6.5 Airport Hazards

For land use policies related to the airport, see Chapter 2: Land Use and Community Design. For noise policies related to the airport, see Chapter 5: Noise Element.

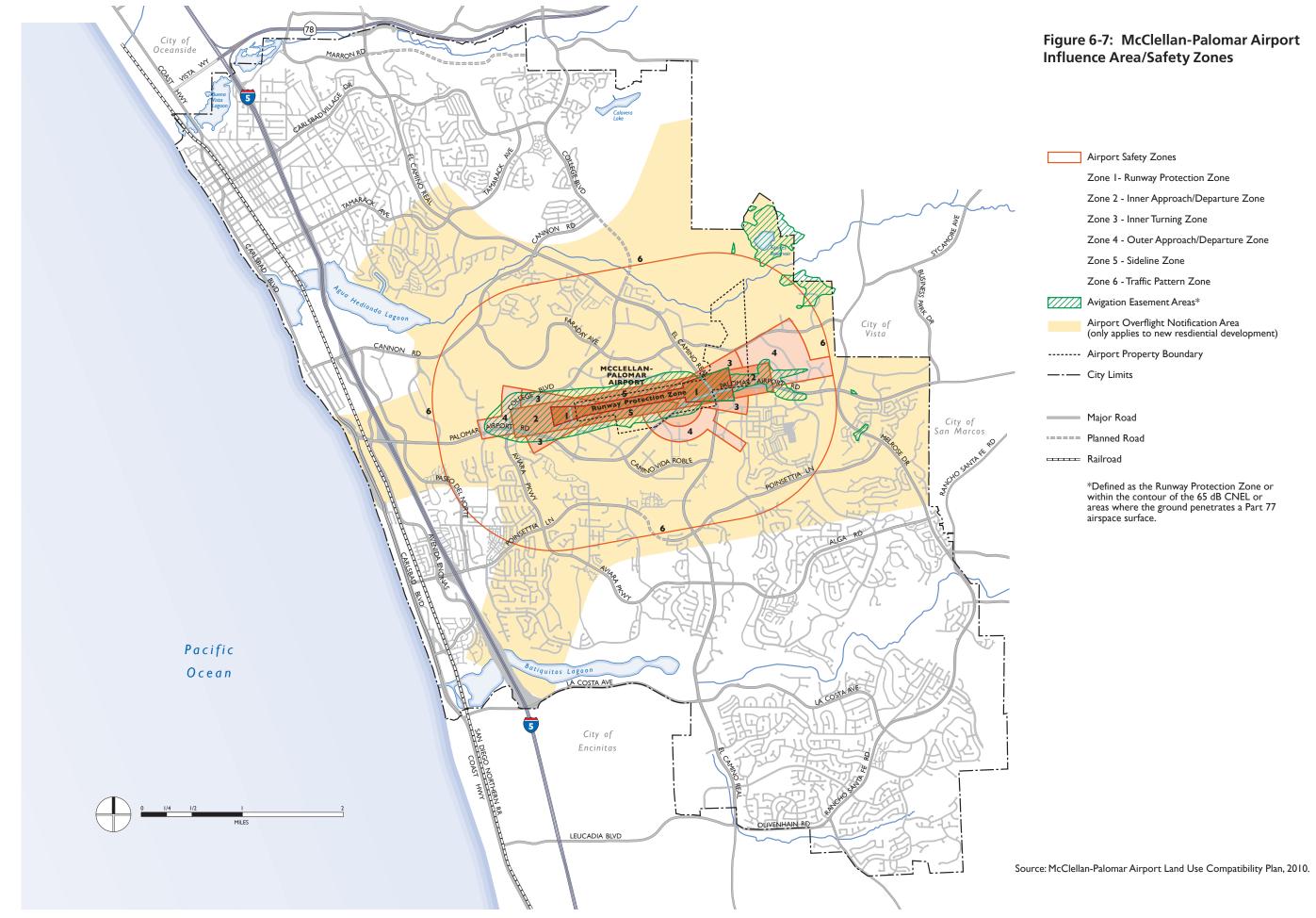
The McClellan-Palomar Airport, located in Carlsbad, serves the northern part of San Diego County. The airport, owned and operated by the County of San Diego, is defined by the Federal Aviation Administration (FAA) as a commercial service airport that, in addition to private aircraft, has regularly scheduled commercial flights to Los Angeles International Airport (LAX). The McClellan-Palomar Airport Land Use Compatibility Plan (ALUCP) is prepared according to Federal Aviation Administration requirements and adopted by the San Diego County Regional Airport Authority acting as the Airport Land Use Commission for the County of San Diego. The ALUCP provides measures to minimize the public's exposure to excessive noise and safety hazards within areas around the airport, and identifies areas likely to be impacted by noise and flight activity created by aircraft operations at the airport. These impacted areas include the Airport Influence Area (AIA), the Clear Zone, and the Flight Activity Zone. The AIA, shown in Figure 6-7, includes a large portion of the City of Carlsbad, as well as portions of the cities of Vista, San Marcos, and Escondido.

Within the AIA, the ALUCP establishes six safety zones for the purpose of evaluating safety compatibility of new/future land use actions. The safety zone boundaries depict relative risk of aircraft accidents occurring near the airport and are derived from general aviation aircraft accident location data and data regarding the airport's runway configuration and airport operational procedures. The ALUCP limits development intensities in these zones by imposing floor area and lot coverage maximums, by incorporating risk reduction measures in the design and construction of buildings, and/or by restricting certain uses altogether. Generally, allowable uses and development intensities range from most restrictive in Safety Zone 1 to least restrictive in Safety Zone 6 (these are shown in Figure 5-4). For example, all residential and virtually all non-residential uses are considered incompatible land uses in Zone 1, while all land uses in Zone 6 are considered to be either compatible or conditionally-compatible with the airport.

The FAA establishes airspace protection zones in the airspace above and surrounding airports in order to protect aircraft from obstructions such as buildings, towers, etc. in navigable airspace. Airspace protection zones are defined in Part 77 of the Code of Federal Aviation Regulations; the protected airspace around McClellan-Palomar Airport is depicted in Figure 6-7.

The ALUCP also requires that certain development projects record overflight notification documents in order to provide constructive notice to current and prospective property owners of aircraft activity within the vicinity of the airport. Under certain circumstances, developers of specific properties may be required to grant avigation easements to the airport owner (County of San Diego). Among other things, an avigation easement grants the right of flight in the airspace above the property, allows the generation of noise and other impacts associated with overflight, restricts the height of structures, trees and other objects on the property, prohibits potential on ground flight hazards (sources of light/glare, etc.) and permits access to the property to remove or mark objects exceeding the established height limit. Figure 6-7 depicts the avigation easement and overflight notification areas surrounding the airport.

The city requires review of all proposed development projects within the AIA. New development proposals must process a site development plan, or other development permit, and be found to be consistent or conditionally consistent with applicable land use compatibility policies with respect to noise, safety, airspace protection, and overflight, as contained in the ALUCP. Additionally, development proposals are required to comply with FAA regulations concerning the construction or alteration of structures that may affect navigable airspace.



6.6 Railroad Hazards

For Mobility policies related to the railroad, see Chapter 3: Mobility. For noise policies related to the railroad, see Chapter 5: Noise Element. Safety hazards related to transportation of hazardous materials are discussed in Section 6.7, below.

The North County Transit District (NCTD) owns the north/south railroad that parallels Carlsbad's entire seven-mile coastline, as well as Interstate-5 and Carlsbad Boulevard. NCTD operates the Coaster commuter rail service on this rail line and owns two passenger rail stations located within the city: Carlsbad Village and Carlsbad Poinsettia stations. The Atchison, Topeka & Santa Fe freight line and the Amtrak passenger service also use the rail line through the city.

The railroad, while providing a vital service for passenger transit and goods movement through the city, presents potential safety concerns in the city. The railroad acts as a barrier and restricts east/west access for emergency services; it also results in the potential for train collisions with automobiles, bicyclists and pedestrians. Fatal train incidents have occurred in the Carlsbad Village section of the railway, all involving pedestrians.

As part of the North Coast Corridor (NCC) Program, the San Diego Association of Governments (SANDAG) plans, during the next 20 years, to construct nearly \$820 million in improvements to the San Diego County rail corridor, including a primary effort to double track the corridor from Orange County to downtown San Diego. Double tracking the rail corridor through San Diego County will add the capacity for approximately 100 more railcars per day through the corridor. To date, approximately half of the rail corridor has been double tracked. Other infrastructure improvements planned by SANDAG include bridge and track replacements, new platforms, pedestrian under-crossings, and other safety and operational enhancements.

Along the rail corridor through Carlsbad, SANDAG is considering two options for double tracking the railroad: at-grade tracks and grade-separated tracks (railroad tracks located in a trench below street grade). The city is working closely with SANDAG and other agencies to encourage and support the grade-separated option, which would increase east-west crossings and improve east-west access for emergency services, and would reduce the potential for train collisions with automobiles, bicyclists and pedestrians.

6.7 Hazardous Materials

Hazardous materials include a wide variety of substances commonly used in households and businesses. Motor oil, paint, solvents, lawn care and gardening products, household cleaners, gasoline, and refrigerants are among the diverse range of substances classified as hazardous materials. Nearly all businesses and residences generate some amount of hazardous waste. Certain businesses and industries, including gas stations, automotive service and repair shops, printers, dry cleaners, and photo processors, generate larger amounts of such substances. Hospitals, clinics, and laboratories generate medical waste, much of which is also potentially hazardous.

Some hazardous materials present a radiation risk. Radioactive materials, if handled improperly, or if radiation is accidentally released into the environment, can be dangerous because of the harmful effects of certain types of radiation on the human body.

Hazardous Materials Transport

Major transportation routes within Carlsbad include Interstate 5 and State Route 78, surface streets, and the San Diego Northern railroad. Petroleum pipelines, as well as the oil and natural gas pipelines to the Encina Power Plant, also traverse through Carlsbad, and there are high pressure fuel lines along El Camino Real and other areas, as shown in Figure 6-8. These transportation routes and pipelines are used to transport hazardous materials from suppliers to users. Transportation accidents involving hazardous materials could occur on any of the routes, potentially resulting in explosions, physical contact by emergency response personnel, environmental degradation, and exposure to the public.

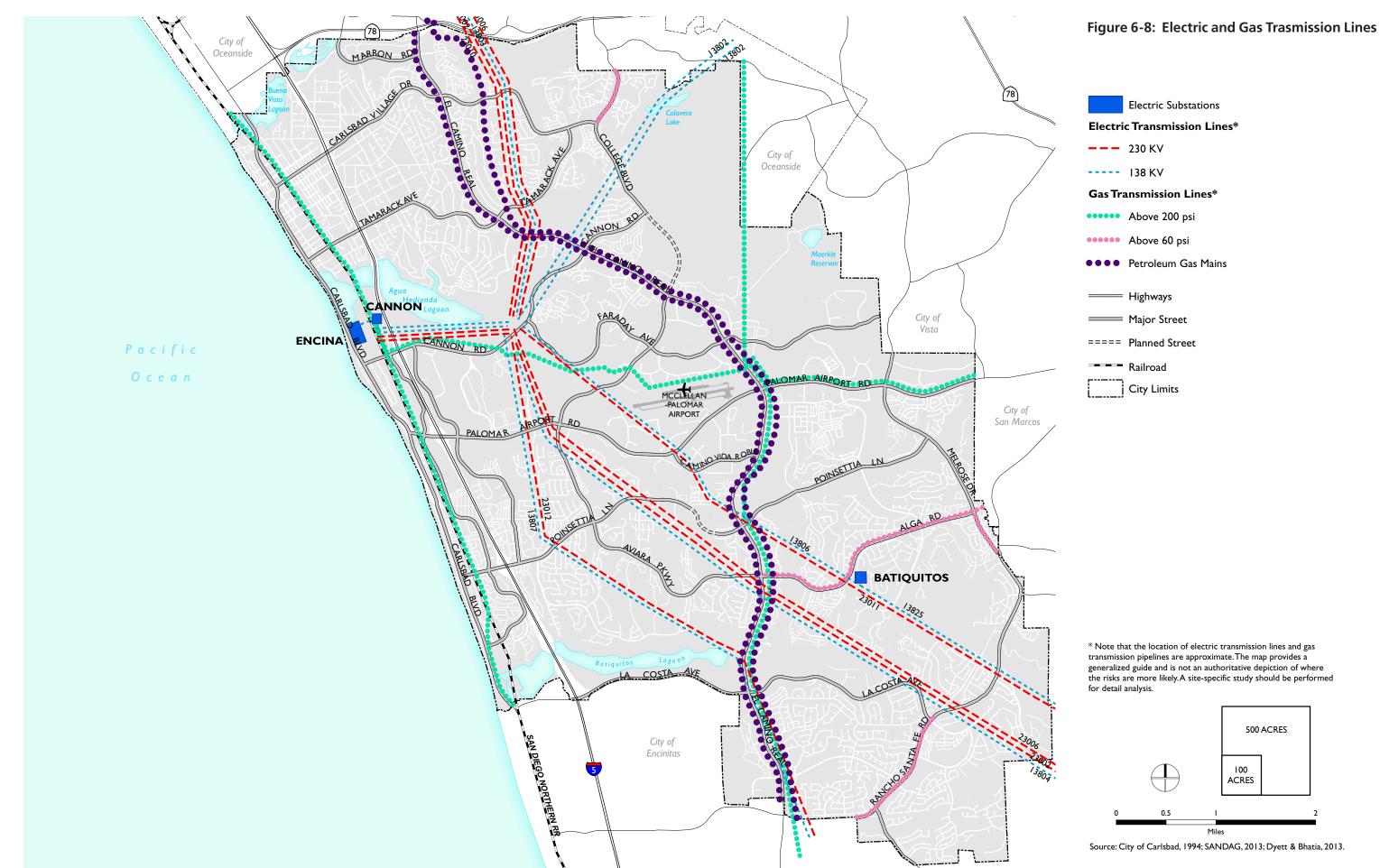
Hazardous Materials Facilities

The County of San Diego, through its California Environmental Protection Agency (CalEPA) Unified Program, has recorded (as of 2012) approximately 338 facilities within Carlsbad that store and maintain chemical, biological, and radiological agents, and explosives. In addition, there are 180 facilities within the city that are registered with the U.S. EPA as generators of hazardous waste.⁵

Potential Environmental Hazards

Sites within the City of Carlsbad where the presence of hazardous materials present potential environmental hazards were identified using information from state databases and a review of online regulatory files for select sites. The databases used were EnviroStor, which identifies hazardous waste facility and

⁵ County of San Diego, 2010, San Diego County Multi-Jurisdiction Hazard Mitigation Plan, page 4-51.



cleanup sites, and SWRCB GeoTracker, which identifies permitted underground storage tanks (UST) and cleanup sites. The databases included the following types of sites: release sites (cleanup sites), UST sites, permitted hazardous waste facilities, wastewater treatment tiered permit facilities, and proposed school sites evaluated by the California DTSC for the presence of hazardous materials.

The hazardous materials sites identified in the EnviroStor and GeoTracker databases were evaluated as part of the General Plan Environmental Impact Report (EIR) in order to rank the sites in terms of potential environmental concern.

Using the databases, a total of 214 hazardous materials sites with 126 unique listings were identified within Carlsbad (see the General Plan EIR for details of the listings). A total of 110 of those unique site listings have had known releases, while the remaining 16 have not had known releases. The San Diego Regional Water Quality Control Board's Geographic Environmental Information Management System is a data warehouse that tracks regulatory data about underground fuel tanks, fuel pipelines and public drinking water supplies using GeoTracker; as information in the database is periodically updated, the database should be consulted for current information.





6.8 Police, Fire, and Emergency Services

Police Services

The Carlsbad Police Department conducts its safety services out of the Carlsbad Public Safety and Service Center located on Orion Way. The Public Safety Center location is depicted on Figure 6-9. The patrol division is the core of the Police Department's law enforcement services, responding to more than 90,000 calls for service annually. Although street patrols are the majority of the division's activity, other special services include canine units, bicycle patrol, crisis negotiations, bilingual services, tactical response team (SWAT; Special Weapons and Tactics) and mental health assistance teams.

In May 2012, the Carlsbad Safety Training Center was completed to provide necessary training for local police, fire and other safety workers. The training center is located next to the Public Safety and Service Center, and includes a shooting range and structures that can be used to simulate fires in residential and commercial buildings as well as help police conduct tactical training.

Anticipated Space Needs for the Police Department

To accommodate population growth, the Police Department expects to grow to a point where it will need to occupy the space inside the Public Safety and Service Center that is currently occupied by Fire Administration. Alternative solutions the Police Department is considering include relocating some or all Police Department services to another facility, relocating Fire Administration to another facility, or expanding the Public Safety and Service Center to accommodate Police Department growth and the continued presence of Fire Administration. Also needed by the Police Department is a secure storage facility for large pieces of evidence, such as vehicles.

Fire and Emergency Medical Services

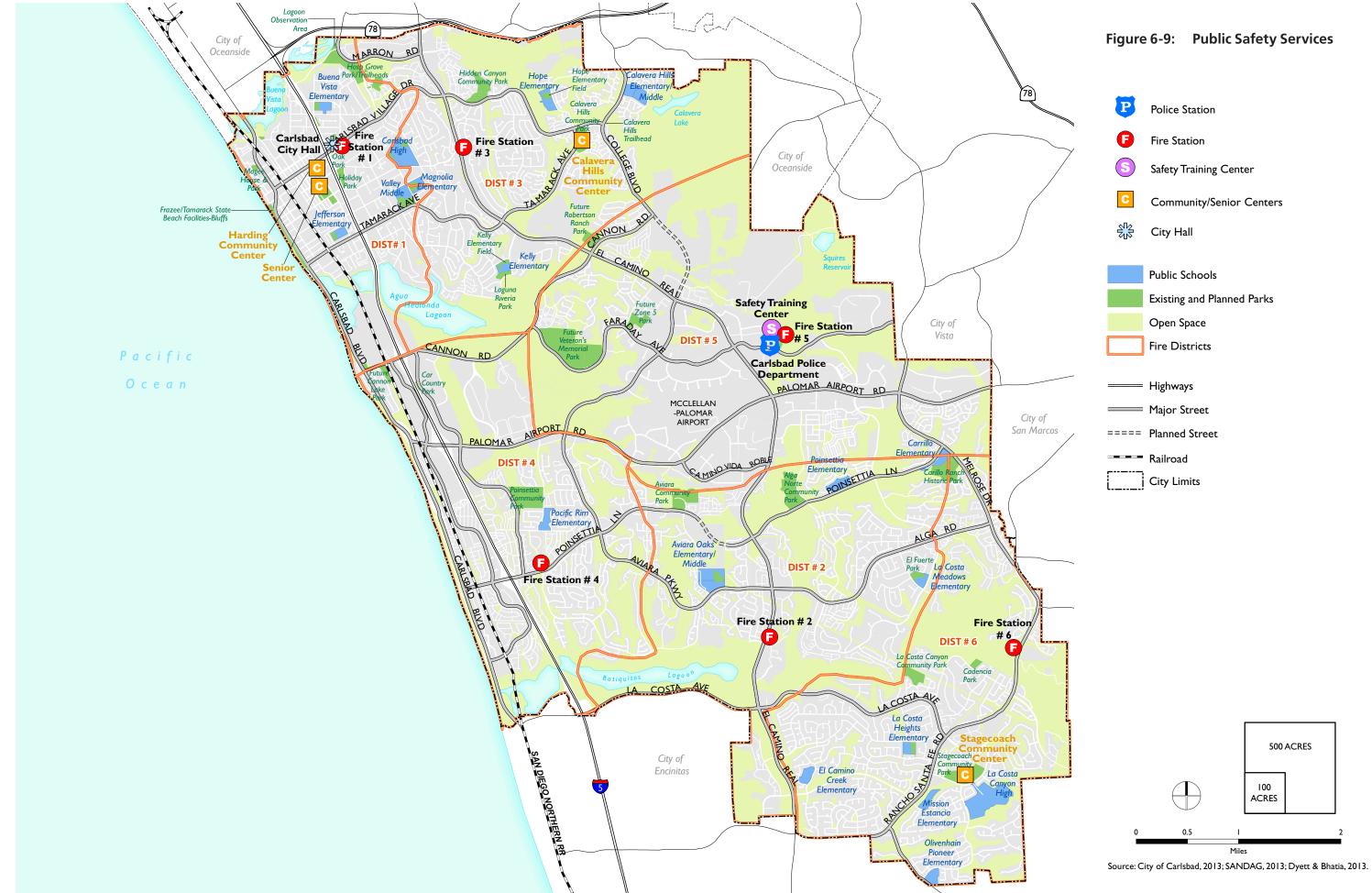
The City of Carlsbad has six fire stations, indicated on Figure 6-9. The oldest of the stations was constructed in 1966, while the newest was completed in 2009.

Fire Operations is the largest division within the Carlsbad Fire Department and is responsible for fire suppression, rescue, emergency medical service delivery and disaster mitigation. The Fire Department delivers advanced life support level care on all fire engines and ambulances, including a licensed paramedic. Currently, more than 75 percent of the city's fire suppression personnel are licensed paramedics; frequently multiple paramedics are available on-scene at emergency incidents.

City of Carlsbad SWAT medics are firefighter/paramedics on special assignment working alongside the Carlsbad Police Department SWAT team. SWAT







medics are also deployed with Carlsbad police officers in support of other law enforcement units such as the San Diego Sheriff's SWAT team and the regional law enforcement task force.

TABLE 6-1: FIRE STATIONS SUMMARY

STATIONS	BUILT	ADDRESS	STAFFING DESCRIPTION
1	1966	1275 Carlsbad Village Dr.	Crew of five: captain, engineer and three firefighter/paramedics
2	1969	1906 Arenal Rd.	Crew of five: captain, engineer and three firefighter/paramedics
3 ¹	1973	3701 Catalina Dr.	Crew of three: captain, engineer and firefighter/paramedic
4	1986	6885 Batiquitos Dr.	Crew of three: captain, engineer and firefighter/paramedic
5	1988	2540 Orion Way	Crew of four: duty battalion chief, captain, engineer, and firefighter/paramedic
6	2009	7201 Rancho Santa Fe Rd.	Crew of three: captain, engineer, and firefighter/paramedic

¹ Fire Station 3 is planned to be replaced with a new station to be constructed in the Robertson Ranch Master Plan area. Construction of the new station is anticipated to be completed by the end of 2014.

Source: City of Carlsbad Fire Department Service Provider Information Request, September 2010.

Anticipated Space Needs for the Fire Department

Based on needs identified by the Carlsbad Police Department for additional space, considerations will need to be made for the relocation of Fire Administration in close proximity to Fire Station No. 5 and the Carlsbad Safety Training Center. At that time, consideration for the relocation of Fire Prevention staff to the same location should also be made.

The future needs of the Fire Department must be considered when embarking on the remodeling or rebuilding of a fire station. Three out of the six fire stations (Fire Stations 1, 2 and 3) are currently minimally meeting the operational needs of the city. These three stations are 40 years or older and nearing the end of their service life; Stations 1 and 2 should be considered for major remodel or reconstruction; Fire Station 3 is planned to be replaced in 2014 with a new station in the Robertson Ranch Master Plan area. Increased service demands, changes in staffing, and the increasing size of fire apparatus require considerations for increasing the size and capabilities of these city facilities.

Wildland Fire Hazards

The California Department of Forestry and Fire Protection (CAL FIRE) has mapped fire threat potential throughout California. CAL FIRE ranks fire threat according to the availability of fuel and the likelihood of an area burning (based on topography, fire history, and climate). The rankings include little or no fire threat, moderate, high, and very high fire threat. The large amounts of open space and wildland make Carlsbad susceptible to brush fires year round. The proximity of native vegetation and the climate of the region contribute to a

⁶ County of San Diego, 2010, San Diego County Multi-Jurisdiction Hazard Mitigation Plan, page 4-89.

moderate to high threat of wildfires in the city, as illustrated in Figure 6-10. Most of Carlsbad has only moderate fire threat; however there is high and very high fire threat in the central and eastern portions of the city.⁷

Urban Fire Hazards

Urban fire risk in Carlsbad is greatest in older structures and neighborhoods built before modern building codes for fire safety and building systems were in place. Other factors affecting urban fire risk and relative likelihood of loss of life or property include building age, height and use; storage of flammable material; building construction materials; availability of sprinkler systems; and proximity to a fire station and hydrants.

Peakload Water Supply Requirement

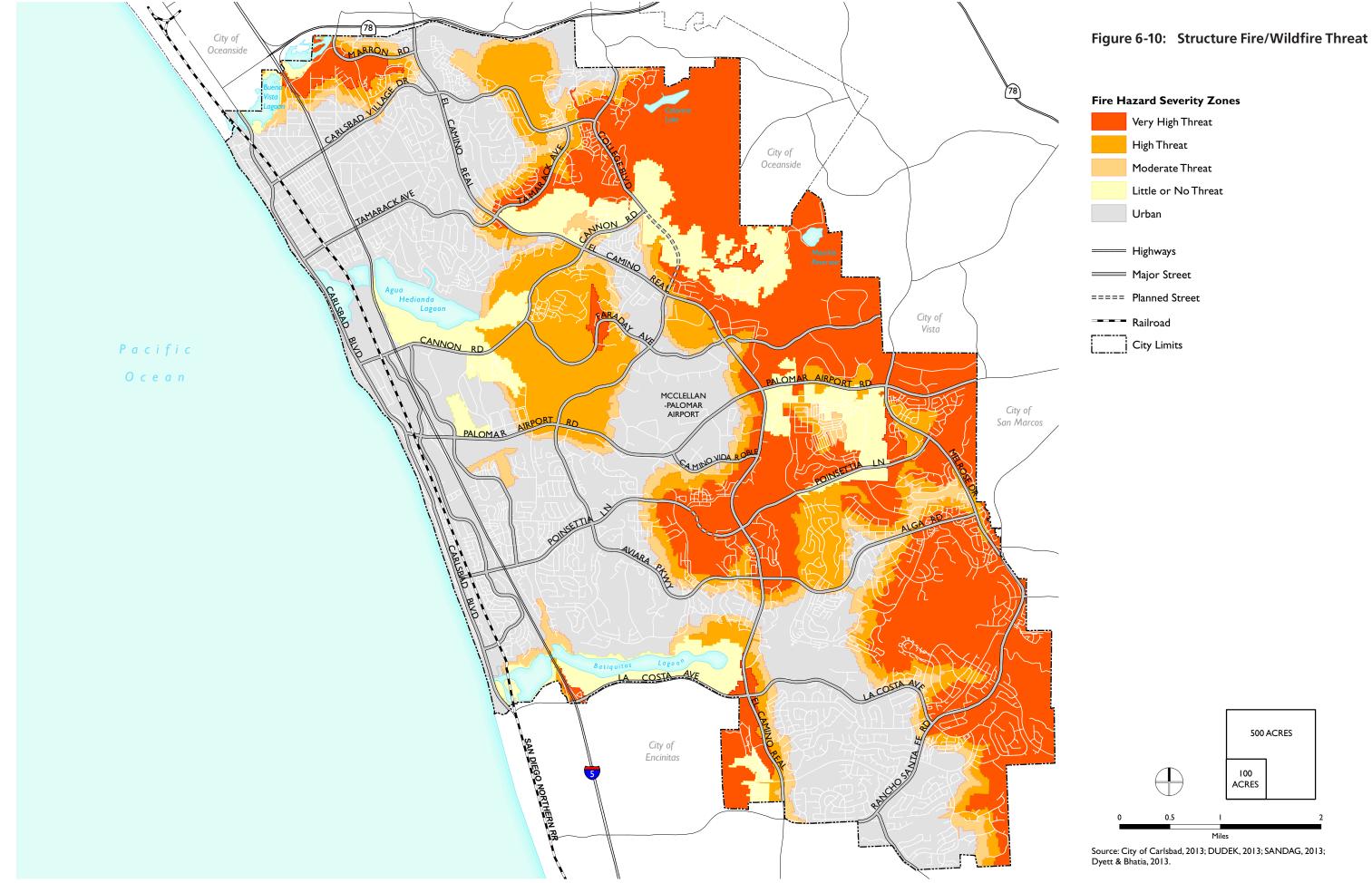
The Carlsbad Fire Department requires a minimum flow of water for fire protection in accordance with the adopted amended California Fire Code and the Insurance Services Office standards. Water mains serving single-family detached houses must provide a flow of 1,500 gallons per minute, in addition to the peak normal maximum daily consumption needs for a neighborhood. The required fire-flow standard for commercial, industrial, manufacturing and large apartment buildings varies from 1,500 to 8,000 gallons per minute, in addition to the peak normal daily consumption needs. This standard is based on type of construction, type of use and any built-in fire protection (sprinklers, etc.).

There are currently no known water flow pressure or supply deficiencies in Carlsbad. The Carlsbad Fire Marshal reviews proposed projects to ensure adequate fire hydrant locations, water flow pressure, and access for emergency vehicles is provided.

Minimum Road Widths and Clearances Around Structures

Clear emergency vehicle access to buildings is important. Such access is regulated by the adopted and amended California Fire Code and adopted Carlsbad land development engineering standards. Under the current Fire Code, all portions of a building shall be within 150 feet of a serviceable fire access road.

⁷ County of San Diego, 2010, San Diego County Multi-Jurisdiction Hazard Mitigation Plan, page 4-93 and 4-94.



6.9 Emergency Preparedness

Coordination and Management

Chapter 6.04 of the Carlsbad Municipal Code defines the organization, power and duties of the City of Carlsbad emergency organization. The City of Carlsbad Fire Department's Emergency Preparedness Division supports the emergency organization by further defining the scope of the city's emergency management program and large-scale incident response activities. The strategic focus of the emergency management program is contained in the Emergency Preparedness Division's mission statement. Carlsbad's Emergency Management Administrative Team (CEMAT) assists the Emergency Preparedness Division in preparedness, response, recovery and mitigation tasks. By resolution, the city has adopted the State of California Standardized Emergency Management System (SEMS), National Incident Management System (NIMS) and Incident Command System (ICS) as its emergency management systems. All City of Carlsbad employees are disaster service workers. Carlsbad's Community Emergency Response Team (CERT) is made up of City of Carlsbad disaster volunteers and reports to the Emergency Preparedness Division, or the EOC in the event of an actual disaster. In general, the City of Carlsbad Emergency Operations Plan (EOP) further establishes and details emergency organization, assigns tasks, specifies policies and general procedures, and provides for coordination of planning efforts of the various emergency staff and service elements utilizing SEMS, NIMS and ICS. The city's EOP identifies the city's Emergency Operations Center (EOC) as the location from which centralized emergency management would be performed during a major emergency or disaster, including receiving and disseminating information, maintaining contact with other EOCs and providing instructions to the public. Emergency preparedness and disaster response information is shared with the public through the City of Carlsbad's website, reverse-911 systems, social media including "sdemergency" mobile application, traditional media, public outreach and the EOC hotline, when activated.

Evacuation Routes

Carlsbad is a participant in the Unified San Diego County Emergency Services Organization (USDCESO). The USDCESO Operational Area Emergency Plan (October 2010) contains evacuation routes resulting from a variety of emergencies. Evacuation routes in this document are incorporated by reference in this General Plan; the document can be accessed at http://www.co.san-diego.ca.us/oes/emergency_management/protected/docs/2010_Complete_Plan_w_Annexes.pdf

City of Carlsbad EOP Annex Q (2013) provides Carlsbad-specific evacuation information and is available in the EOC.

6.10 Goals and Policies

Goals

- **6-G.1** Minimize injury, loss of life, and damage to property resulting from fire, flood, hazardous material release, or seismic disasters.
- **6-G.2** Minimize safety hazards related to aircraft operations in areas around the McClellan-Palomar Airport.
- **6-G.3** Maintain safety services that are responsive to citizens' needs to ensure a safe and secure environment for people and property in the community.
- **6-G.4** Minimize safety hazards related to emergency service, automobile, bicycle and pedestrian access across the railroad.

Policies

Flooding and Coastal Hazards

- 6-P.1 Enforce the Cobey-Alquist Floodplain Management Act and the city's Floodplain Management Regulations to prohibit construction of structures in a designated floodway where such development would endanger life or significantly restrict the carrying capacity of the designated floodway; and to regulate development within other areas of special flood hazard, flood related erosion hazard and mudslide hazard to ensure such development does not adversely affect public health and safety due to water and erosion hazards, or result in damaging increases in erosion, flood height or velocities.
- **6-P.2** Continue to implement and pursue flood control programs that reduce flood hazards, such as the city's Grading Ordinance and the Floodplain Management Regulations.
- **6-P.3** Cooperate and coordinate with federal, state and local jurisdictions, and agencies involved in the mitigation of flood hazards from dam inundation, tsunamis, sea level rise, and major flood events.
- **6-P.4** Require all proposed drainage facilities to comply with the city's Standard Design Criteria to ensure they are properly sized to handle 100-year flood conditions.
- **6-P.5** Require installation of protective structures or other design measures to protect proposed building and development sites from the effects of flooding.
- **6-P.6** Enforce the requirements of Titles 18, 20, and 21 pertaining to drainage and flood control when reviewing applications for building permits and subdivisions.
- **6-P.7** Comply with all requirements of the California Department of Water Resources' Division of Safety of Dams to ensure adequate flood control.

6-P.8 Comply with Federal Emergency Management Agency (FEMA) requirements to identify flood hazard areas and control development within these areas in order for residents to qualify for federal flood insurance. Cooperate with FEMA on shoreline flooding hazards and other mapping efforts.

Geology and Seismicity

- **6-P.9** Allow for consideration of seismic and geologic hazards at the earliest possible point in the development process, preferably before comprehensive engineering work has commenced.
- **6-P.10** Maintain geotechnical report guidelines identifying specific requirements for various levels of geotechnical evaluation, including reconnaissance studies, preliminary geotechnical investigation reports, and as-graded geotechnical reports.
- 6-P.11 Use information in Figure 6-4 as a generalized guideline for planning purposes and in determining the type and extent of geotechnical report to be required for a proposed development project. When a geotechnical report is required, require submission of the report and demonstration that a project conforms to all mitigation measures recommended in the report prior to city approval of the proposed development.
- 6-P.12 Require a geotechnical investigation and report of all sites proposed for development in areas where geologic conditions or soil types are susceptible to liquefaction. Also require demonstration that a project conforms to all mitigation measures recommended in the geotechnical report prior to city approval of the proposed development (as required by state law).
- **6-P.13** Prohibit location of critical structures directly across known earthquake faults unless a geotechnical and/or seismic investigation is performed to show that the earthquake fault is neither active nor potentially active.
- **6-P.14** Require applicants to conduct detailed geologic and seismic investigations at sites where the construction of critical structures (high-occupancy structures and those that must remain in operation during emergencies) and structures over four stories are under consideration.
- **6-P.15** In accordance with the California Subdivision Map Act, deny subdivision maps if a project site is not physically suitable for either the type or density of a proposed development because of geologic, seismic, or other hazards.
- 6-P.16 Require qualified geotechnical engineering professionals to review grading plans and inspect areas of excavation during and after grading, to evaluate slope stability and other geotechnical conditions that may affect site development and public safety. In areas of known or suspected landslides and/or adverse geologic conditions, the following determinations should be made: extent of landslide,

- depth-to-slide plane, soil types and strengths, presence of clay seams and ground water conditions.
- **6-P.17** Continue to regulate development, including remodeling or structural rehabilitation, to ensure adequate mitigation of safety hazards on sites having a history or threat of seismic dangers, erosion, subsidence, or flooding.

Airport Hazards

6-P.18 Ensure that development in the McClellan-Palomar Airport Influence Area is consistent with the land use compatibility policies contained in the McClellan-Palomar Airport Land Use Compatibility Plan.

See also policies in the Land Use and Community Design Element related to McClellan-Palomar Airport.

Railroad Hazards

6-P.19 Coordinate with other agencies and private entities to investigate methods of improving service safety along and across the rail corridor; such as through development of a grade separated rail corridor that includes grade separated street crossings at Grand Avenue, Carlsbad Village Drive, Tamarack Avenue and Cannon Road, as well as new pedestrian and bicycle crossings at Chestnut Avenue, the Village and Poinsettia COASTER stations, and other appropriate locations.

See also policies in the Mobility and Noise Elements related to the railroad.

Soils and Hazardous Materials

- **6-P.20** Limit hazards associated with the manufacture, use, transfer, storage and disposal of hazardous materials and hazardous wastes through enforcement of applicable local, county, state and federal regulations.
- **6-P.21** Coordinate with the County of San Diego and use the San Diego County Multi-Jurisdictional Hazard Mitigation Plan as a guide for implementing actions to reduce hazardous waste impacts.
- **6-P.22** Regulate locations for the manufacture, storage, and use of hazardous materials within the city through implementation of Carlsbad Municipal Code Title 21 (Zoning Ordinance).
- **6-P.23** Regulate development on sites with known contamination of soil and groundwater to ensure that construction workers, future occupants, and the environment as a whole, are adequately protected from hazards associated with contamination, and encourage cleanup of such sites.
- **6-P.24** Provide for hazardous materials emergency incident responses. Coordinate such responses with applicable federal, state and county agencies.

- **6-P.25** Maintain regulations that require proper storage and disposal of hazardous materials to reduce the likelihood of leakage, explosions, or fire, and to properly contain potential spills from leaving the site.
- **6-P.26** Enhance and expand the use of desiltation/pollutant basins to function as hazardous material spill control facilities to prevent the spread of contaminants to downstream areas.
- **6-P.27** Support public awareness and participation in household hazardous waste management, solid waste, and recycling programs.

Police, Fire and Emergency Services

- **6-P.28** Maintain adequate Police and Fire Department staff to provide adequate and timely response to all emergencies.
- **6-P.29** Ensure Fire Department facilities and service are provided consistent with the minimum performance standards of the city's Growth Management Plan.
- **6-P.30** Encourage physical planning and community design practices that deter crime and promote safety.
- **6-P.31** Maintain close coordination between planned improvements to the circulation system within the city and the location of fire stations to assure adequate levels of service and response times to all areas of the community.
- 6-P.32 Consider site constraints in terms of hazards and current levels of emergency service delivery capabilities when making land use decisions. In areas where population or building densities may be inappropriate to the hazards present, take measures to mitigate the risk of life and property loss.
- **6-P.33** Coordinate the delivery of fire protection services through mutual aid agreements with other agencies when appropriate.
- **6-P.34** Enforce the Uniform Building and Fire codes, adopted by the city, to provide fire protection standards for all existing and proposed structures.
- 6-P.35 When future development is proposed to be intermixed with wildlands and/or adjacent to wildlands, require applicants to comply with the city's adopted Landscape Manual, which includes requirements related to fire protection, and calls for preparation of a fire protection plan when a proposed project contains or is bounded by hazardous vegetation or is within an area bounded by a very high fire hazard severity zone, or as determined by the Fire Code official or his representative.

Emergency Preparedness

6-P.36 Maintain and periodically update the City of Carlsbad Emergency Operations Plan as appropriate information becomes available, and continue participating in multijurisdictional disaster planning.

- **6-P.37** Promote public awareness of possible natural and man-made hazards, measures that can be taken to protect lives and property, response plans, and evacuation routes.
- **6-P.38** Inform the public and contractors of the danger involved and the necessary precautions that must be taken when working on or near pipelines or utility transmission lines.
- **6-P.39** Ensure all new development complies with all applicable regulations regarding the provision of public utilities and facilities.