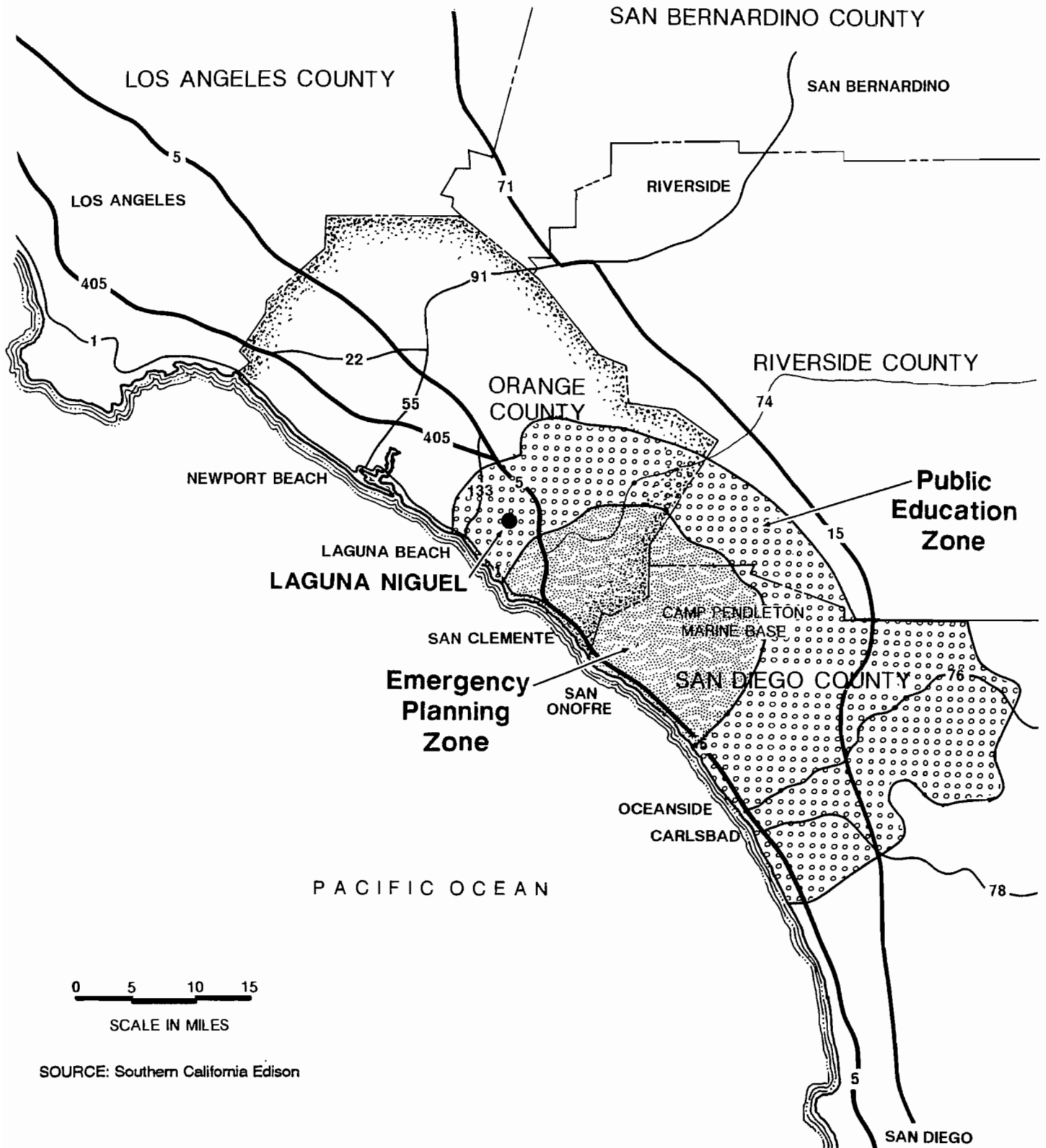
structures and intensification of uses in portions of the City increases the threat of urban fire, as well as the population at risk.

## **F. Nuclear Hazards from San Onofre Nuclear Generating Station**

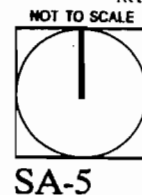
The San Onofre Nuclear Generating Station (SONGS) is located on Camp Pendleton in San Diego County approximately 10 miles south of Laguna Niguel. Radioactive by-products are contained within the plant, with the exception of small quantities of radioactive gas released into the air and liquids released into the Pacific Ocean. The releases are monitored by SONGS personnel; and according to SONGS, radiation exposure due to material releases is less than the typical exposure from natural background radiation. The two most likely sources of radiation contamination are transportation accidents involving transport of radioactive materials and uncontrolled releases at the plant site.

The U.S. Nuclear Regulatory Commission has identified the area surrounding every nuclear generating stations as an Emergency Planning Zone (EPZ). The State of California has defined the area outside, and adjacent to the EPZ as a Public Education Zone (PEZ). The City is located within the SONGS' PEZ. The Federal Government establishes the area with a 50-mile radius around every nuclear generating station as an Ingestion Pathway Zone (IPZ). At SONGS, the IPZ encompasses all of Orange County. Figure SA-5 locates the EPZ and PEZ surrounding SONGS in relation to Laguna Niguel. Emergency information is contained in the front of the Pacific Bell South County telephone book.

# E.P.Z. & P.E.Z. for San Onofre Nuclear Generating Station



The City of  
**LAGUNA NIGUEL**  
General Plan



SA-5

## **V. THE PUBLIC SAFETY PLAN**

The Public Safety Plan implements the goals and policies of the Safety Element by establishing the framework for agency coordination in the event of a disaster. The Plan is intended to supplement the City's Emergency Operations Plan.

### **A. Fire and Law Enforcement**

The City contracts with the Orange County's Sheriff's Department for law enforcement services and the Orange County Fire Department (OCFD) for fire protection, emergency medical services, and hazardous conditions abatement. Other agencies having jurisdiction or providing services in the City include the California Highway Patrol and the Orange County Health Department.

### **B. Nuclear Emergency Response Agencies**

In the event of a nuclear incident at the San Onofre Nuclear Generating Station, state and federal agencies would have primary responsibility for emergency response and coordination. The following briefly describes roles and responsibilities of these agencies.

U.S. Nuclear Regulatory Commission (NRC): The NRC approves construction and operating licenses for nuclear generator plants. Permanent on-site inspectors ensure that safety standards and regulations are being met.

U.S. Federal Emergency Management Agency (FEMA): FEMA regulations are directed at off-site protection of public health and safety in the event of a nuclear incident through the coordination of local and primary response agencies.

California Office of Emergency Services (OES): The OES coordinates State resources in the event of an accident at SONGS. In addition, the agency is responsible for recovery activities within a 50-mile zone surrounding SONGS, or the Ingestion Pathway Zone (IPZ).

Department of Health Services (DHS): This State agency has primary responsibility for operations in the Recovery Phase of a nuclear power plant accident and is assisted by the Health Department from affected counties. The City should maintain a high profile in relation to SONGS by monitoring and proactively engaging in educational programs in the PEZ.

### **C. Seismic and Geologic Management**

The Orange County/Southern California Earthquake Preparedness Project (SCEPP) is a State and Federally funded effort to encourage local jurisdictions to prepare for catastrophic earthquakes in the Southern California area. The project works directly

with local governments, private industry and volunteer groups in a cooperative planning effort which addresses a full range of earthquake strategies including mitigation, short-term prediction response and recovery. The City should coordinate with the SCEPP and utilize the planning resources it provides.

#### **D. Emergency Preparedness Plan**

The County of Orange is currently revising its emergency preparedness plan. The County Multihazard Functional Plan will outline responsibilities of the various agencies in the event of a natural hazard. Emergency routes in the County are also designated. The plan is being coordinated with cities within the County to ensure consistency with local plans.

The City of Laguna Niguel is currently drafting its first Emergency Operations Plan (EOP). The EOP will provide direction for City response to emergency situations stemming from natural disasters, technological incidents and nuclear defense operations. The plan focuses on agency coordination and response procedures for large-scale disasters. The EOP consists of a Basic Plan; Functional Annexes; and Resource List.

The Basic Plan summarizes operational concepts, identifies major components of the City Emergency Management Organization, and provides a description of Federal, State, County and City agencies/organizations that are charged with responsibility in the event of a disaster. The Functional Annexes outline response and recovery functions, as well as specific guidelines for accomplishing these functions. The final component, Resource List, provides a listing of resources, key personnel and critical facilities.

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## VI. GOALS, POLICIES AND ACTIONS

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**Goal 1** A reduction of impacts from natural hazards that may affect the City of Laguna Niguel.

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**Intent** The City is located in a seismically active region. Although no known active or potentially active faults are located within City boundaries, there are two active faults in Orange County. In addition, portions of the City are subject to inundation from a 100 year flood. The intent is to reduce the potential for loss of life, injury, or property damage from flooding, seismic and other geologic hazards.

**Policy 1.1** Mitigate potential adverse impacts of geologic and seismic hazards.

**Actions**

**1.1.1** Require site specific geologic and soils studies as part of the approval process for new development. This analysis must identify on-site geologic hazards, determine risk potential and provide mitigation measures for all pertinent geologic hazards.

**1.1.2** Monitor known and potential geologic hazards in the City through coordination with the State Division of Mines and Geology.

**1.1.3** Maintain existing standards and requirements for grading and construction to eliminate the potential for erosion, slope failure, landslides, and other geologic hazards.

**1.1.4** Maintain existing building safety and design standards for protection from geologic and seismic related events.

**1.1.5** Participate in earthquake awareness programs.

**1.1.6** Strive to correct any existing and future problems related to slope stability such as mud slides and siltation.

**Policy 1.2** Protect the community from flood hazards.

**Action**

**1.2.1** Continue to participate in the National Flood Insurance Program.

**Policy 1.3** Develop plans and programs to mitigate the effects of natural hazards.

*Actions*

**1.3.1** Adopt and implement an Emergency Preparedness Plan.

**1.3.2** Coordinate with the County of Orange, adjacent cities, Federal Emergency Management Agency and Office of Emergency Services to reduce community risk in the event of a disaster.

**1.3.3** Provide community awareness information for citizens describing evacuation routes and procedures to be followed in the event of a disaster.

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**Goal 2** Protection of the public and sensitive environmental resources from exposure to hazardous materials and waste.

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**Intent** The management of hazardous material has recently emerged as an important environmental and planning issue. Modern technology and society's high standard of living has led to a dependence on products containing hazardous substances. This dependency necessitates adequate management of materials and waste in the City. The intent is to avoid damage to people, property and environmental resources from these materials.

**Policy 2.1** Reduce risks of exposure to hazardous materials and waste through careful land use and hazardous materials management planning.

*Actions*

**2.1.1** Adopt by reference the Orange County Hazardous Waste Management Plan.

**2.1.2** Regulate land uses, consistent with the Orange County Hazardous Waste Management Plan and adopted City Ordinances, involved in the use, storage or production of hazardous materials, including maintenance of a safe distance from other uses that may be adversely affected by such activities.

**2.1.3** Coordinate with the fire department in maintaining an inventory of facilities involved in the transportation, use or storage of hazardous materials.

**Policy 2.2** Reduce risk of exposure by improving the safety of hazardous materials/waste transportation.

*Actions*

**2.2.1** Establish transportation routes in the City for the conveyance of hazardous materials.

**2.2.2** Restrict transportation of hazardous materials through residential areas and restrict its transport on arterial highways to off-peak hour traffic times.

**2.2.3** Develop a notification system for the transportation of extremely hazardous wastes, and require guarded transport for large quantities of extremely hazardous materials.

**Policy 2.3** Encourage sound management practices for the handling and disposal of household hazardous waste.

*Actions*

**2.3.1** Work with the County to implement the City's Household Hazardous Waste Element.

**2.3.2** Cooperate with the County of Orange to implement applicable portions of the County's Hazardous Waste Management Plan.

**2.3.3** Participate in the County's Household Collection/Disposal Program.

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**Goal 3** A safe and secure community free from the threat of personal injury and loss of property.

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*Intent* Residents pride themselves on the safe living environment that prevails in the City of Laguna Niguel. The City will continue to provide adequate levels of fire and police service necessary to maintain this environment.

**Policy 3.1** Provide fire protection to ensure the public's health and safety.

*Actions*

**3.1.1** Fire hazards shall be identified in the project review process and be prevented or mitigated to an acceptable level.

**3.1.2** New developments shall satisfy fire flow requirements, street widths and design requirements as established by the fire and police department.

**3.1.3** Enforce fire inspection, building code compliance and weed abatement programs.

**Policy 3.2** Reduce the risk of wildland fire through fuel modification programs.

*Actions*

**3.2.1** Continue to require fuel modification of natural vegetation at the urban interface.

3.2.2 Continue to require fire-resistant roofing materials for areas subject to wildland fire hazards.

3.2.3 Continue to require that fuel modification plans to be approved by the Orange County Fire Department prior to issuance of a use and occupancy permit for any structure adjacent to a fuel modified area.

3.2.4 Protect sensitive plant communities and the aesthetics by utilizing graduated fuel modification zones which allow for wet zones and selective thinning of natural vegetation where this practice will not conflict with fire safety requirements.

**Policy 3.3** Maintain the integrity of environmentally significant areas that are subject to weed abatement activities.

*Action*

3.3.1 Enforce the provisions of the Weed Abatement and Environmentally Significant Areas Ordinance.

**Policy 3.4** Ensure adequate law enforcement services.

*Actions*

3.4.1 Law enforcement hazards shall be identified in the project review process and mitigated to an acceptable level.

3.4.2 Continue to work with the community in operating Neighborhood Watch programs that promote mutual assistance and crime prevention activities among residents.

3.4.3 Require new development to incorporate defensible space into site plan and building design.