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1.0 INTRODUCTION

1.1 Purpose and Scope

The Environmental Element establishes the policy framework for improving sustainability through the responsible stewardship of Chula Vista's natural and cultural resources, promotion of both physical and environmental health, and protection of persons and property from environmental hazards and noise. It contains policies that reconcile conflicting demands created when population growth and development consumes natural resources--both renewable and non-renewable, finite resources and environmental justice policies to help achieve a healthy sustainable community for everyone



The California Government Code requires General Plans to include conservation, open space, noise, and safety elements. These elements address relevant environmental issues, including: open space; water quality and conservation; biological resources; mineral resources; air quality; cultural resources; agricultural resources; energy; noise; and geologic, flood, and wildland fire hazards. These and other issues and topics are addressed in this Environmental Element, which is divided into the following sections: Conservation; Open Space; Natural Hazards; Hazardous Materials and Waste; and Noise.



1.2 Implementing the Vision and Themes

The Vision for Chula Vista is to preserve and enhance the unique features that give Chula Vista its character and identity, while at the same time improving our community and meeting the opportunities and challenges that lie ahead. Achieving this Vision requires that the City recognize that its natural resources are finite, and that responsible and just stewardship is essential for the future enjoyment and utilization of these resources. The City further recognizes that integrating policies that promote a healthy and sustainable community is essential to the quality of life for all residents.

A full discussion of our Vision and seven Themes is found in Chapter 4 of this General Plan. This Environmental Element focuses on and develops four of those Themes:

Theme 1: Strong Community Character and Image

Chula Vista continues to develop as a city with a distinct identity that its



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citizens are proud to call home.

Theme 4: Improved Mobility

Chula Vista provides a wide range of convenient and affordable mobility options that allow people to go from where they are to where they want to be, in a safe; pleasant; rapid; cost-effective; and environmentally friendly manner.

Theme 5: Healthy and Sustainable Community

Chula Vista is committed to the health and wellbeing of all of its residents.

Theme 6: High Quality Community Services

Chula Vista places a high priority on exemplary community services and facilities (such as police and fire protection, libraries, and park and recreation), and continues to ensure that services and infrastructure expand to match needs created by growth and redevelopment.



1.3 Relation to Other General Plan Elements and Policies

The elements of a general plan are closely interrelated. Each element must be internally consistent as well as consistent with one another. The Land Use and Transportation Element addresses the location and compatibility of land uses and provides for a planned pattern of land uses, including lands designated for habitat conservation, open space, and parks and recreation uses. Integration between Land Use and Transportation, such as mixed use, transit oriented development, is an integral part of a sustainable community. The Public Facilities and Services Element addresses municipal water and sewer services; parks and recreation facilities; solid waste disposal; and energy, all of which relate to the Environmental Element. Cross-references are provided, where applicable, throughout the Environmental Element to identify where these interrelationships with other elements exist.



1.4 Related Plans and Programs

1.4.1 Regional Growth Management Strategy

The Regional Growth Management (Strategy) was adopted by the San Diego Association of Governments (SANDAG) in 1993, as mandated by the voters through Proposition C, the Regional Planning and Growth Control Initiative. The Strategy takes “a quality of life” approach to growth management, and contains standards, objectives and recommended actions for nine quality of life factors, such as: air quality; water; sensitive lands and open space preservation and protection; and solid waste management. Through a joint powers agreement, local jurisdictions, including Chula Vista, have agreed to certify that their general plans are consistent with the Strategy.

1.4.2 Regional Comprehensive Plan

SANDAG serves as the forum for decision-making on regional issues in San Diego County. Significant growth throughout the region and beyond has resulted in numerous challenges and anticipated future growth represents further challenges. As a result, SANDAG adopted the Regional Comprehensive Plan (RCP) in 2004 to help chart where the region's future growth should be focused and to prioritize public infrastructure investments. While new construction in the region in recent decades has occurred largely in previously undeveloped areas, the vision of the RCP is that future population growth will be focused away from rural areas and closer to existing and planned job centers and public facilities, including transit. The RCP was not designed as a regulatory plan, but rather as a guidance plan. As such, the preferred implementation approach is that local and regional agencies incorporate the recommended policy objectives and actions into their local and regional plans as these plans are updated in the future. Additionally, the RCP recommends that incentives be provided to member agencies for including the policy objectives in their plans, and for helping to implement the actions contained in the RCP. The City's General Plan supports relevant RCP policy objectives and actions.



1.5 Sustainable Development

Chula Vista's Vision to preserve and enhance the unique features that give the City its identity, while at the same time creating a healthy and sustainable community that meets the opportunities and challenges that lie ahead, can be achieved, in part, through the promotion of sustainable development.

The most widely accepted definition of “sustainable development” as, presented by the United Nations World Commission on Environment and Development in 1987, is as follows:

“Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs.”

Sustainable development is a means of balancing growth and economic progress with the protection of natural resources and the environment in a socially responsible manner. Sustainable development consists of three key components--economic security, environmental integrity, and social/cultural equity--that overlap and function together, as illustrated in Figure 9-1.



These three components are equally important in developing a basis for sustainability, and are not mutually exclusive. Community sustainability is strengthened through identifying and addressing the issues that affect sustainable development, and creating measures to secure, protect, and enhance valuable resources and the physical health and well being of the community.



Sustainability issues exist on a global level and at all levels of government. This General Plan addresses sustainable development at the local, community level. Such a local effort requires coordination and cooperation between all agencies that provide services within the community. While not all aspects of sustainability can be affected locally, much can be achieved by including policies and programs in a jurisdiction's General Plan that promote sustainable development. Chula Vista currently implements a number of programs to promote sustainable development, and strives to expand upon such programs.

Based upon the three key components illustrated in Figure 9-1, the following discussion addresses the characteristics of sustainability related to municipal planning functions:

Figure 9-1



Key Components
of Sustainable Development

Economic Security focuses on balancing revenues and expenditures needed to provide sustainable services and improve the quality of life for local residents. This can be accomplished by creating a General Plan that facilitates revenue-generating sources sufficient to support the ongoing operation of a jurisdiction and its ability to provide the facilities and levels of service desired by the community. Jurisdictions can promote a mix of diverse jobs and affordable housing that provides the opportunity for residents to live and work within their community. By expanding educational opportunities within a community, residents can increase their marketable skills without leaving the area. A local economy that provide such opportunities is considered to be sustainable.

Environmental Integrity deals with the preservation and conservation of natural resources, including water, biological resources, and air quality, and with improving environmental sustainability, such as increasing development of and reliance on renewable energy sources. Jurisdictions can take a major step towards securing environmental integrity and ensuring a sustainable community by developing a consistent approach to environmental issues through the adoption of appropriate General Plan policies.

Social/Cultural Equity is realized through fair and equal access to community facilities and services, including: health care; social services; education; cultural arts; and natural resources. This can be achieved through a general plan by identifying health as a core value, identifying future community services needs and by establishing policies to ensure that such needs can be met.

Closely related to sustainable development is the notion of an environmentally sustainable economy. On a local level, the backbone of an environmentally sustainable economy could consist of: facilitating the use of renewable sources of energy; an urban mobility system centered on a state-of-the-art public transportation system; and transit- and pedestrian-oriented development; and a comprehensive reuse/recycle program.

Local jurisdictions can take steps towards promoting and achieving sustainable development, as well as economic and ecological sustainability. Through various existing policies, programs, and procedures, Chula Vista has taken significant initial steps in this direction. Through various goals, objectives, policies, and implementation measures established through the adoption of this General Plan, Chula Vista will continue to move forward in supporting the ability to meet present needs without compromising the ability of future generations to meet their own needs.



1.6 Environmental Justice

State law defines environmental justice as:

“The fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.”

The U.S. Environmental Protection Agency states:

“Fair treatment means that no group of people, including a racial, ethnic, or a socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, and local policies.”



Environmental justice problems are often related to procedural inequity and geographic inequity. Procedural inequity occurs when the planning process is not applied uniformly, resulting in disproportionate impacts to lower income or minority populations. Geographic inequity occurs when the burdens of undesirable land uses are concentrated in certain neighborhoods while the benefits are received elsewhere. It also describes a situation in which public amenities are concentrated only in certain areas.

The following topics, discussed in detail below, represent areas in which environmental justice can be addressed at the local level -- General Plan land use planning and policies; the promotion of a healthy and active lifestyles; equitable distribution of public facilities and services; overconcentration of industrial uses; and transit-oriented development.

1.6.1 Relationship to General Plan Land Use Planning and Policies

Planning policies that promote healthy, livable communities and smart growth can be tools for achieving environmental justice. The primary purpose of planning, and the source of government authority to engage in planning, is to protect the public health, safety, and welfare. Traditionally, land use planning has attempted to minimize health and safety risks by segregating land uses. However, rigid separation of land uses has resulted in disconnected islands of activity and contributed to sprawl, counter to sustainable development goals. Mixed use development is a more sustainable approach to land use planning and a means to address health considerations. Despite the desirability of mixed use development, it is important to recognize that there are certain land uses (e.g., industrial, agricultural, major roadways and freeways) that will, in most cases, be incompatible with sensitive receptors, including residential

and school uses. Sensitive receptors may be adversely impacted by incompatible land uses as a result of air pollutant emissions, exposure to hazardous materials and related accident risks, and excessive noise. Most land use incompatibility issues can be addressed at the General Plan level through appropriate land use planning and the inclusion of policies addressing the siting and development of potentially harmful land uses in proximity to sensitive receptors.

1.6.2 Equitable Distribution of Public Facilities and Services

To the extent feasible through its General Plan, a jurisdiction should plan for the equitable distribution of new public facilities throughout the community, and services that increase and enhance community quality of life. Public facilities and services that enhance quality of life include: parks; open space; trails; recreational facilities; child care facilities; libraries; and museums. The equitable distribution of facilities and services has two components. The first component is the number and size of facilities -- a community should have adequate facilities and services to serve all residents equally. The second component is access, which can be measured as the distance or travel time from residential areas to facilities and services.

1.6.3 Overconcentration of Industrial Uses

Overconcentration occurs when two or more industrial facilities or uses, which do not individually exceed acceptable regulatory standards for public health and safety, pose a significant hazard to adjacent sensitive receptors, due to their cumulative effects. It is important to differentiate between overconcentration and the mere presence of materials that may be classified as hazardous. Many neighborhood businesses, such as, gas stations, retail paint stores, and dry cleaners, utilize hazardous materials. While these activities must be conducted in a responsible manner in accordance with applicable environmental regulations, they should not be confused with those truly industrial activities that are inappropriate within or adjacent to residential or mixed use areas. A General Plan should seek to avoid the development of sensitive receptors in close proximity to land uses that pose a significant hazard to human health and safety, due to the quantity, concentration, or physical or chemical characteristics of the hazardous materials that they utilize, or the hazardous waste that they generate or emit.

1.6.4 Transit-Oriented Development

Expanding opportunities for transit-oriented development (TOD) promotes healthier and livable communities. TOD is defined as moderate- to high-density development located within an easy walk of a major transit stop, generally with a mix of residential, employment, and shopping opportunities. TOD can provide mobility choices; increase public safety; increase disposable household income by reducing transportation costs; reduce air pollution and energy consumption rates; help conserve resources and open space; assist in economic development; and expand the supply of housing.

By improving access to multi-modal transportation options, jobs and housing and revitalizing existing neighborhoods, TOD can be a tool for promoting a healthier community and environmental justice. Jurisdictions can promote TOD through general plan policies that support the value of a healthy community, mixed use development; higher land use densities; reduced parking requirements; and increased transit service. TOD policies should facilitate a pedestrian-oriented environment with features such as traffic calming strategies and architectural and streetscape design that orients buildings to sidewalks, plazas, parks, and other public spaces, rather than to parking.

The promotion of environmental justice on a local level may be accomplished through a broad range of actions taken on various fronts, including through land use planning and policies at the general plan level. The issues of land use incompatibility; access to nutritious and healthier food options, equitable distribution of public facilities and services; overconcentration of industrial uses; and transit-oriented development can be addressed in a general plan. Through various goals, objectives, policies, and implementation measures established through the adoption of this General Plan, Chula Vista is taking steps to address these issues in the interest of promoting environmental justice.

2.0 GOAL

The overall goal of the Environmental Element is to:

Provide a healthy and sustainable community through the improved health of all citizens, environmental justice, the responsible stewardship of Chula Vista's natural and cultural resources; promotion of environmental health; and protection of persons and property from environmental hazards and the undesirable consequences of noise.

3.0 | PLANNING FACTORS, OBJECTIVES, AND POLICIES

There are several planning factors involved in achieving the goal of the Environmental Element. Such factors are discussed in Sections 3.1 - 3.6 of this element. Each factor has at least one objective, or focused goal, and each objective has at least one policy, which describes how the City will meet the objectives.

3.1 Conservation

Conservation is the planned management, preservation, and wise utilization of natural resources to assure their continued availability for use, appreciation, and enjoyment. The Conservation Section of this Environmental Element provides the City with the necessary direction towards that end. The topics presented in this section include:

- Multiple Species Conservation Program
- Protecting Water Quality
- Meeting Water Demand Through Conservation and Efficient Use
- Preserving the Opportunity for Agricultural Uses
- Wise Use of Mineral Resources
- Promoting Clean Air
- Creating a Sustainable Energy Future
- Promoting Solid Waste Reduction Strategies
- Protecting Chula Vista's Cultural Resources
- Protecting Paleontological Resources



Source: Dudek & Associates, Inc.
Photographer: Jeff Priest

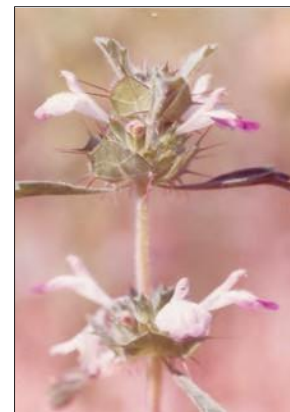
3.1.1 Multiple Species Conservation Program (MSCP)

Background

The Multiple Species Conservation Program (MSCP) is a comprehensive, long-term habitat conservation plan developed to address the needs of multiple species and the preservation of natural vegetation communities in San Diego County. The MSCP Subregional Plan was adopted by the City of San Diego and San Diego County in 1997, and conditionally approved by the City of Chula Vista in October 2000. The MSCP Subregional Plan encompasses an area of approximately 580,000 acres and 12 local jurisdictions, including the City of Chula Vista.

City of Chula Vista MSCP Subarea Plan

On May 13, 2003, the City of Chula Vista City Council and Planning Commission approved the City of Chula Vista MSCP Subarea Plan (Subarea Plan) and formally adopted it as part of the City's General Plan. The Subarea Plan is the policy document through which the MSCP Subregional Plan is implemented within the City's jurisdiction. The Subarea Plan provides the framework for habitat planning and specifically establishes areas of conservation and development within the Chula Vista MSCP Planning Area. Figure 9-2 depicts the designated conservation and development areas within the Chula Vista MSCP Planning Area. It should be noted that select areas designated for development in the Subarea Plan are not necessary to conserve for biological purposes. However, other local City plans, policies, or guidelines may further regulate or prohibit the extent of development



Source: Dudek & Associates, Inc.

Photographer: Julie Vanderweir

in these areas for a variety of reasons, such as topographical constraints or aesthetics (for example, the peak of Rock Mountain).

Additionally, since the completion of the County Subarea Plan and the approval of the City's Subarea Plan, several areas within the northern part of the City, as well as the unincorporated County portion of the Otay Ranch, have been acquired by public/quasi-public agencies to be preserved as Permanent open space. These areas are depicted on Figure 5-12.

The Subarea Plan is intended to implement all relevant sections of the MSCP Subregional Plan, including the habitat and species conservation goals and requirements found in Table 3-5 of the Subregional Plan. Any project approved by the City must be in conformance with the Subarea Plan.

The complete Subarea Plan document has been included as part of this General Plan and is provided under separate cover as Appendix 1. The Subarea Plan goals found on page 1-2 of the Subarea Plan are as follows:

Subarea Plan Goals

1. To conserve Covered Species and their habitats through the conservation of interconnected significant habitat cores and linkages.
2. To delineate and assemble a Preserve using a variety of techniques, including public acquisition, on- and off-site mitigation, and land use regulations.

3. To provide a preserve management program that, together with the federal and state management activities, will be carried out over the long-term, further ensuring the conservation of Covered Species.
4. To provide necessary funding for a Preserve management program and biological monitoring of the Preserve.
5. To reduce or eliminate redundant federal, state, and local natural resource regulatory and environmental review of individual projects by obtaining federal and state authorizations for 86 species.

Biological Resources

The majority of the natural biological resources within the City consist of native upland habitats, including coastal sage scrub (3,815 acres), grasslands (3,125 acres), and small areas of maritime succulent scrub (293 acres). Approximately 15 percent of the natural vegetation communities within the City also consist of wetland resources, including: southern coastal salt marsh (204 acres); riparian/tamarisk scrub (604 acres); and natural flood channels (159 acres). (Source: City of Chula Vista MSCP Subarea Plan, February 2003.)

As identified in the Subarea Plan, a total of approximately 2,251 acres of the MSCP Preserve (approximately 1,940 acres of undisturbed habitat types) will be conserved within the central and northern areas of the City. The Subarea Plan specifically provides protection for major canyon systems within the City, including Rice Canyon and Bonita Long Canyon. These canyon systems support large areas of coastal sage scrub and maritime succulent scrub. Additionally, a variety of narrow endemic plant species will be conserved, as well as documented locations of the Quino checkerspot butterfly. The federally listed endangered Quino checkerspot butterfly was not included as a Covered Species under the MSCP Subregional Plan. However, because the Subarea Plan defines the actions to be undertaken to provide for the long-term conservation and recovery of this species in the Chula Vista Subarea, the Quino checkerspot butterfly is included as a Covered Species under the Subarea Plan.

The portion of the Otay Ranch located within the City boundaries includes substantial areas of land that have historically been used for dry farming. Approximately 2,742 acres within Otay Ranch will be conserved within the subarea boundaries (approximately 2,617 acres, which represent undisturbed habitat types). The Otay Ranch area also includes important habitat resources, most notably the Otay River Valley and its tributary canyons; Salt Creek; Poggi, and Wolf Canyons.

The Otay Ranch area includes important habitat resources, most notably the Otay River Valley and its tributary canyons: Salt Creek, Poggi, and Wolf Canyons.

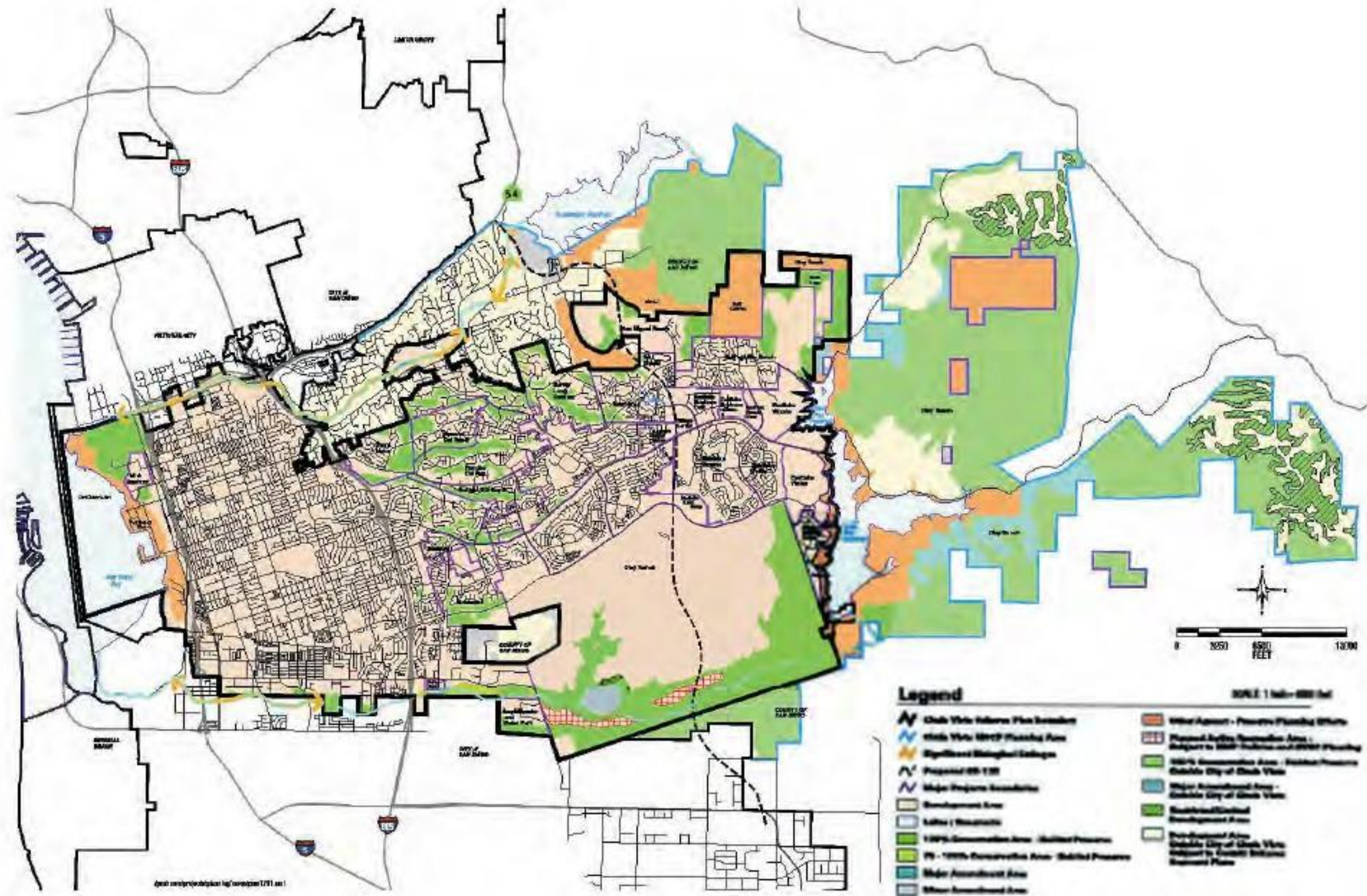


Figure 9-2

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Implementation of the MSCP

Implementation of the Chula Vista MSCP Subarea Plan will ensure conservation of core biological resource areas and associated habitat linkages identified in the MSCP Subregional Plan located within the boundaries of the Chula Vista Subarea, comprised of the land area within the incorporated boundary of the City. In addition, implementation of the Subarea Plan will contribute significant conservation outside the Chula Vista Subarea, within the Chula Vista MSCP Planning Area, in the unincorporated County Multi-Habitat Planning Area.

Objective - E1

Conserve Chula Vista's sensitive biological resources.

Policies

E 1.1 Implement the City of Chula Vista MSCP Subarea Plan.

3.1.2 Protecting Water Quality

Water quality refers to the purity of water and the lack of pollutants. Urban runoff discharged into streams, bays, and oceans is one of the principal causes of poor water quality. Pollutants such as motor oil, antifreeze, fertilizers, and pesticides accumulate on impervious surfaces and are picked up and transported downstream via the storm drain system, ultimately reaching the Sweetwater and Otay Rivers, San Diego Bay, and the Pacific Ocean. These pollutants in urban runoff can cause both short-term and long-term impacts to local water bodies.

Clean Water Act

The Clean Water Act focuses on improving the quality of the nation's water and provides a comprehensive framework of standards and technical tools to address the causes of pollution and poor water quality. To satisfy the requirements of California Water Code Section 13241 and Clean Water Act Section 303, water quality criteria are assigned to all waters of the state. In Chula Vista, water quality objectives are achieved primarily through establishment of waste discharge requirements, and through implementation of the Water Quality Control Plan for the San Diego Basin (1994).

NPDES

On February 21, 2001, the San Diego Regional Water Quality Control Board issued a National Pollutant Discharge Elimination System (NPDES) Permit (Municipal Permit) to the 18 municipalities within San Diego County, including the City of Chula Vista. San Diego County and the San Diego Unified Port District were co-permittees of the Municipal Permit. The minimum requirement of the Municipal Permit is to ensure that pollutants in discharges from storm drain systems owned and operated by the co-permittees are reduced to the maximum extent practicable. The Municipal Permit outlines the individual responsibilities of the co-permittees, including, but not limited to, the implementation of management programs, best management practices (BMPs), and monitoring programs. The NPDES regulations also consider the need to conserve natural areas, minimize impervious surfaces, and encourage the use of native or drought tolerant plant material in landscaping.



In accordance with NPDES requirements, construction projects in Chula Vista are required to implement BMPs to minimize the discharge of pollutants from construction sites. For certain types of developments, the Municipal Permit requires the implementation of permanent, post-construction BMPs, as described in the Chula Vista Standard Urban Stormwater Mitigation Plan and in the City of Chula Vista Development and Redevelopment Projects Storm Water Management Standards Requirements Manual.

The Chula Vista Pollution Prevention Policy addresses pollution reduction practices for City facilities and incorporates BMPs to prevent and reduce water pollution. The Pollution Prevention Policy identifies procedures and other practices for various City operations, including using environmentally friendly products for equipment maintenance; cleaning; swimming pool maintenance; and the use of chemicals and pesticides in parks, parkways, and street medians.

Watershed Planning

The State Water Resources Control Board uses watershed planning to improve and protect the quality of local and regional waters. Watersheds are the areas above and below ground that drain into a particular water body. This watershed planning approach recognizes that BMPs and treatment facilities may be more effective when located within a watershed or drainage basin, rather than on individual project sites. Watershed management practices can provide an integrated approach to protecting water quality.

- San Diego Bay Watershed

The San Diego Bay watershed is comprised of three subwatersheds, two of which are within the General Plan area (Sweetwater River and Otay River watersheds), and a third (Pueblo San Diego watershed), situated to the north (Figure 9-3). The 2001 Municipal Permit required local co-permittees to implement a comprehensive Urban Runoff Management Program at both the jurisdictional and watershed level. In compliance with the Municipal Permit, Chula Vista prepared a Jurisdictional Urban Runoff Management Program.

Additionally, the City, along with seven other municipalities, San Diego County, and the Unified Port District, prepared the San Diego Bay Watershed Urban Runoff Management Program, which is a collaborative and comprehensive watershed plan for the San Diego Bay Watershed. Both of these watershed planning programs have been developed to identify and prioritize areas where local water quality can be improved and provide solutions to mitigate problems attributable to local urban runoff.



- Sweetwater River Watershed

The Sweetwater River watershed is the largest of the three subwatersheds comprising the San Diego Bay watershed, with 230-square-miles of the approximately 415-square-mile total. Over 86 percent of the Sweetwater River watershed is within unincorporated jurisdictions, with the urbanized lower portion of the watershed containing portions of the cities of San Diego, National City, Chula Vista, La Mesa, and Lemon Grove. Major water bodies in the watershed include the Sweetwater River, Sweetwater Reservoir, Loveland Reservoir, and the San Diego Bay. The most important watershed issues are related to the protection of municipal water supplies and the protection and restoration of sensitive wetland and wildlife habitats.

The Sweetwater River watershed is the largest of the three subwatersheds comprising the San Diego Bay watershed, with 230-square-miles of the approximately 415-square-mile total.

The Sweetwater River flood control channel, which generally represents the jurisdictional boundary between Chula Vista and National City, extends from Interstate 5 east to Interstate 805. The Sweetwater Regional Park extends from Interstate 805 east through the Chula Vista and Bonita golf courses to the County's Summit Park on the west edge of the Sweetwater Reservoir; the park comprises 570 acres, 178 of which are within Chula Vista. No recent watershed planning efforts for the Sweetwater River watershed have been undertaken and none are planned at this time.

- Otay River Watershed

The Otay River watershed, which encompasses approximately 160 square miles, is the second largest of three hydrologic units that discharge into San Diego Bay. The Otay River watershed consists largely of unincorporated area, but also includes portions of the cities of Chula Vista, Imperial Beach, Coronado, National City, and San Diego. The major inland water bodies, Upper and Lower Otay Lakes, are two water supply reservoirs that also provide important habitat and recreational opportunities. Approximately 36 square miles of the watershed are within the Chula Vista MSCP Planning Area that contains habitat for a wide range of endangered plant and animal species.



Currently, San Diego County is leading the efforts in the development of a Watershed Management Plan (WMP) and Special Area Management Plan (SAMP) for the Otay River watershed. The WMP will identify critical resource areas and recommend BMPs needed to prevent water pollution. The WMP will provide the framework for management activities to be implemented within the watershed, which will ensure the protection of existing beneficial uses and natural resources. The SAMP will be a comprehensive assessment of the Otay River watershed, which will provide regional protection of wetlands and wetland species. Furthermore, the SAMP will streamline the regulatory permitting process by assisting the federal, state and local regulatory agencies with their decision-making and permitting authority to protect aquatic resources.

Both plans will identify measures needed to preserve sensitive wetland species and habitat while still providing for reasonable economic growth. The goals of the watershed planning process include preventing water pollution and protecting natural resources and existing activities that are beneficial to the public, such as the Otay Valley Regional Park.

Implementation of Water Protection Measures

With further growth and redevelopment in Chula Vista, the protection of local and regional water resources must be adequately addressed. Chula Vista will continue its efforts to reduce the discharge of pollutants into the municipal storm drain system and natural water bodies in accordance with established NPDES standards and watershed planning efforts involving the City.

San Diego Bay Watershed Map

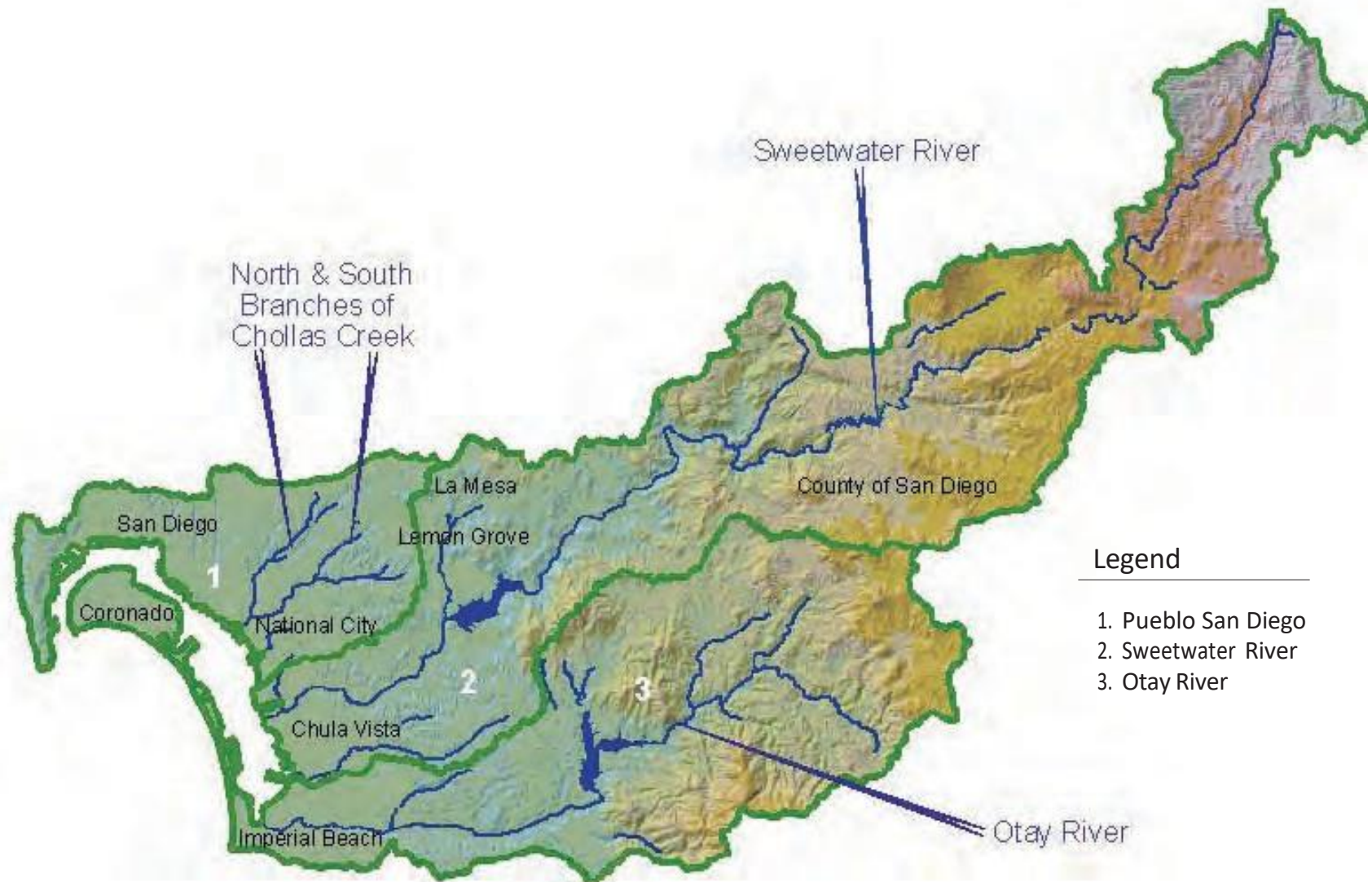


Figure 9-3

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Objective - E 2

Protect and improve water quality within surface water bodies and groundwater resources within and downstream of Chula Vista.

Policies

- E 2.1** Ensure safely swimmable and fishable surface waters through careful management of land uses and activities within Chula Vista.
- E 2.2** Pursue safe alternatives to traditional pest management methods in order to reduce toxics in urban runoff and large open uses of land (e.g., golf courses, parks, and agricultural lands).
- E 2.3** Educate residents, business owners and City departments about feasible methods to minimize the discharge of pollutants into natural drainages and the municipal storm drainage system.
- E 2.4** Ensure compliance with current federal and state water quality regulations, including the implementation of applicable NPDES requirements and the City's Pollution Prevention Policy.
- ~~**E 2.5** Encourage and facilitate construction and land development techniques that minimize water quality impacts from urban development.~~
- E 2.6** Maximize the protection of potable water supply resources from pollutants.
- E 2.7** Collaborate with other applicable jurisdictions in the development and funding of regional watershed management plans that will provide a balance between watershed protection, regional economic growth, and development of public infrastructure and services consistent with the goals and objectives of the General Plan.

3.1.3 Meeting Water Demand Through Conservation and Efficient Use

This section of the Environmental Element addresses the conservation and efficient use of water. The Public Facilities and Services Element addresses current and future water supply and delivery issues.

Three water districts serve Chula Vista: The Otay Water District, Sweetwater Authority, and Cal-American Water Company. These districts base their facility master plans and capital improvement programs on projected population growth. Within the Otay Water District's service area, which includes the planned future development areas within eastern Chula Vista, all potable water comes from imported sources purchased from the San Diego County Water Authority. Due to the lack of significant undeveloped land area within the boundaries of the Sweetwater Authority's service area, future increases in the demand for potable water will be associated with infill development and redevelopment projects. The Sweetwater Authority's water supply is derived from a variety of sources, including Sweetwater Reservoir, a brackish groundwater demineralization facility, and deep freshwater wells. Seventy percent of the Authority's water supply comes from local sources. Areas served by the Cal-American Water Company are presently built out and significant growth in water demand is not anticipated.



Chula Vista can help to ensure adequate water supply by continuing to promote the development of water efficient communities and to implement water conservation programs.

Water recycling and conservation are major issues in southern California, as water suppliers strive to meet the increased water demands from population growth. Chula Vista's Growth Management Program and Growth Management Ordinance require that a Water Conservation Plan (WCP) be prepared for all major development projects. WCPs provide an analysis of potable and recycled water usage requirements and incorporate proven methods to reduce per capita water consumption. The adopted WCP Guidelines require all major projects to install specific indoor and outdoor water conservation devices. The requirement to prepare and implement WCPs promotes water-efficient development and community awareness of valuable water resources.

Chula Vista's Landscape Manual identifies the need for water conservation practices to be implemented, as required by State law and the State Department of Water Resources Water Efficient Landscape Ordinance. In addition, the City's Landscape Manual requires the use of recycled water to irrigate landscaped areas of residential, commercial, and industrial developments, as well as schools, parks, and golf courses, where recycled water is available.

Within the General Plan area, only the Otay Water District provides recycled water. Its Code of Ordinances requires recycled water to be used wherever it is technically and financially feasible, including the irrigation of greenbelt and open space slopes; roadway medians; parks; and the common areas of schools and multi-family residential properties. The Otay Water District's recycled water supply originates from the District's Ralph W. Chapman Water Recycling Facility in Rancho San Diego and is pumped to eastern Chula Vista. In the future, 6.0 million gallons per day (mgd) of recycled water will be supplied from the City of San Diego's South Bay Water Reclamation Plant. As required by an agreement with the City of San Diego, the Otay Water District is responsible for installing the infrastructure necessary to distribute recycled water within its service area. Recycled water is not a part of the potable water supply.

The demand for water will continue to increase as Chula Vista experiences further growth. Chula Vista can help to ensure adequate water supply for future generations by continuing to promote the development of water efficient communities and to implement water conservation programs.

Objective - E 3

Minimize the impacts of growth and development on water supply resources through the efficient use and conservation of water by residents, businesses, and city government.

Policies

- E 3.1** Promote state-of-the-art water conservation practices in existing and new development, where proven to be safe and environmentally sound.
- ~~E 3.2 Promote the use of low water demand landscaping and drought tolerant plant materials in both existing and new development.~~
- ~~E 3.3 Where safe and feasible, promote and facilitate the continued use of recycled water in new developments, and explore opportunities for the use of recycled water in redevelopment projects.~~
- ~~E 3.4 Support the continued use of graduated rate structures by water suppliers in order to promote water conservation.~~

- E 3.5** Require the preparation and implementation of Water Conservation Plans for large development and redevelopment projects in accordance with the City's Water Conservation Plan Guidelines or its equivalent, pursuant to the City's Growth Management Program.
- E 3.6** For existing development, as well as small development and redevelopment projects not subject to the City's Growth Management Program, promote water conservation by residents and businesses through appropriately targeted education and community programs.

3.1.4 Preserving the Opportunity for Agricultural Uses

Through the early 1990s, the last of the large-scale agricultural operations in Chula Vista were located primarily on large landholdings within the eastern portion of the General Plan area. Agricultural production on lands within this area has been historically constrained due to the limited availability of water for irrigation and the high cost of water where it has been available.

Although the General Plan area does not contain any lands specifically designated for agricultural uses, the potential remains for agricultural uses to occur within certain portions of the General Plan area on both an interim and long-term basis. 2002 State Department of Conservation mapping identified 13 acres of Prime Farmland within the City limits (plus an additional 21 acres within the remainder of the General Plan area). There are no active Williamson Act contracts or properties, which are established agricultural preserves, within the General Plan area.

Within the General Plan area the potential remains for some degree of agricultural uses to occur on both an interim and long-term basis.



A limited number of parcels retain agricultural zoning, which is considered a holding zone, pending development proposals in conformance with the applicable land use plans. Much of the land zoned for agriculture west of the Sweetwater Reservoir has been incorporated into parkland. Only a relatively few landholdings within the western portion of the General Plan area, located primarily in the vicinity of the Otay River, still retain small-scale agricultural operations. Agricultural production on these parcels may include seasonal fruit and vegetable crops but may also

include nurseries; apiaries; riding facilities; or similar uses. Lands zoned for agriculture within the eastern portions of the Otay Ranch, east of the Otay Reservoir, and north and south of Dulzura Creek, are generally located in areas containing biological resources and interim agricultural uses

are being phased out. Intermittent cattle grazing and dry land farming occur primarily on the non-irrigated land in the east. Production associated with these uses is not significant in terms of countywide agricultural value. Long-term agricultural use is not planned for the General Plan area, but is allowed where it is consistent with the Chula Vista MSCP Subarea Plan and zoning, including within portions of the Chula Vista Greenbelt open space system.

Although agriculture has a long history within Chula Vista and the surrounding area, the economic contributions of agriculture have continually decreased in both production and employment value over time. Although agricultural production within the General Plan area will not be a major factor in the local or regional economy, the potential remains for some degree of agricultural uses to occur on both an interim and long-term basis. Furthermore, recreational and educational benefits can be derived from agricultural-related uses, such as community gardens, which can be integrated within development areas.

Objective - E 4

Maintain the opportunity for limited agricultural and related uses to occur as an interim land use within planned development areas and as a potential permanent land use within appropriate locations

Policies

- E 4.1** Allow historical agricultural uses to continue within planned development areas as an interim land use in accordance with the MSCP Subarea Plan.
- E 4.2** Allow agricultural uses on privately-owned property within the Chula Vista Greenbelt and elsewhere, provided the use is consistent with the provisions of the Chula Vista MSCP Subarea Plan, as well as the zoning of the property.
- E 4.3** Encourage the development of community gardens and similar related uses within appropriate, compatible locations throughout the City.

3.1.5 Wise Use of Mineral Resources

Mineral resources are important commodities in the state of California. The Surface Mining and Reclamation Act of 1975 (SMARA) includes requirements and programs to ensure the long-term availability of mineral resources and that the significant adverse environmental impacts of surface mining are adequately mitigated. Mineral Resource Zones (MRZs) are areas identified by the State of California relative to known or expected mineral resources. Portions of the Otay River Valley within the General Plan area are identified as an MRZ-2 area -- an area where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists (Figure 9-4). Two other MRZ-2 areas are located on and just outside the General Plan area: one in the Sweetwater River Valley east of the Sweetwater Reservoir; and the other along the Jamul/Dulzura Creek east of Lower Otay Lake (Figure 9-4).

The most valuable mineral resource in Chula Vista is construction aggregate.

Of the mineral resources identified in the MRZ-2 zone, the most economically valuable to the state and the San Diego region is the mining of sand, gravel, and crushed rock resources, known collectively as construction aggregate. Construction costs are significantly reduced if aggregate materials are available close to and in sufficient quality and quantity to support nearby construction. Given that the need is greatest in rapidly urbanizing areas, a problem facing sand and gravel producers throughout the region is that they are being replaced by the urban growth that they support.



Both the Sweetwater River and the Otay River valleys contain significant deposits of construction quality sand reserves. The reach of the Sweetwater River that falls within the General Plan area is also within a regional park and, therefore, no further extraction of this resource is permitted. In addition to sand and gravel resources, Rock Mountain, situated immediately north of the Otay River, is currently being mined for boulders, which are processed into crushed rock. Although the MRZ-2 zone within the Otay River Valley has experienced sand and gravel mining in the past, the majority of this area is now within the Chula Vista MSCP Preserve.

The MSCP is a comprehensive, long-term habitat conservation program that addresses the needs of multiple endangered, threatened, and sensitive plant and animal species. Pursuant to the Chula Vista MSCP Subarea Plan, in the long-term it is envisioned that no mining, extraction, or processing facilities and/or activities will occur in the Preserve. The Subarea Plan mandates that all temporary sand mining and related activities must be consistent with the objectives, guidelines, and requirements of the MSCP Subregional Plan, the City of Chula Vista's ordinances, and SMARA. The MSCP Subregional Plan states that: "New or expanded mining operations on lands conserved as part of the Preserve are incompatible with MSCP Preserve goals for covered

species and their habitats unless otherwise agreed to by the wildlife agencies at the time the parcel is conserved.”

Surface mining is regulated pursuant to SMARA, as implemented by the City through its recently adopted Surface Mining Operations Ordinance. As with the state and the San Diego region, the most valuable mineral resource in Chula Vista is construction aggregate. If an area containing such resources is developed prior to accessing these resources, it may result in the permanent loss of minerals that are of local and regional significance. Rock Mountain is a valuable asset for the City and the region; the continued mining of this resource is anticipated for the near future. However, the mining of resources within the City beyond Rock Mountain is anticipated to be very limited in the



near-term and either very limited or nonexistent in the long-term. Furthermore, in the long-term, no mining is envisioned to occur at all within the Chula Vista MSCP Preserve.

Objective - E 5

Efficiently extract regionally significant mineral resources in accordance with the Chula Vista MSCP Subarea Plan and require the appropriate reclamation of mined areas for suitable future development, recreation, open space, and/or habitat restoration.

Policies

- E 5.1** Ensure that permit applications for proposed mineral resource extraction are consistent with the Chula Vista MSCP Subarea Plan.
- E 5.2** Consider and minimize impacts from mining operations to existing and future surrounding land uses.
- E 5.3** Ensure that approved mining reclamation plans fully comply with requirements of the Chula Vista MSCP Subarea Plan; Chula Vista Greenbelt Master Plan; Otay Valley Regional Park Concept Plan; and all other applicable plans regarding the restoration of biological habitats and the creation of trails and parkland.

3.1.6 Promoting Clean Air

Both the federal government and the State of California have enacted legislation designed to improve air quality, including the 1970 Federal Clean Air Act and the California Clean Air Act of 1988. Attainment areas are in compliance with the national and/or California ambient air quality standards for a given pollutant; whereas, non-attainment areas are not. San Diego County's federal and state designations for each of the criteria pollutants as of December 2004 are as follows:

TABLE 9-1
San Diego County's Federal and State Designations for Criteria Pollutants
as of December 2004

Criteria Pollutant	Federal Designation	State Designation
Ozone (one hour)	Attainment	Nonattainment
Ozone (eight hour)	Nonattainment	(no state standard)
Carbon Monoxide	Attainment	Attainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(no federal standard)	Attainment
Hydrogen Sulfide	(no federal standard)	Unclassified
Visibility	(no federal standard)	Unclassified
PM 10 ¹	Unclassifiable	Nonattainment
PM 2.5 ²	(to be designated)	(to be designated)

¹particulate matter of 10 microns or less in diameter

²particulate matter of 25 microns or less in diameter

Source: County of San Diego Air Pollution Control District
and U. S. Environmental Protection Agency

Unlike particulate matter and toxic air emissions that can be emitted directly from a vehicle's tailpipe, smog forms in the atmosphere from the photochemical reaction of volatile organic compounds and oxides of nitrogen, both of which are emitted by motor vehicles. Cars, trucks, and other motor vehicles produce about half of the smog-forming emissions in San Diego County. In addition, motor vehicles emit toxic air contaminants, contribute significantly to particulate matter levels, and in areas where substantial vehicular congestion occurs, can result in carbon monoxide (CO) "hot spots".



A toxic air contaminant is an air pollutant that may increase a person's risk of developing cancer and/or other serious health effects. Since 1990, the San Diego County Air Pollution Control District (APCD) has operated toxic sampling sites in El Cajon and Chula Vista. Data from these sites has consistently shown a significant downward trend in concentrations of several known carcinogens. Overall, emissions of air toxics are declining, with an 80 percent reduction in estimated industrial toxic air emissions since the early 1990's.

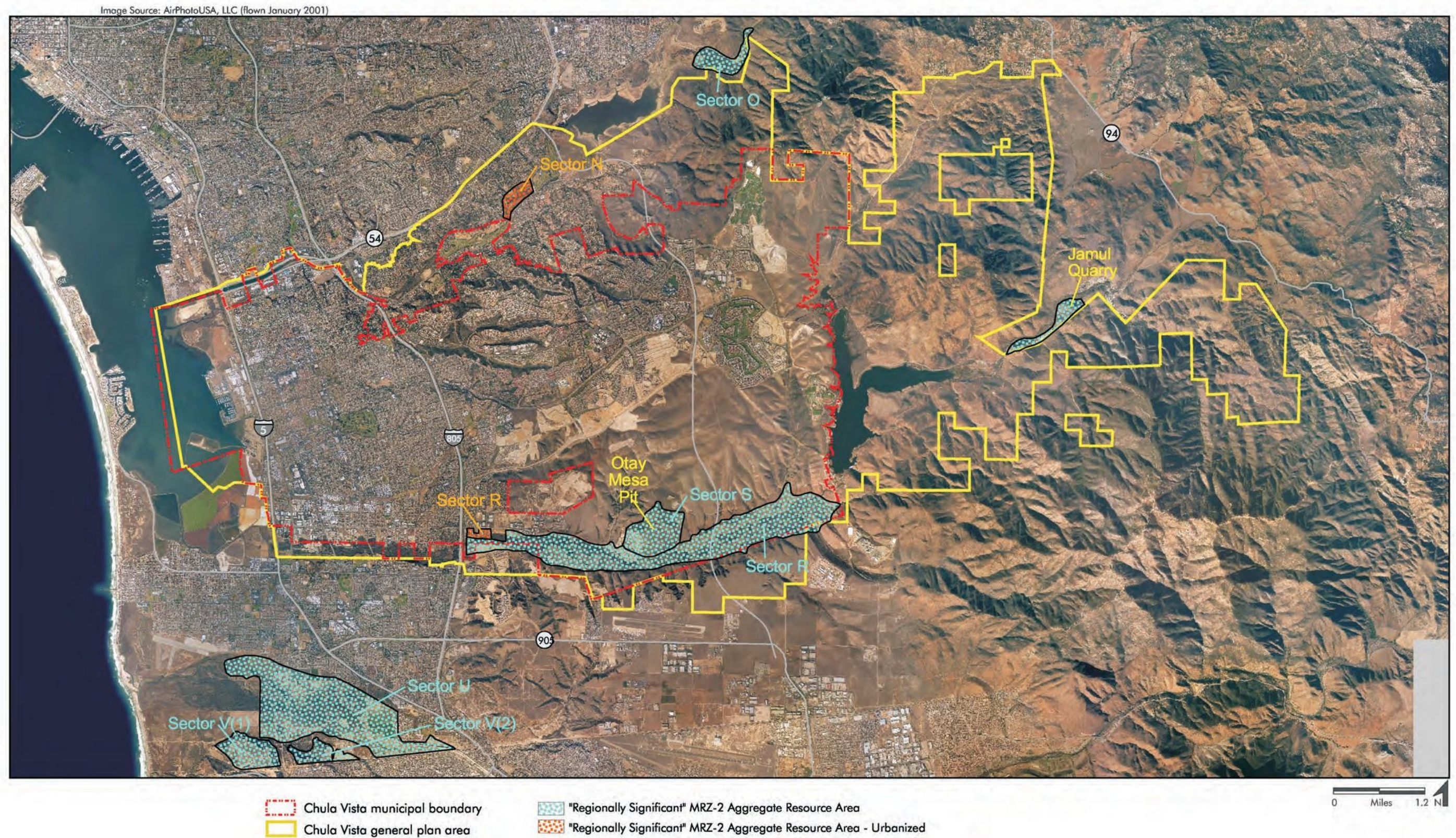


Figure 9-4

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The California Air Toxics “Hot Spots” Information and Assessment Act requires facilities emitting toxic substances to provide local air pollution control districts with information that will facilitate an assessment of the air toxics problem; identification of air toxics emission sources; location of resulting “hot spots”; notification of the public exposed to significant risk; and development of effective strategies to reduce potential risks to the public over a period of five years. The APCD is the implementing agency for approximately 1,600 facilities required to comply with the Act within San Diego County.

The Chula Vista Carbon Dioxide Reduction Plan contains twenty action measures aimed at reducing greenhouse gas emissions, improving air quality, and encouraging energy conservation.

At the state level, the California Air Resources Board continues to implement an ongoing program to identify toxic air contaminants, assess their public health risks, and develop air toxics control measures to reduce toxic emissions from specific source categories statewide. Local air districts then must adopt and implement the state-approved emission reduction measures. The APCD has adopted statewide air toxics control measures (or is directly implementing measures) requiring actions, including: emissions controls for chrome plating operations; medical and commercial sterilizers; medical waste incinerators; dry cleaning operations; metal melting operations; and automotive maintenance and repair activities. APCD Rule 1200 (Toxic Air Contaminants New Source Review), adopted in 1996, requires evaluation of potential health risks for any new, relocated, or modified emission unit that may increase emissions of one or more toxic air contaminants. The rule requires projects with an



increase in cancer risk between 1 and 10 in one million to install toxics best available control technology. Additionally, projects with an increase in cancer risk between 10 and 100 in one million must meet significantly more stringent requirements to mitigate risks before they can be approved.

Energy conservation and a transition from fossil fuel based electricity generation and heating to non-fossil fueled alternatives will reduce the amount of local, regional, and global air pollution produced and result in improved air quality. The City of Chula Vista has developed a number of

plans and strategies that focus on improving air quality and energy conservation. The Chula Vista (Carbon Dioxide) Reduction Plan, adopted in November of 2000, contains twenty action measures aimed at reducing greenhouse gas emissions, improving air quality, and encouraging energy conservation. The City requires the preparation of an Air Quality Improvement Plan (AQIP) for all major development projects. The focus of an AQIP is to provide for energy conservation and air quality improvements through improved project design and participation in energy efficient building programs.

Land use and transportation have the greatest impact on air quality in Chula Vista. While progress has been made at the regional level there is still much that can be done locally. Safeguarding public health is the focus of federal and state activities with regard to air quality programs. The impact of air quality on the health of the residents of Chula Vista is an important

issue. Energy conservation and a transition to renewable, non-fossil fuel based energy are an important means to reduce emissions caused by the generation of electricity. As growth and redevelopment continues in Chula Vista, air quality will remain an important factor to the quality of life desired by the community.

Objective - E 6

Improve local air quality and reduce greenhouse gas emissions by minimizing the release of air pollutants and toxic air contaminants and limiting the exposure of people to such pollutants.

Policies

- E 6.1** Encourage compact development featuring a mix of uses that locate residential areas within reasonable walking distance to jobs, services, and transit.
- E 6.2** Promote and facilitate transit system improvements in order to increase transit use and reduce dependency on the automobile.
- E 6.3** Facilitate the use of alternative fuel and low- and zero-emission vehicles and equipment in the community.
- E 6.4** Do not site new or re-powered fossil-fueled baseload or peaking-type Electric Generating Facilities and other major toxic emitters within 1,000 feet of sensitive receptors, or site sensitive receptors within 1,000 feet of such facilities.
- E 6.5** Ensure Electrical Generating Facilities incorporate cleaner fuel sources and least polluting technologies in order to help transition the City to a less fossil fuel-dependent future, while meeting Chula Vista's energy demand.
- E 6.6** Explore incentives to promote voluntary air pollutant reductions, including incentives for developers who go above and beyond applicable requirements and for facilities and operations that are not otherwise regulated.
- E 6.7** Encourage innovative energy conservation practices and air quality improvements in new development and redevelopment projects consistent with the City's Air Quality Improvement Plan Guidelines or its equivalent, pursuant to the City's Growth Management Program.

- E 6.8** Encourage climate resilient design techniques in new buildings and infrastructure to reduce future risks from climate change-related impacts such as wildfires, extreme heat, and flooding
- E 6.9** Discourage the use of landscaping equipment powered by two-stroke gasoline engines within the City and promote less-polluting alternatives to their use.
- E 6.10** The siting of new sensitive receivers within 500 feet of highways resulting from development or redevelopment projects shall require the preparation of a health risk assessment as part of the CEQA review of the project. Attendant health risks identified in the Health Risk Assessment (HRA) shall be feasibly mitigated to the maximum extent practicable, in accordance with CEQA, in order to help ensure that applicable federal and state standards are not exceeded.
- E 6.11** Develop strategies to minimize CO hot spots that address all modes of transportation.
- E 6.12** Promote clean fuel sources that help reduce the exposure of sensitive uses to pollutants.
- E 6.13** Encourage programs and infrastructure to increase the availability and usage of energy-efficient vehicles, such as hybrid electric vehicles, electric vehicles, or those that run on alternative fuels.
- E 6.14** Transition the City fleet to 100% “clean” vehicles by integrating hybrid and alternative fuel vehicles as current municipal fleet vehicles are replaced
- E 6.15** Site industries and other stationary emitters in a way that minimizes the potential impacts of poor air quality on homes, schools, hospitals, and other land uses where people congregate, and disadvantaged populations.
- E 6.16** Encourage the use of bicycles through support of bike share opportunities, community bike programs, and the provision of bicycle parking opportunities such as bike racks and bike lockers.

Objective - E 6A

Explore opportunities for improving indoor air quality.

Policies

- E6.A.1** Continue to limit exposure to secondhand smoke by encouraging the creation of smoke free spaces and facilities in public spaces, and at all workplaces and multi unit housing.

- E6.A.2** Work with outside partners such as the local school districts and other community stakeholders to educate the public about environmental health threats such as of mold growth and establish programs to assist in reducing such threats.
- E6.A.3** Encourage programs to prevent insect and rodent infestation.
- E6.A.4** Support lead abatement programs.
- E6.A.5** Increase safe household hazardous waste disposal programming and outreach.
- E6.A.6** Leverage home and business energy upgrade programs to improve indoor air quality and comfort for occupants.

Objective - E 6B

Prioritize greening efforts to keep air, water, and land clean

Policies

- E6.B.1** Protect and develop shade tree cover along streets and within parking lots as a priority, particularly in new developments or tree-deficient areas.
- E6.B.2** Preferentially plant female street trees to reduce pollen, especially in the most populated areas.
- E6.B.3** Prioritize natural filtration, as opposed to impermeable hardscaping, within new development projects, along roadways, and adjacent to stream and river banks.
- E6.B.4** Update the building code to support best practices in “green building” design, construction, and operations.
- E6.B.5** Provide fast-track permitting for projects that implement “green building” design and construction.
- E6.B.6** Encourage or require all new building construction to incorporate green roofs and encourage conversions of existing roof space to green roofs to reduce heat island effect.



3.1.7 Creating A Sustainable Energy Future

The focus of this section is energy conservation. (The Public Facilities and Services Element addresses energy demand, supply, and infrastructure.) Energy is essential to maintaining the existing quality of life and economic development and sustainability of the region. The primary sources of energy in San Diego County are electricity and natural gas. At present, the region is heavily dependent upon the importation of natural gas to produce electricity locally, as well as the importation of electricity produced outside of the region.

Reducing demand for electricity and natural gas is an important step to help meet the growing energy needs of the region and meeting the intent and spirit of the City's environmental goals.

Plans and programs currently implemented by regional and local agencies to conserve energy and natural gas are helping to reduce demand.

Since 1990... Chula Vista has implemented a number of measures to improve the energy efficiency of City operations and facilities and transition to alternative clean energy sources.



In 1994, SANDAG adopted the San Diego Regional Energy Plan that identified energy issues and specific measures to improve the efficiency of energy use and develop distributive power generation. As a result of the Regional Energy Plan, the San Diego Regional Energy Office (SDREO) was formed to provide information on energy issues for the region. In 2002, SDREO prepared the San Diego Regional Energy Infrastructure Study that provides an inventory and evaluation of energy supply and infrastructure necessary to meet regional needs through 2030.

This study was used to develop the 2003 Regional Energy Strategy, a comprehensive plan that addresses electricity and natural gas supply and demand. It contains a broad vision of how energy challenges should be addressed and how energy will be produced and consumed throughout the region through 2030.

The City of Chula Vista Energy Strategy and Action Plan (Energy Strategy) has nine strategy actions. The strategy actions are grouped into categories based on risk factors and payoff timeframes, ranging from continued or expanded conservation and education programs to the formation of a municipal utility to provide energy services. In addition to the Energy Strategy, a broad range of energy efficiency programs are implemented by the federal and state governments and utility providers that provide incentives to energy users to promote the use of energy efficient equipment and appliances and to builders that design and construct energy efficient buildings. Chula Vista has implemented a number of measures to improve the energy efficiency of City operations and facilities and transition to alternative clean energy sources, including, but not limited to, the purchase of alternative fuel buses; the use of biodiesel, energy efficiency upgrades for traffic signals and buildings; and the installation of photovoltaic systems on City facilities.

Meeting the future energy needs of Chula Vista and the region will require an integrated approach, including: increased development of, and reliance, on renewable energy sources; decreased dependence on non-renewable energy sources; and the expansion and promotion of energy conservation programs and measures. The development of renewable sources of energy within Chula Vista and the region will facilitate the ability to meet energy needs in an environmentally sensitive manner and reduce dependency upon imported energy.

Objective - E 7

Promote energy conservation through the efficient use of energy and through the development of local, non-fossil fuel-based renewable sources of energy.

Policies

- E 7.1** Promote development of regulations and building design standards that maximize energy efficiency through appropriate site and building design and through the use of energy-efficient materials, equipment, and appliances.
- E 7.2** Encourage and support the local research, development, generation, and use of non-fossil, fuel-based renewable sources of energy, including wind and solar resources, that meet local energy needs in an environmentally sensitive manner and reduce dependence on imported energy.
- E 7.3** Develop and provide pertinent information about the benefits of energy conservation and available energy conservation incentive programs to all segments of the community.
- E 7.4** Pursue and encourage the expansion of local energy conservation, energy efficiency, and related incentive programs.
- E 7.5** Pursue 40% City-wide electricity supply from clean, renewable resources by 2017.
- E.7.6** Encourage the construction and operation of green buildings, considering such programs as the Leadership in Energy and Environmental Design (LEED™) Green Building Rating System.
- E 7.7** Support tree planting programs that will be implemented to reduce energy needs.
- E 7.8** Ensure that residential and non-residential construction complies with all applicable City of Chula Vista energy efficiency measures and other green building measures that are in effect at the time of discretionary permit review and Approval or building permit issuance, whichever is applicable



3.1.8 Promoting Solid Waste Reduction Strategies

While the Public Facilities and Services Element addresses current and future solid waste disposal facility needs, this section of the Environmental Element addresses recycling and waste reduction efforts.

Recycling and solid waste reduction programs have been in place in Chula Vista since 1990 to meet the State goal of diverting or reducing 50 percent of the solid waste generated by all residential, commercial, and industrial uses. A City-wide residential curbside collection program for recyclable items has been in place since 1991. The preparation of a solid waste management plan is required as part of the permit approval process for new development and redevelopment projects; the plan must address the pre-construction, construction, and operational phases of the project. As a result of these efforts, Chula Vista has reduced or diverted more than 50 percent of the solid waste generated within the City, thereby achieving the State goal.

*Chula Vista
has reduced or
diverted more
than 50 percent
of the solid waste
generated within
the City.*

Chula Vista's household hazardous waste (HHW) program, designed to provide a means to safely collect; recycle; treat; and dispose of HHW, was implemented in 1997. HHW collected at the City's facility is sent to various locations throughout the United States for treatment and/or recycling. Section 3.4.2 of this element, Managing Household Hazardous Waste, further addresses the management of HHW. Public education and awareness programs, including programs for school-age children, support the recycling program and contribute to high participation rates. In



addition to recycling, Chula Vista's solid waste management strategies include source reduction and composting. The City is working towards the goal of establishing a permanent compost site at the Otay Landfill.

The current and future demand for solid waste disposal requires Chula Vista to take an aggressive approach to source reduction. Continued efforts to educate the public about recycling, proper disposal of household hazardous waste, and composting will be critical to meeting the future solid waste disposal needs of the General Plan area.

Objective - E 8

Minimize the amount of solid waste generated within the General Plan area that requires landfill disposal.

Policies

- E 8.1** Promote efforts to reduce waste, minimize the need for additional landfills, and provide economically and environmentally sound resource recovery, management, and disposal facilities.
- E 8.2** Support the development of composting programs for commercial and residential development.
- E 8.3** Implement source reduction strategies, including curbside recycling, use of small collection facilities for recycling, and composting.
- E 8.4** Provide information about applicable solid waste reduction programs to all segments of the community, including other governmental institutions.
- ~~**E 8.5** Encourage the reduction of household hazardous waste generation and disposal by promoting the use of safe substitutes, and by promoting and facilitating recycling of household hazardous waste.~~
- E 8.6** Permit recycling operations and businesses that utilize recyclable materials within industrial zones in close proximity to Otay Landfill, subject to conformance with applicable SPA Plan-level policies and zoning regulations.

3.1.9 Protecting Chula Vista's Cultural Resources

Cultural resources consist of: buildings; structures; objects; archaeological sites; districts; landscapes; places; traditional cultural properties; manuscripts; and other resources deemed to be historically significant or significant from an architectural; engineering; scientific; economic; agricultural; educational; social; political; military; or cultural standpoint at the local, state, or national level. A cultural resource may: be the location of a prehistoric or historic occupation or activity; be a locale that has been, and often continues to be, of religious, mythological; cultural, economic, and/or social importance to an identifiable ethnic group; be associated with events that have made a significant contribution to history or cultural heritage; be associated with the lives of important persons; embody the distinctive characteristics of a type, period, region, or method of construction; represent the work of an important creative individual; possess high artistic values; or yield information important in prehistory or history.

Cultural resources that reflect the history of a community, from descendants of the earliest Native Americans to later explorers, settlers, and immigrants, are important to the community and, therefore, warrant protection by the City.

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Cultural resources may be listed in a local register of historical resources, in the California Register of Historical Resources, and in the National Register of Historic Places. The Chula Vista List of Designated Historic Sites constitutes the City of Chula Vista's local register of historical resources. On September 30, 2003, the City Council accepted the Ad Hoc Historic Preservation Committee's report, entitled "An Evaluation of Historic Preservation in Chula Vista." Policies addressing the implementation of the report's recommendations are contained in Section 7.6 of the Land Use and Transportation Element. Due to the relationship between historic buildings, community character, and urban design, the specific issues pertaining to historic buildings are addressed in the Land Use and Transportation Element. The focus of this section is on the remaining types of cultural resources.

Native American presence in San Diego County is known to extend back approximately 9,000 years from today. Approximately 600 prehistoric archaeological sites have been recorded within the Chula Vista General Plan area, many of which remain in part or in total, suggesting the likelihood that additional unrecorded sites are present within undeveloped, as well as some previously developed, portions of the General Plan area.



Spanish contact in the region in 1769 marked the end of the prehistoric era and the beginning of the historic era. The Chula Vista area was part of a Spanish land grant known as Rancho del Rey, the King's Ranch. Under Mexican rule in 1821, this ranch, encompassing National City, Chula Vista, Bonita, Sunnyside, and the Sweetwater River Valley, was known as Rancho de la Nacion. The United States military occupied the region in 1846 and assumed formal control with the Treaty of Guadalupe-Hidalgo in 1848. In 1850, the California State Legislature formally organized San Diego County. The Santa Fe Railroad was brought to southern California in 1885, with its first terminus in National City. Subsequently, the Sweetwater Dam was built to bring water to Chula Vista and a railroad was built connecting Chula Vista and Otay Mesa with National City and San Diego. In time, Chula Vista became the largest lemon-growing center in the world.

The City of Chula Vista was incorporated in 1911, with a population of 550. After its incorporation, Chula Vista continued to be a leading lemon-growing center; other important crops produced in Chula Vista included tomatoes and celery. Chula Vista was also home to several other significant industries. The Salt Works has been operating on the Chula Vista bayfront since the end of the nineteenth century, and Rohr Aircraft Company was established on the Chula Vista bayfront during the 1940s.

Chula Vista assesses and mitigates the potential impacts of private development and public facilities and infrastructure to significant cultural resources pursuant to the provisions of the California Environmental Quality Act (CEQA). Sections 15064.5 and 15126.4 of the State CEQA Guidelines define historical resources (i.e., cultural resources) and address, in general terms, mitigation requirements for significant and potentially significant impacts to such resources. Pursuant to the State CEQA Guidelines, historical resources are not limited to officially listed resources, but also include resources found to be eligible for listing at the local, state, and federal levels. Cultural resources that reflect the history of a community, from descendants of the earliest Native Americans to later explorers, settlers, and immigrants, are important to the community and, therefore, warrant protection by the City. Furthermore, the accessibility of important cultural resources to the public for educational, religious, cultural, scientific and other purposes should be supported and encouraged by the City.

Objective - E 9

Protect Chula Vista's important cultural resources and support and encourage their accessibility to the public.

Policies

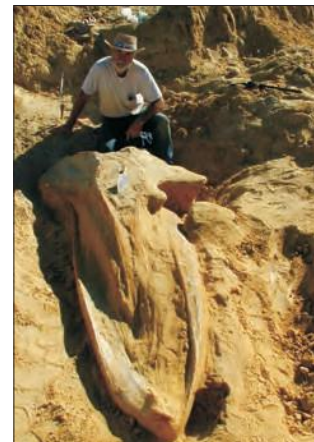
- E 9.1** Continue to assess and mitigate the potential impacts of private development and public facilities and infrastructure to cultural resources, in accordance with the California Environmental Quality Act.
- E 9.2** Support and encourage the accessibility of Chula Vista's important cultural resources to the public for educational; religious; cultural; scientific; and other purposes, including the establishment of museums and facilities accessible to the public, where such resources can be appropriately studied, exhibited, curated, etc.
- E 9.3** Discourage disruption, demolition, and other negative impacts to historic cultural Resources.

3.1.10 Protecting Paleontological Resources

Paleontological resources, or fossils, are the remains and/or traces of prehistoric (i.e., older than approximately 10,000 years) plant and animal life. Fossils provide us with direct evidence of ancient organisms and document the patterns of organic evolution and extinction that have characterized the history of life over the past 3.4 billion years. Paleontological resources, like archaeological resources, represent a limited, non-renewable, and sensitive scientific and educational resource. In California, impacts to paleontological resources are addressed through the environmental review process pursuant to CEQA.

Negative impacts to paleontological resources generally take the form of physical destruction of fossil remains by excavation operations.

Fossil remains, such as bones, teeth, shells, and wood are found in the geologic deposits (sedimentary rock formations) within which they were originally buried. In the sense of being buried, paleontological resources are like archaeological resources. However, archaeological resources are typically found in shallow surficial soils and colluvium, while paleontological resources are found in deeper bedrock layers of sandstone, mudstone, or shale.



Paleontological resources can be thought of as including not only actual fossil remains, but also the localities where those fossils are collected, and the geologic formations (rock units) containing the localities. This direct relationship between fossils and the geologic formations within which they are entombed is important for planning purposes. Knowledge of the geology of a particular area and the paleontological resource sensitivity (i.e., fossil productivity) of particular geologic formations makes it possible to predict where fossils may (or may not) be encountered. A number of distinct geologic formations that record portions of the past 140 million years of Earth history are present within the General Plan area; however, the record is most complete for only the past 42 million years. The geologic formations present within the General Plan area consist of: Mission Valley Formation; Otay Formation; San Diego Formation; Sweetwater Formation; Bay Point Formation; Unnamed nearshore marine sandstone; Lindavista Formation; Unnamed river terrace deposits; Later Quaternary alluvium; and Santiago Peak Volcanics. The paleontological resource sensitivity of these formations ranges from marginal to high.



Deciphering this geological and biological record is an ongoing process and each year brings new discoveries. This is especially the case in the City of Chula Vista, where continued growth and development presents potential impacts to local paleontological resources. Over the past 20-plus years, mitigation of these impacts has resulted in the recovery and conservation of thousands of significant fossils, including many that represent species new to science.

Negative impacts to paleontological resources generally take the form of physical destruction of fossil remains by excavation operations. Burial of paleontological resources is not considered to represent a significant impact, since the resources are not destroyed. Significant impacts to sensitive paleontological resources can be mitigated through a mitigation program. Typically, mitigation occurs during construction, consisting of monitoring during excavation operations and the recovery of significant resources. Recovered resources are then curated at an appropriate institution, where they are available for immediate and future paleontological study and can be displayed for public viewing.

Chula Vista assesses and mitigates the potential impacts of private development and public facilities and infrastructure to paleontological resources pursuant to the provisions of CEQA. Pursuant to Section 15065 of the State CEQA Guidelines, a lead agency must find that a project may have a significant effect on the environment where the project has the potential to eliminate important examples of the major periods of California prehistory, which includes the destruction of significant paleontological resources.

Objective - E 10

Protect important paleontological resources and support and encourage public education and awareness of such resources.

Policies

- E 10.1** Continue to assess and mitigate the potential impacts of private development and public facilities and infrastructure to paleontological resources in accordance with the California Environmental Quality Act.
- E 10.2** Support and encourage public education and awareness of local paleontological resources, including the establishment of museums and educational opportunities accessible to the public.



3.2 Open Space

Open space provides for the preservation of natural resources, such as: wildlife and their habitats; scenic vistas; unique natural conditions; sensitive vegetation; agricultural uses; and productive soils. Open space also can provide a break in the urban structure, creating visual relief; diversity; texture; pattern; and continuity to the overall pattern of development. Additionally, open space can be used to limit or restrict development in areas exposed to significant hazards, such as: earthquakes; landslides; fires; floods; and erosion, and as a buffer to protect sensitive uses from noise.

The following four open space land use designations have been established to address the different types and functions of open space areas throughout the General Plan area: Open Space; Open Space Preserve; Open Space - Active Recreation; and Parks and Recreation. These specific designations apply to areas that have an abundance of natural resources; visual resources; recreational value; and/or public safety concerns, among other attributes. The Land Use and Transportation Element describes the open space land use

The Chula Vista Greenbelt incorporates developed and undeveloped open space and potential new open space linkages to form a continuous 28-mile open space and park system around the perimeter of the City.

designations and their locations throughout the City. The aforementioned four open space land use designations are depicted on Figure 9-5 as a composite open space network.



The Chula Vista Greenbelt incorporates developed and undeveloped open space and potential new open space linkages to form a continuous 28-mile open space and park system around the perimeter of the City, serving as a limit to the City's urban development (Figure 9-6). The Chula Vista Greenbelt Master Plan addresses a variety of issues and challenges, including: existing and potential trail locations; development standards for future trails and parking/staging areas; management and maintenance responsibilities; and the establishment of an open space network that connects parks and activity areas throughout the City.

The Chula Vista Parks and Recreation Master Plan's inventory includes existing parks and recreation facilities, a needs assessment, and policies to implement the General Plan. It also discusses open space areas and trails.

The Otay Ranch General Development Plan (GDP) governs the development of the 23,000-acre Otay Ranch. As a part of the Otay Ranch GDP, a large regional trail system linked to paseos and public parks will provide for a variety of recreational options. An 11,000-acre open space preserve has been established to protect most of the natural resource areas within Otay Ranch. The Otay Ranch GDP and Otay Ranch Resource Management Plan recognize the importance of environmental and landform preservation, and the need to design environmentally sensitive communities.

The Otay Valley Regional Park Concept Plan addresses the planned 8,700-acre, multi-jurisdictional regional open space system extending through the Otay River Valley from San Diego Bay to the Otay Lakes (Figure 9-6). Opportunities exist for the park to contain substantial preserve area, as well as active and passive recreation areas and equestrian, hiking, and biking trails.

The Multiple Species Conservation Program (MSCP) is a comprehensive program for the preservation of numerous sensitive plant and animal species in the region. The Chula Vista MSCP Subarea Plan anticipates the development of active recreation uses within portions of the Otay River Valley and limited opportunities for trails and passive recreation within portions of the MSCP Preserve. (See Section 3.1.1 if this element for more information on the MSCP.)

3.2.1 Connecting and Improving Chula Vista's Open Space and Trails Network

Chula Vista has significant open space areas with a variety of natural resources. The City has taken a multi-track approach to the conservation and management of its open space resources, including the preservation of critical landforms and requirements for open space dedication in master planned communities. There are currently several thousand acres of undeveloped land throughout the General Plan area. Although some of this land will remain as permanent open space and is designated as such through the General Plan, much of it will be developed in the future.



The primary open space network in the City of Chula Vista and south San Diego County is the Chula Vista Greenbelt (Figure 9-6). As the backbone of an open space and park system that extends throughout Chula Vista and beyond, the Greenbelt encircles urban areas, providing visual relief; recreational opportunities; resource protection; and a unique identity for the City.

In master planned communities, the City requires dedication of open space to preserve natural resources and to create visual relief, diversity, and texture for the community. Some of the open space created in this manner is within the Chula Vista Greenbelt, while the remainder is internal to the communities. The City has other small open space areas outside of master planned communities, including utility corridors, unimproved drainage courses, and undeveloped canyon areas. Parks are considered a component of the City's open space network, in light of the visual relief that they provide from the built environment. Park and recreation needs of the community are addressed in the Public Facilities and Services Element.

The developed portions of western Chula Vista include limited amounts of trails and open space. With increased residential densities and intensity of development in this portion of the City, there will be a corresponding increase in demand for all forms of open space. Open space areas in newer developments often lie disconnected from the Greenbelt. There are opportunities to provide internal trail connections, especially within existing utility corridors and along important roadways.

Trails are defined as paths used for walking, bicycling, horseback riding, or other forms of recreation or transportation. The Greenbelt Master Plan envisions two types of trails within the Greenbelt: multi-use trails and rural trails. Multi-use trails are designed for a variety of users, such as: bicyclists; equestrians; pedestrians; joggers; and other non-motorized activities; and may be improved with a variety of trail surfaces. Rural trails provide access to open space areas and are

General Plan Area Open Space Map

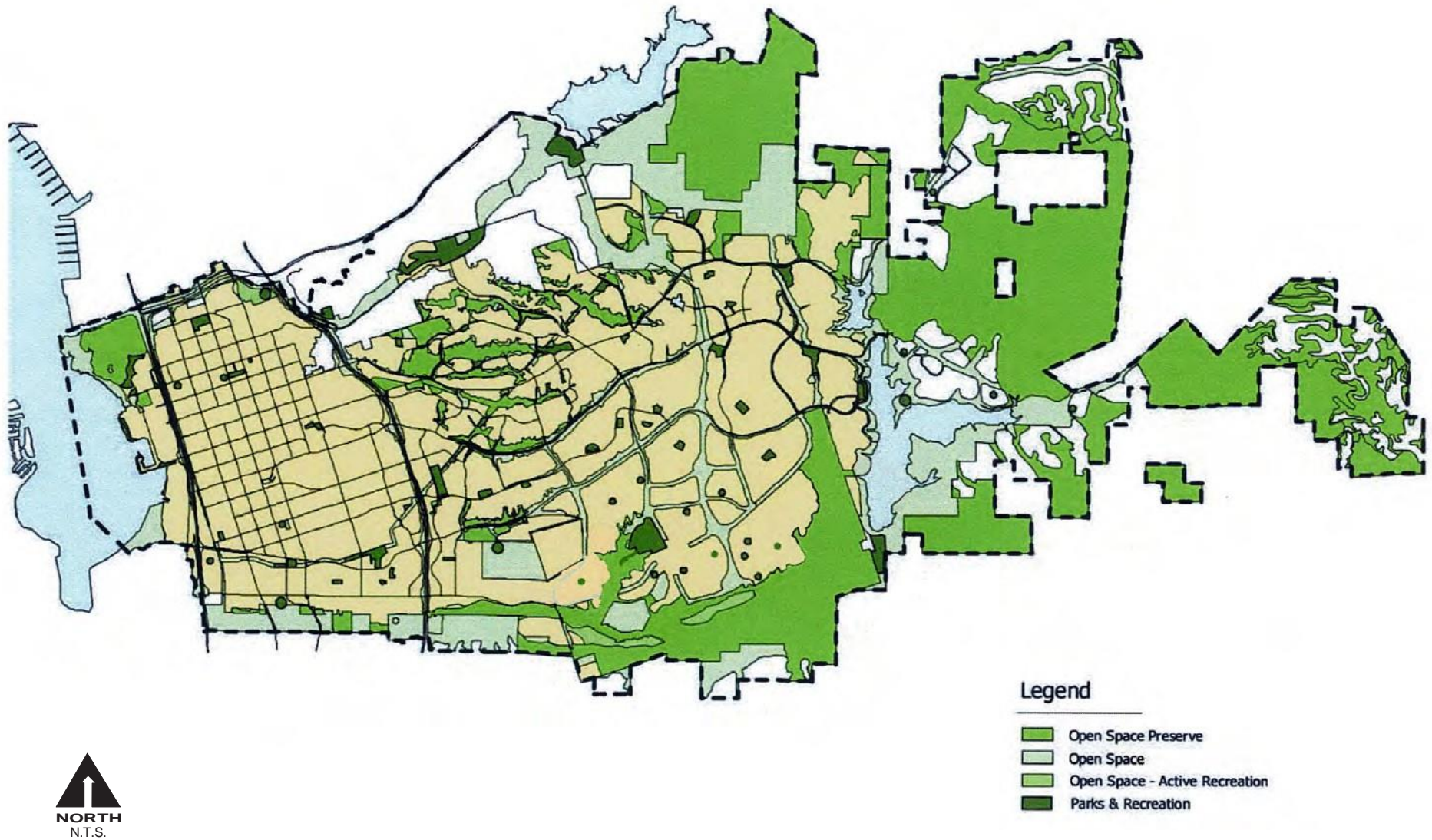
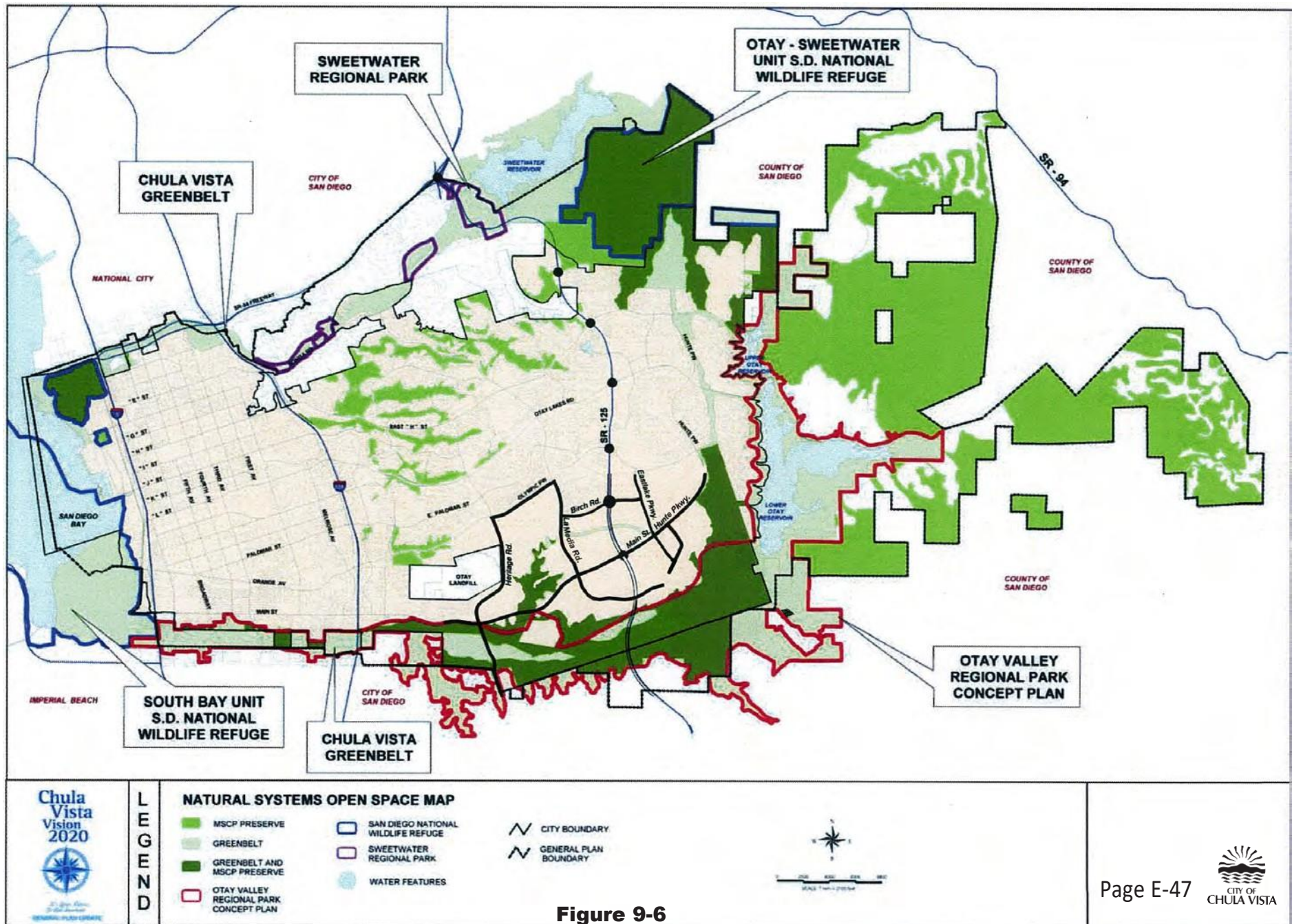


Figure 9-5

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Natural Systems Open Space Map



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designed to minimize impacts to natural resources, limit access to maintenance and emergency vehicles, and may limit the type of users, depending on permitted uses in these resource areas. Limited opportunities exist for trails within portions of the Chula Vista MSCP Preserve (Figures 9-2 and 9-6). The provision of future trails should not only consider those within the Greenbelt and the MSCP Preserve, but also landscape promenades, paseos, or other urban trails/paths that connect community features or activity areas, or that connect the core area of the City to the Greenbelt and MSCP Preserve.



As development and population growth in Chula Vista continues, improvement of the City's open space and trails network, including the provision of additional internal connections between the various elements of the network, will become increasingly important. The preparation of a City-wide Trails Master Plan is needed, and the creation of connected paseos and trails between community activity areas should be encouraged. The provision of sufficient open space areas is needed within the remaining development areas of the City's master planned communities and within other large-scale developments, such as on the Bayfront. Urban community-based "green" infrastructure that is distinct from habitat conservation should be expanded upon and encouraged. The retention and utilization of open space areas, including undeveloped natural areas, utility corridors, and key scenic corridors, should be encouraged, where feasible.

Objective - E 11

Improve Chula Vista's open space and trails network, including the provision of additional internal connections between the various elements of the network.

Policies

- E 11.1** Provide an integrated network of open space areas, as needed, throughout the City to serve residents, as well as to serve as a regional asset and attractor of visitors (e.g., on the bayfront and within the Otay River Valley).
- E 11.2** Plan for the long-term preservation and enhancement of open space within the Chula Vista Greenbelt.
- E 11.3** Conserve open space within the Chula Vista Greenbelt through public acquisition of private property and other acceptable conservation methods.

- E 11.4** Prepare and implement a City-wide Trails Master Plan that defines staging and access areas, trail types, standards, and siting criteria, consistent with the Greenbelt Master Plan and the Chula Vista MSCP Subarea Plan, including the placement of appropriate limitations on public access outside of designated trails and staging and access areas.
- E 11.5** Encourage the creation of connected paseos and trails between community activity areas and enhance with kiosks and rest stations.
- E 11.6** The Sweetwater River corridor should be restored and enhanced as an environmental and recreational resource for the community.
- E 11.7** Expand upon and encourage urban community-based “green” infrastructure that is distinct from habitat conservation (e.g., community, neighborhood, and pocket parks, disturbed canyons, community and roof gardens, and vegetated drainages) and ensure that such facilities are integrated into new development and redevelopment in western Chula Vista.
- E 11.8** Develop a greenbelt park and/or open space system through the Bayfront Planning Area to link the Sweetwater and Otay rivers and to buffer sensitive natural resources from development within the planning area.
- E 11.9** Work with utility owners and operators to promote the use of utility easements and corridors as open space and trail corridors.
- E 11.10** Encourage the retention of open space areas, including undeveloped natural areas and utility corridors, wildlife corridors, and key scenic corridors.

3.2.2 Providing Connections to the Regional Open Space and Trails Network

Chula Vista's open space and trail network abuts other regional open space areas and trails, including: the Bayshore Bikeway; California Riding and Hiking Trail; Sweetwater Valley trail system; future Otay Valley Regional Park trail system; and the open space preserve in the unincorporated eastern portion of Otay Ranch. Some connections between the City's open space and trails network and the regional network exist today; others are planned; and additional opportunities will likely become evident as future regional open space and trails plans are formulated and implemented.



Future connections between the City's open space and trails network and the regional network will serve Chula Vista residents and visitors, as well as surrounding communities. Providing such connections will require careful collaboration with the applicable agencies responsible for planning, implementing, and managing the various components of the regional open space and trails network. In addition, opportunities for connections to the regional open space and trails network through developments adjacent to the network should be explored as the City processes development proposals.

Objective - E 12

Provide connections between Chula Vista's open space and trails network and the regional network.

Policies

- E 12.1** Collaborate with San Diego County, the City of San Diego, and other applicable agencies to provide connections between Chula Vista's open space and trails network and the regional network, in accordance with the Chula Vista MSCP Subarea Plan and Otay Valley Regional Park Concept Plan.
- E 12.2** Explore opportunities for connections to the regional open space and trails network through developments within the City adjacent to the network as development proposals are reviewed and processed, and work with project proponents and applicable agencies to plan, develop, and manage such connections.

3.2.3 Exploring Ecotourism Opportunities

Chula Vista and the south San Diego County subregion possess a multitude of natural resources and ecologically-oriented recreational amenities, including: the San Diego National Wildlife Refuge Complex; San Diego Bay; Pacific Ocean; Sweetwater Valley Regional Park; planned Otay Valley Regional Park; Otay Lakes; Bayshore Bikeway; California Riding and Hiking Trail; and a portion of the Peninsular Ranges. San Diego County has over 200 plant and animal species that are federally and/or state listed as endangered, threatened, or rare; proposed or candidates for listing; or otherwise are considered sensitive, many of which occur in the subregion. These and many other species of plants; fish; amphibians; reptiles; birds (including migratory species); and mammals reside within the vast array of upland and wetland habitats of the subregion's coastal, inland, and mountain areas. The natural resources and ecologically-oriented recreational amenities of the subregion are presently enjoyed by local residents as well as visitors from throughout the southern California/northern Baja California binational region and beyond.

Ecotourism promotes the conservation of natural resources and contributes to the diversification and health of the local economy.

The International Ecotourism Society defines ecotourism as "responsible travel to natural areas that conserves the environment and improves the well-being of local people." Chula Vista and the south San Diego County subregion possess unique and varied natural resources and ecologically-oriented recreational amenities. Ecotourism also promotes the conservation of natural resources and contributes to the diversification and health of the local economy. Given the ecological and economic benefits that could be derived from ecotourism in Chula Vista and the subregion, its potential viability is worthy of exploration.



Objective - E 13

Acknowledge the uniqueness of the natural resources and ecologically-oriented recreational amenities in Chula Vista and the south San Diego County subregion and the potential viability of ecotourism to enhance economic and environmental sustainability.

Policies

- E 13.1** Collaborate with other jurisdictions and agencies within Chula Vista and in the south San Diego County subregion to explore the potential viability of near-term and long-term ecotourism opportunities, and to promote such opportunities.



3.3 Natural Hazards

Natural hazards in Chula Vista are associated with earthquakes; landslides; slope instability; flooding; dam inundation; and wildland fires. This section identifies the environmental safety hazards facing existing and new development in Chula Vista and includes general hazard and risk reduction strategies and policies, such as the mitigation of hazards through avoidance in new development and redevelopment.

3.3.1 Identifying and Limiting Geologic Hazards

Seismic Hazards

Chula Vista's General Plan area is situated within seismically active southern California. While no known Alquist-Priolo Earthquake Fault Zones or active faults (i.e., faults that exhibit evidence of ground displacement during the last 11,000 years) traverse Chula Vista, traces of the potentially active La Nacion fault zone are known to cross the City in a generally north-south direction within the central portion of the City (Figure 9-7). The greatest magnitude earthquake expected on the La Nacion fault is estimated to be 6.0. The nearest active faults are the Rose Canyon fault, located approximately 14 miles northwest of the City, and the Coronado Bank fault, located approximately 30 miles from the City. Other active faults in the region are located more than 60 miles from the City.

In general, hazards associated with seismic activity include: strong ground motion; ground surface rupture; liquefaction; and seismically induced settlement. Ground surface rupture is not considered likely to occur in the City's General Plan area, due to the absence of any known active faults. Lurching or cracking of the ground surface as a result of nearby or distant seismic events is also considered unlikely. Strong vibrations due to earthquakes can cause liquefaction of certain soil types. Areas of Chula

Planning for a safe community requires consideration of geologic hazards. Incorporating proper geotechnical engineering techniques in development projects can reduce the risks associated with geologic hazards to an acceptable level.

Vista in close proximity to San Diego Bay and the Sweetwater and Otay River Valley (Figure 9-7) have shallow groundwater tables and poorly consolidated granular sediments potentially subject to seismically-induced liquefaction. Seismic activity within the region can cause structures to fail, resulting in significant property damage, business disruptions, injuries and even loss of life.

Landslides and Slope Instability



Areas of known landslides, or areas generally susceptible to landsliding, within the General Plan area have been identified (see Figure 9-7). The potential for earthquake-induced landsliding in hillside terrain is also present. Slopes steeper than 25 degrees (approximately 2:1) are potentially subject to instability. Such areas may be prone to hazards such as: surficial failures; earthflows; debris flow; mudslides; rock falls; soil creep; and erosion. Failures of man-made slopes could also occur in some of the previously developed areas of the City.

Planning for a safe community requires consideration of geologic hazards. Incorporating proper geotechnical engineering techniques in development projects can reduce the risks associated with geologic hazards to an acceptable level.

The State Historical Building Code is a tool that is available to the City to ensure reasonable safety of historically significant buildings from geologic hazards while facilitating the maintenance of the historical integrity of such buildings.

~~Objective E 14~~

~~Minimize the risk of injury, loss of life, and property damage associated with geologic hazards.~~

~~Policies~~

~~E 14.1~~

~~To the maximum extent practicable, protect against injury, loss of life, and major property damage through engineering analyses of potential seismic hazards, appropriate engineering design, and the stringent enforcement of all applicable regulations and standards.~~

Geologic Hazards Map

Map Source: Ninyo & Moore, 2003

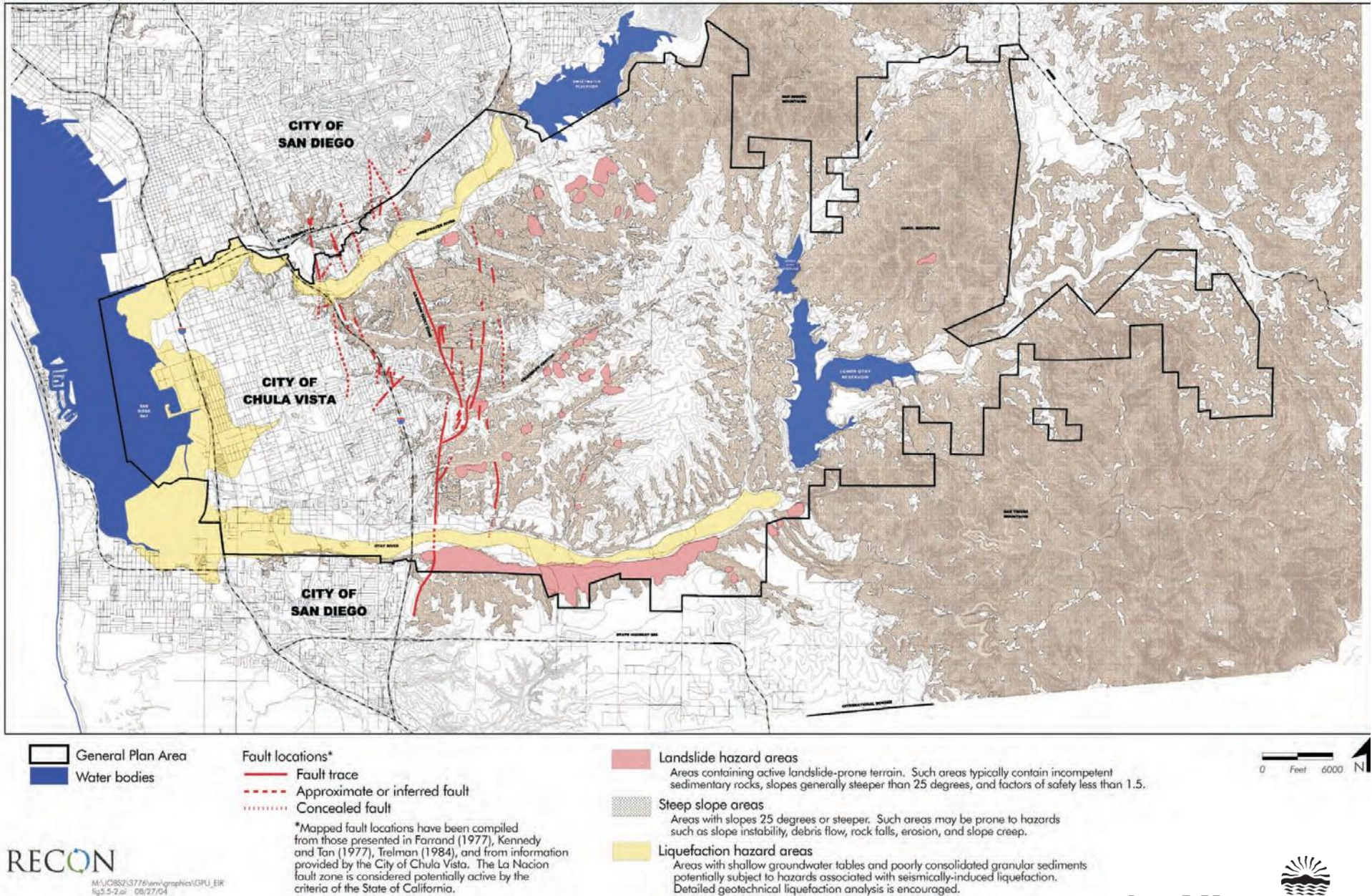


Figure 9-7

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- E 14.2** ~~Prohibit the subdivision, grading, or development of lands subject to potential geologic hazards in the absence of adequate evidence demonstrating that such development would not be adversely affected by such hazards and would not adversely affect surrounding properties.~~
- E 14.3** ~~Require site-specific geotechnical investigations for proposals within areas subject to potential geologic hazards; and ensure implementation of all measures deemed necessary by the City Engineer and/or Building Official to avoid or adequately mitigate such hazards.~~
- E 14.4** ~~Promote programs to identify un-reinforced masonry buildings and other buildings and structures that would be at risk during seismic events; and promote strengthening of these buildings and structures, where appropriate.~~
- E 14.5** ~~Wherever feasible, land uses, buildings, and other structures determined to be unsafe from geologic hazards shall be discontinued, removed, or relocated.~~

3.3.2 Identifying and Limiting Flood Hazards

During severe rain seasons, low-lying areas along the floodplains of the Sweetwater and Otay Rivers and several of their tributaries, including Telegraph Canyon Creek, Poggi Channel, Salt Creek, and Jamul (Dulzura) Creek, as well as certain drainage facilities, may experience flooding. Dams, levees, reservoirs and drainage channels have been constructed to control the drainage of much of the watershed for the General Plan area, thereby reducing the potential for hazardous flooding of developed areas. The Federal Emergency Management Agency (FEMA) has delineated inundation areas for 100- and 500-year floods. Areas designated to be within the 100-year flood zone are shown on Figure 9-8.

Figure 9-8 also depicts areas subject to flood inundation in the event of failure of the Sweetwater, Upper Otay, or Savage (Lower Otay) Dams. Dams typically fail due to overtopping by reservoir water during heavy rainfall episodes, structural damage, and earthquake-related hazards such as landsliding, ground shaking, and seiches, which are waves in an enclosed or semi-enclosed body of water, such as a lake or bay.

Tsunamis, long wavelength seismic sea waves generated by sudden movements of the ocean bottom during submarine earthquakes, landslides, or volcanic activity, conceivably could have adverse effects on the coastal areas of Chula Vista. However, because the City is adjacent to a relatively protected part of the San Diego Bay, the potential for significant wave damage is considered low. In the unlikely event of the development of noticeable seiches, it is conceivable that local areas adjacent to the Otay Lakes and the San Diego Bay could be impacted by wave activity.

Flooding associated with heavy rainfall episodes, as well as dam failure, pose a significant hazard to people and property. Although much less likely to occur, tsunamis and seiches also represent potential flood hazards in portions of Chula Vista in proximity to the San Diego Bay and the Otay Lakes. Furthermore, flooding can result in costly damage to private and public property and infrastructure and by damaging roadways and creating unsafe driving conditions, flooding impedes traffic and disrupts business operations.

~~Objective E 15~~

~~Minimize the risk of injury and property damage associated with flood hazards.~~

Policies

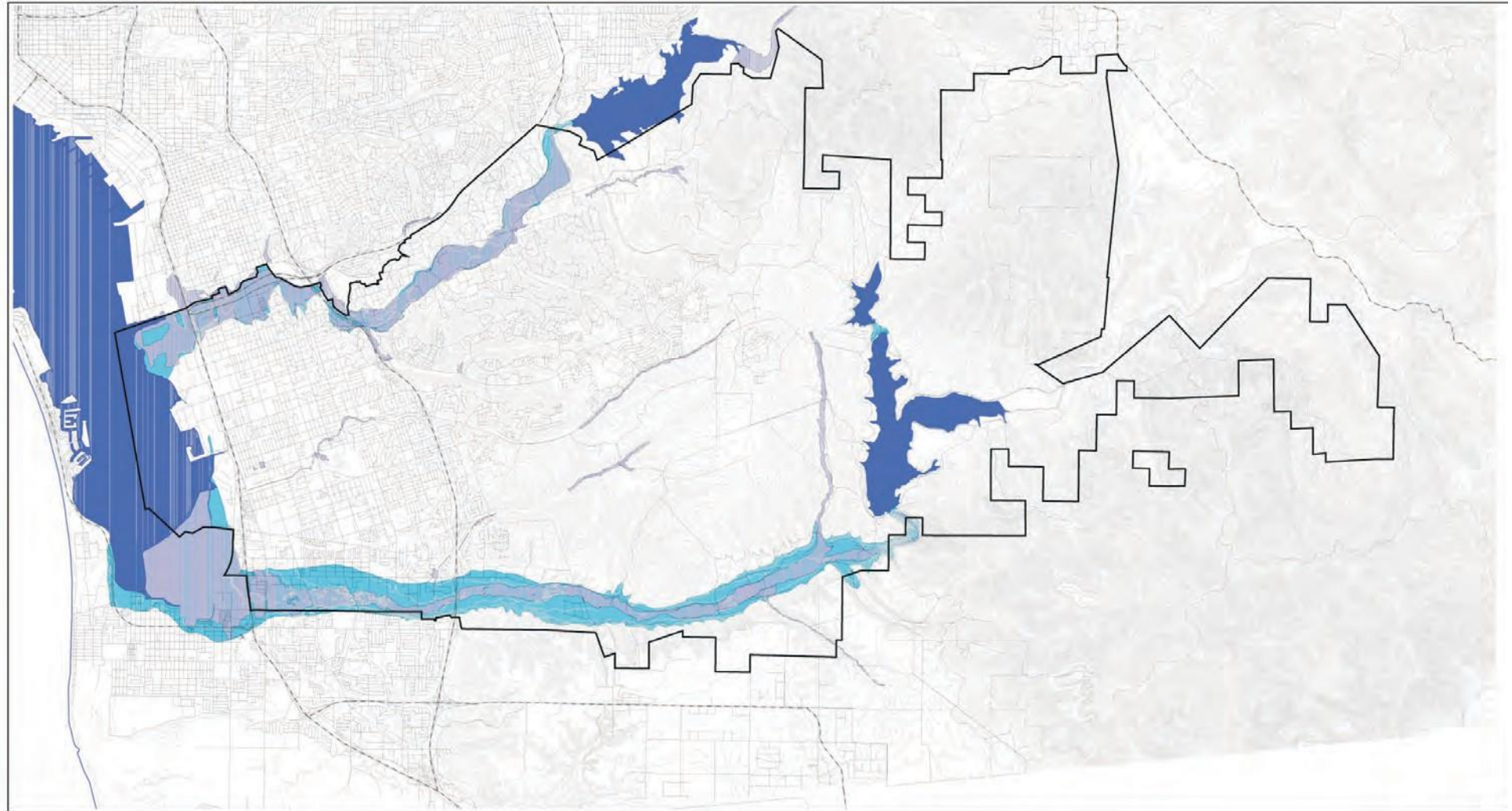
~~**E 15.1** Prohibit proposals to subdivide, grade, or develop lands that are subject to potential flood hazards, unless adequate evidence is provided that demonstrates that such proposals would not be adversely affected by potential flood hazards and that such proposals would not adversely affect surrounding properties.~~



~~Require site-specific hydrological investigations for proposals within areas subject to potential flood hazards; and implement all measures deemed necessary by the City Engineer to avoid or adequately mitigate potential flood hazards.~~

~~**E 15.2** Wherever feasible, land uses, buildings, and other structures determined to be unsafe from flood hazards shall be discontinued, removed, or relocated.~~


Flood and Dam Inundation Hazards Map

Map Source: Ninyo & Moore, 2003




 General Plan Area
 Water bodies

Flood hazard areas

 Areas potentially subject to hazards associated with flooding as defined by the Federal Emergency Management Act (FEMA) Flood Insurance maps (1997) as Special Flood Hazard Areas (SFHA) inundated by a 100-year flood.

Dam inundation areas

 Potential zones of inundation due to failure of the Sweetwater Dam, Upper Otay Dam, and Savage Dam as presented in maps obtained from the Governor's Office of Emergency Services website.

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Figure 9-8

3.3.3 Identifying and Limiting Wildland Fire Hazards

Wildland fire risk zones are areas that have steep slopes, limited precipitation, and plenty of available fuel, or combustible plant material. Wildland fire risk zones designated by the California Department of Forestry and Fire Protection in 1999 are depicted on Figure 9-9, portions of which have subsequently been converted to urban development. Brush management is required to be undertaken in the City in areas where urban development interfaces with open space, in order to reduce fire fuel loads and reduce potential fire hazard. The City adopted the 1997 edition of the Urban-Wildland Interface Code (UWIC) as a part of the Chula Vista Municipal Code, which became effective in 1999, and subsequently adopted the 2000 edition of the UWIC in 2002. The City is currently reviewing the 2003 edition of the International Urban-Wildland Interface Code with the intent to incorporate amendments appropriate to local conditions into the City's UWIC. The purpose of the UWIC is to lessen the risk to life and structures from intrusion of fire from wildland fire exposures and fire exposures from adjacent structures and to prevent structure fires from spreading to wildland fuels. The Chula Vista MSCP Subarea Plan also provides brush management guidelines for reducing potential fire hazards for existing and new communities within the City. The MSCP Subarea Plan references provisions for emergency brush management activities conducted at the discretion of the Fire Marshal.



Since Chula Vista receives limited precipitation, the potential for wildland fires represents a significant hazard within areas of the City. However, implementing appropriate techniques, consistent with the Chula Vista MSCP Subarea Plan and the City's UWIC, can reduce such hazards.

Objective - E 16

Minimize the risk of injury and property damage associated with wildland fire hazards.

Policies

- E 16.1** Implement brush management programs that which are consistent with the Chula Vista MSCP Subarea Plan and the City's Urban-Wildland Interface Code, within urban development and open space interface areas in order to reduce potential wildland fire hazards. Brush management guidelines within the MSCP Subarea Plan and the Urban-Wildland Interface Code shall include limits and measures to prevent increased risk of erosion.

Wildland Fire Hazards Map

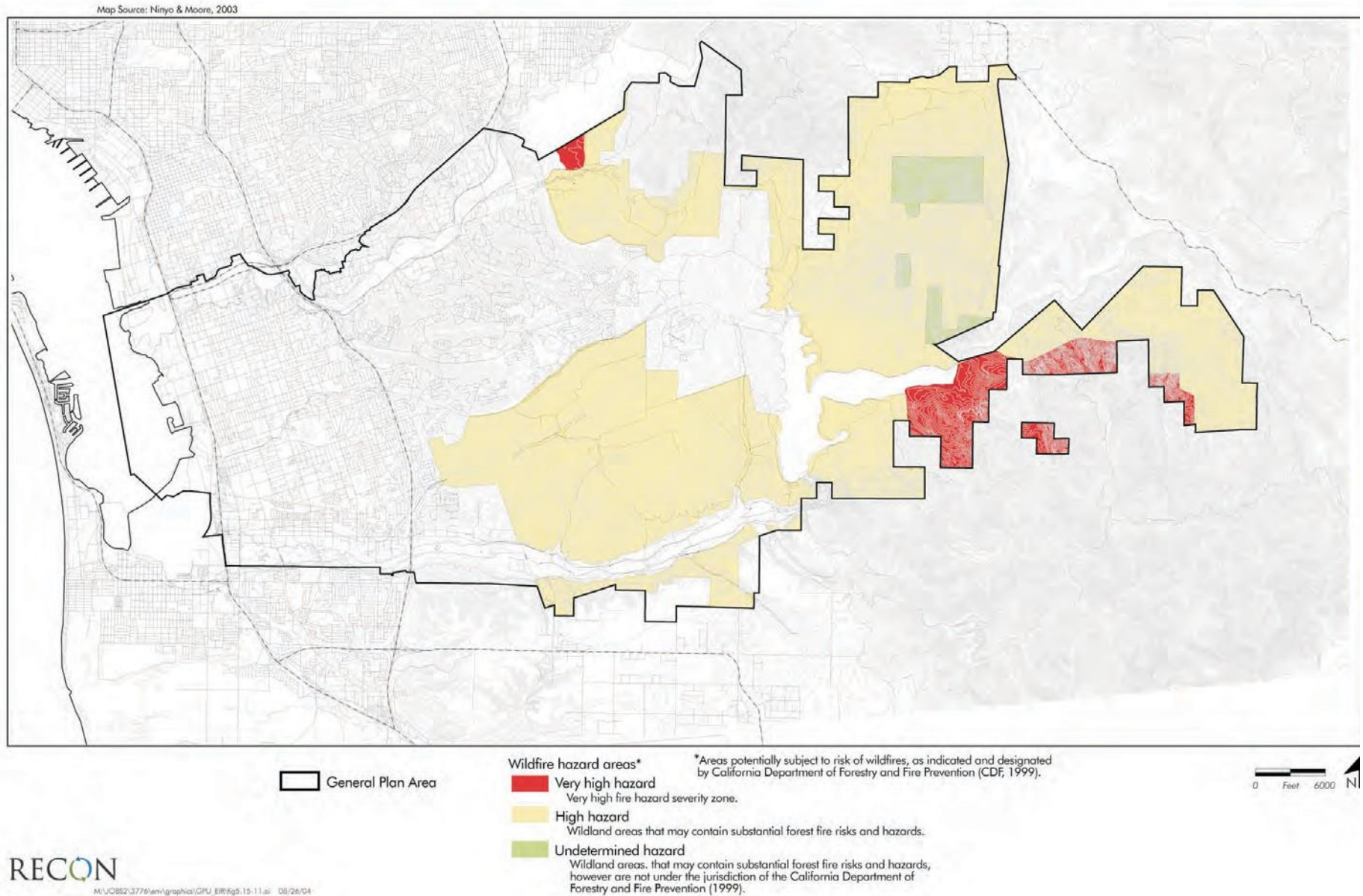


Figure 9-9



3.4 Hazardous Materials and Waste

Hazardous materials are used, transported, produced, and stored for a variety of purposes in Chula Vista. Associated with commercial, light industrial, public, and residential areas, hazardous materials have the potential to impair public health and degrade the environment. Hazardous materials may exhibit toxic, corrosive, reactive, and/or flammable characteristics. The risk posed by a particular material depends on its chemical composition, physical state, and concentration. Risk also depends on management and handling techniques, as well as the number of people exposed to the materials. Protecting the public from potential threat requires addressing these risk factors.

Regulations

Federal, state and county agencies closely regulate hazardous materials to protect public health and the environment. The U.S. Environmental Protection Agency, State of California Environmental Protection Agency and the Hazardous Materials Management Division of the County of San Diego Department of Environmental Health regulate and issue permits for the use, storage, disposal, and transport of hazardous materials. Conditions of such permits require precautionary measures to minimize potential risks.

3.4.1 Remediation of Contaminated Sites

A search of federal, state and local databases identified numerous known and potentially contaminated sites within and immediately adjacent to Chula Vista. The majority of these sites are located in older industrial and commercial areas west of Interstate 805 and along Main Street east of Interstate 805. Known and potentially contaminated sites within Chula Vista are primarily associated with unauthorized releases of oil and hazardous substances (e.g., leaking underground storage tanks); former solid and hazardous waste disposal and transfer sites; use, storage, and transport of hazardous materials; and hazardous waste generation.



Future redevelopment of contaminated sites could be impaired unless adequate remediation of such sites occurs. Redevelopment proposals will continue to be reviewed by the City to determine the presence and extent of contamination affecting redevelopment project sites. Remediation of contaminated sites will continue to be required of developers, as necessary, to protect public health and safety, in accordance with the recommendations of appropriate environmental assessments and consistent with all applicable regulations and standards.

Objective - E 17

Ensure the adequate remediation of contaminated sites as redevelopment occurs in order to protect public health and safety.

Policies

- E 17.1** Clean contaminated sites to protective limits to ensure that planned future uses of such sites and public health and safety are not compromised.
- E 17.2** Prior to the redevelopment of contaminated sites, ensure adequate remediation in accordance with the recommendations of appropriate environmental assessments and consistent with all applicable regulations and standards.

3.4.2 Managing Household Hazardous Waste

Household hazardous waste (HHW) generated by Chula Vista residents cannot be disposed of at the local and regional landfills serving the City and is, therefore, handled separately from non-hazardous solid waste. HHW includes: used motor oil; latex and oil based paints; used antifreeze; cleaning products; aerosol containers; dry cell and automotive batteries; pesticides and garden chemicals; and solvents. Chula Vista's HHW efforts are designed to provide a means to safely collect, recycle, treat, and dispose of HHW. Chula Vista's current HHW program, initiated in 1997, includes a temporary storage facility located at the City's John Lippitt Public Works Center on Maxwell Road. This facility was designed as a regional facility to accommodate waste from the South Bay area, including areas outside the City limits. The majority of the HHW collected at the City's facility is reused or recycled and is, thus, diverted from landfill disposal. HHW is sent to various locations throughout the United States for treatment and/or recycling. In addition to the City's HHW facility,



the City provides free curbside used motor oil and oil filter collection through its solid waste collection franchisee. Source reduction, a form of diversion, is promoted through public education on alternatives to toxic products. The City plans to expand its HHW program to include conditionally exempt, small-quantity generators, such as small group painters and very small-scale mobile automobile mechanics.

In the absence of convenient and affordable HHW collection facilities and sufficient public education, the extent of improper HHW disposal would likely be great. The adverse impacts of improper HHW disposal to the environment and to public health and safety warrant significant efforts to facilitate proper disposal. Public education on alternatives to toxic products can yield a reduction of HHW sources and, in turn, a reduction in HHW generation; therefore, such efforts are also warranted.

Objective - E 18

Minimize the use of toxic products by residents and small businesses and facilitate the proper disposal of household hazardous waste.

Policies

E 18.1 Provide convenient and affordable household hazardous waste collection facilities and services for residents and small businesses, including City facilities, community collection events, and curbside collection.

~~**E 18.2** Minimize the use of toxic products by residents and small businesses through public education on alternative products and methods.~~

3.4.3 Siting Hazardous Waste Facilities

Products as diverse as gasoline; paint; solvents; film-processing chemicals; household cleaning products; refrigerants; and radioactive substances are categorized as hazardous materials. After use, or processing, hazardous materials that remain are considered hazardous waste. Nearly all industry and businesses in Chula Vista generate some amount of hazardous waste. Hazardous waste is of concern in light of potential adverse public health and safety and environmental impacts that can result from the improper handling and disposal of such materials. Therefore, the appropriate siting of hazardous waste storage, collection, treatment, disposal and transfer facilities

is important. Also important is the siting of such facilities in relatively close proximity to generation sources in order to facilitate proper and efficient disposal of hazardous waste and to reduce the transport of hazardous waste within the City.

State law requires the mapping of “general areas” within which hazardous waste facilities might be established. Proposed hazardous waste facilities will be considered only if they are within the industrial zoned general areas shown on Figure 9-10 and meet specific siting, design, and operating criteria as, defined in Policy E 19.1 below, as established by the Chula Vista Zoning Code, and pursuant to siting criteria guidelines established by the City.

Objective - E 19




~~Maintain the ability to establish hazardous waste storage, collection, treatment, disposal, and transfer facilities to serve the needs of Chula Vista industry and businesses within appropriate locations of the City, while ensuring adequate protection of the community.~~

Policies

- E 19.1** ~~Proposals for hazardous waste storage, collection, treatment, disposal, and transfer facilities shall be accepted for review, only if located on industrial-zoned land within a designated general area, as shown on Figure 9-10. The proposal shall be reviewed, based upon the following criteria:~~
- ~~• The application shall include risk assessments, environmental reviews, and other reports necessary to determine project impacts on the environment.~~
 - ~~• A health risk assessment, as described in the Chula Vista Zoning Code, shall be prepared under the direction of the City, the Local Assessment Committee (LAC) and any Ad Hoc Technical Committees that may be created to advise the City and the LAC on such matters.~~
 - ~~• All facilities shall be a minimum of 1,000 feet from any residential zone; residence; school; hospital; hotel; motel; or other similar land use.~~
 - ~~• Setback or buffer areas shall be precluded from future residential uses through property restrictions, such as easements or covenants, and, where appropriate, through zoning.~~

General Areas Map

LEGEND

-  General Plan Boundary
-  City Boundary
-  General Area

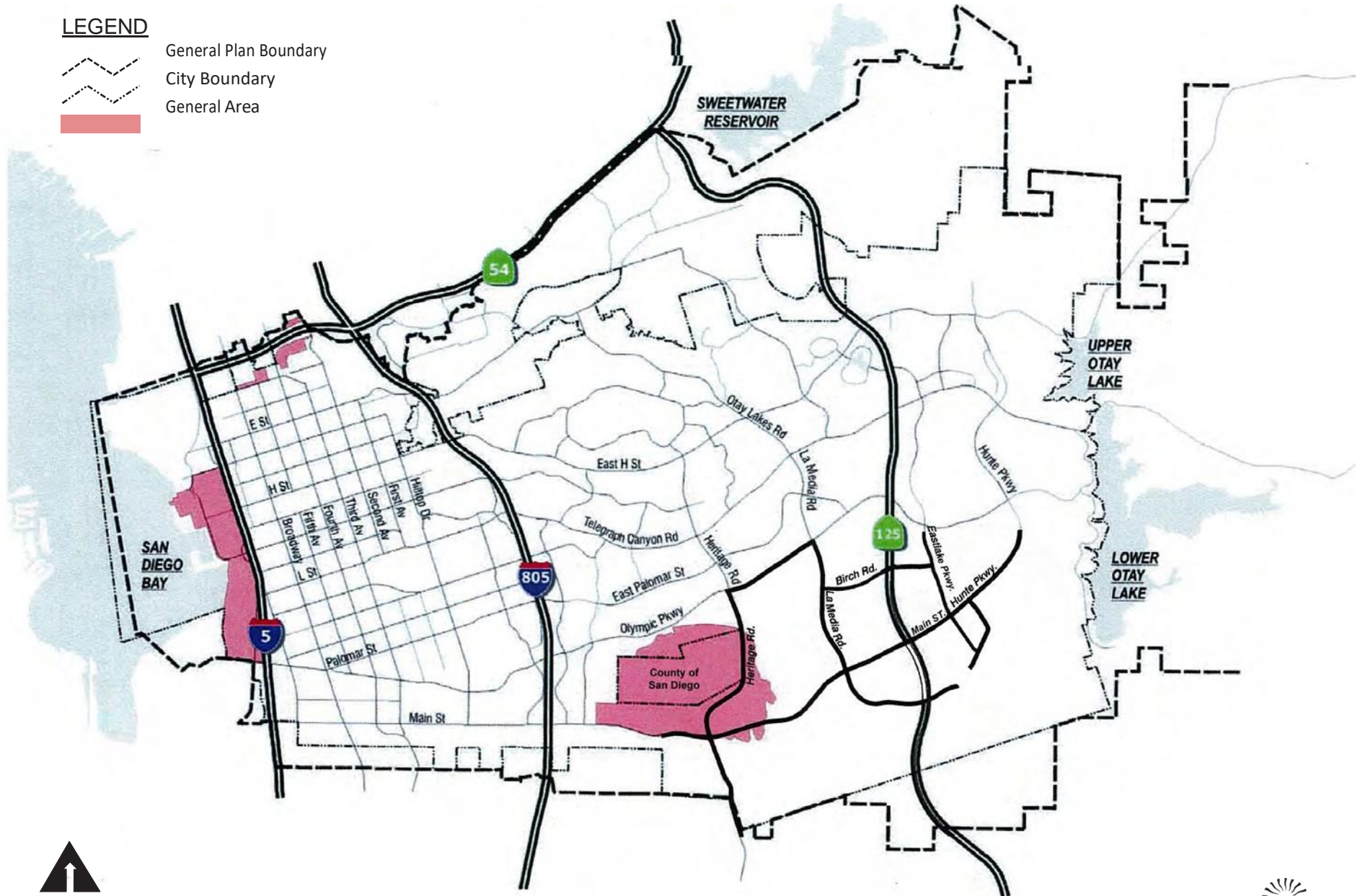


Figure 9-10



- ~~• Special design features and/or on-site emergency services may be required where deemed necessary to facilitate the adequate handling of hazardous materials accidents.~~
- ~~• A traffic/transportation study shall be prepared as part of the environmental analysis and health risk assessment. The study shall address the proximity of the proposed facility to areas of waste generation; the distance along minor and major routes from areas of waste generation to the proposed facility, and from the proposed facility to the freeway; the number and types of residences, schools, hospitals and shopping centers fronting the affected minor and major routes; and the highway accident rate, as determined by the California Department of Transportation, along highways identified as part of the transportation route.~~

~~**E-19.2** Establish hazardous waste facility siting criteria guidelines that will ensure adequate protection of the community, to be utilized in the evaluation of hazardous waste Facilities proposed within the general areas established by the City.~~

3.4.4 Siting and Managing Facilities That Use, Store, and Handle Hazardous Materials and Waste

The use, storage, and handling of hazardous materials and waste within Chula Vista are rigorously controlled by federal, state, and local regulations. The City uses a variety of tools to regulate facilities that use, store, and handle hazardous materials and waste in order to ensure compatibility with existing and planned surrounding land uses. The primary tools utilized by the City are zoning regulations, environmental review of proposed developments in accordance with the California Environmental Quality Act, and the issuance of business licenses.



As development and redevelopment in Chula Vista continues, the potential exists for facilities that use, store, and handle hazardous materials and waste to be sited in locations where such activities may be incompatible with existing and planned surrounding land uses. Through the use of appropriate tools, the City will ensure that facilities using, storing, and handling hazardous materials and waste will be appropriately sited and that the operation of such facilities will be regulated such that significant adverse effects to surrounding land uses will be avoided.

Objective - E 20

Ensure that facilities using, storing, and handling hazardous materials and waste do not result in significant adverse effects to existing and planned surrounding land uses.

Policies

~~**E 20.1** On a periodic basis, review and modify, where necessary, the City's zoning regulations to ensure that adequate provisions are in place to avoid adverse effects to surrounding land uses from facilities using, storing, and handling hazardous materials and waste.~~

E 20.2 Through the environmental review of proposed developments, in accordance with the California Environmental Quality Act, the City shall ensure that significant and potentially significant adverse effects from facilities using, storing, and handling hazardous materials and waste to existing and planned surrounding land uses will be avoided.

~~**E 20.3** Prior to the issuance or renewal of business licenses for businesses involving hazardous materials and/or generating hazardous waste, the City shall continue to require licensees to prepare and submit an acceptable Business Plan and Risk Management Prevention Program to the County Department of Environmental Health, as applicable, and to obtain all other necessary licenses and permits.~~



3.5 Noise

3.5.1 Protecting People from Excessive Noise

Noise Conditions in Chula Vista

Urbanization in Chula Vista has resulted in a steady increase in noise levels throughout the area. Many sources contribute to the noise levels experienced within Chula Vista, including: vehicular traffic; active commercial and business centers; air conditioning systems; and the operation of landscape equipment. In Chula Vista, the most prevalent noise source is vehicular traffic. Traffic noise is greatest around freeways. Other noise sources include the San Diego Trolley, operated during daytime and evening hours, and freight service intermittently operated on the same rail lines at night when the trolley is not in service. Coors Amphitheater and industrial operations, such as the Otay Landfill, the South Bay Power Plant and the Chula Vista Generating Station, also generate noise. Finally, activities associated with various commercial activities and operations generate noise throughout the City.

To establish the compatibility of various land uses with exterior noise levels, the City uses Community Noise Equivalent Level, or CNEL, in its planning guidelines.

Noise levels can be estimated and represented as noise contour lines, which indicate the area subject to a particular noise level. Figures 9-11 and 9-12 show the estimated existing and projected future noise contours in Chula Vista, based on recent traffic volume counts and projected 2030 traffic volumes. In general, noise levels are projected to increase, due to the construction of new roads and increasing traffic volumes throughout the City and the region. Figure 9-13 shows Brown Field year 2000 aircraft-produced noise contours, as contained in the adopted 1981 Brown Field Comprehensive Land Use Plan (CLUP). Although the Brown Field Airport Influence Area extends into the General Plan area and into the City, the existing and planned land uses within this area are compatible with the land use noise compatibility guidelines contained in Table 9-1 and with the adopted Brown Field CLUP.



Noise Planning and Standards

Land uses that generate significant noise should be separated from uses that are particularly sensitive to noise. Noise sensitive land uses consist primarily of residences, but also include schools; hospitals; libraries; parks; and places of worship. To establish the compatibility of various land uses with exterior noise levels, the City uses Community Noise Equivalent Level, or CNEL, in its planning guidelines. CNEL takes into account the heightened sensitivity of persons to noise during evening and nighttime periods.

TABLE 9-2 EXTERIOR LAND USE/NOISE COMPATIBILITY GUIDELINES						
	Annual CNEL in Decibels					
Land Use	50	55	60	65	70	75
Residential						
Schools, Libraries, Daycare Facilities, Convalescent Homes, Outdoor Use Areas, and Other Similar Uses Considered Noise Sensitive						
Neighborhood Parks, Playgrounds						
Community Parks, Athletic Fields						
Offices and Professional						
Places of Worship (excluding outdoor use areas)						
Golf Courses						
Retail and Wholesale Commercial, Restaurants, Movie Theaters						
Industrial, Manufacturing						

Table 9-2 illustrates Chula Vista's exterior land use-noise compatibility guidelines. These guidelines reflect the levels of noise exposure that are generally considered to be compatible with various types of land uses. These guidelines are to be used at the land use planning stage, for noise impact assessments, and to determine mitigation requirements for development proposals.

The noise control ordinance of the Chula Vista Municipal Code establishes noise level limits for individual generators. Noise level limits vary, based upon the type of receiving land use(s) and time of day. In addition to regulating noise generators, the noise control ordinance limits are used in noise impact assessments to determine mitigation requirements for proposed generators of noise to ensure that they will not adversely impact surrounding land uses. Conversely, the

Existing Noise Contour Map

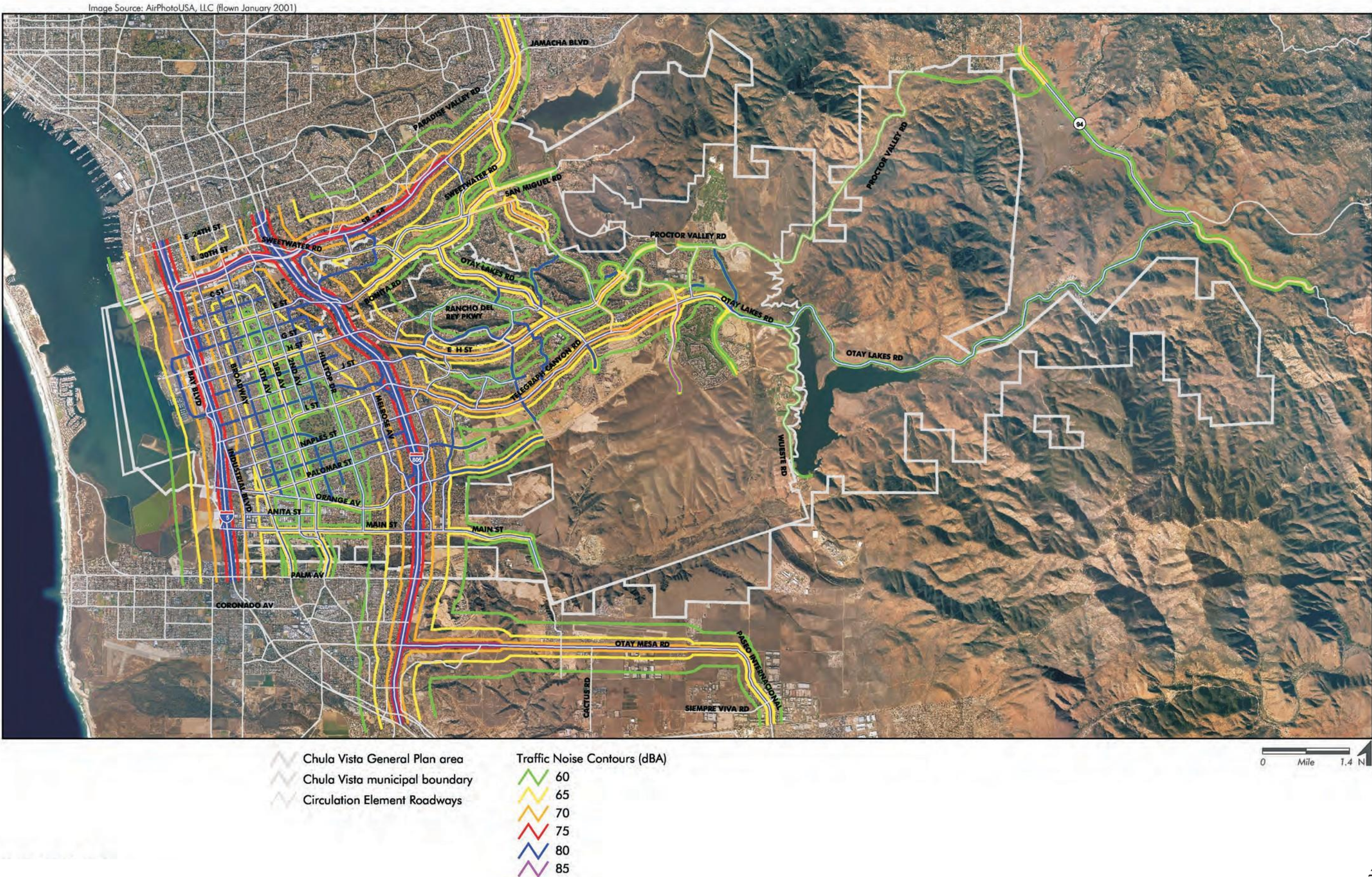


Figure 9-11

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Projected 2030 Noise Contour Map

Image source: Natural color representation of the NAIP 2009 aerial imagery.

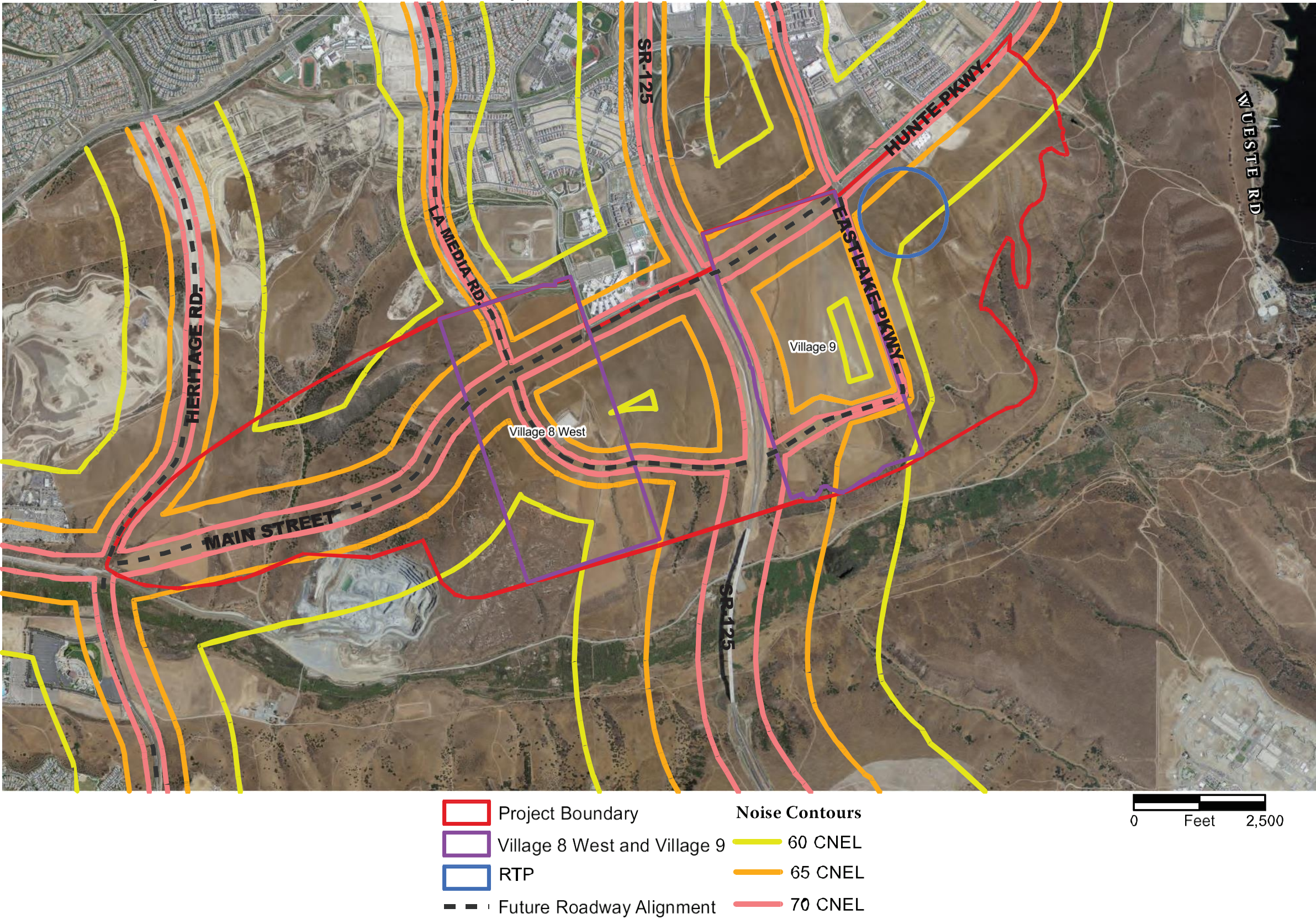
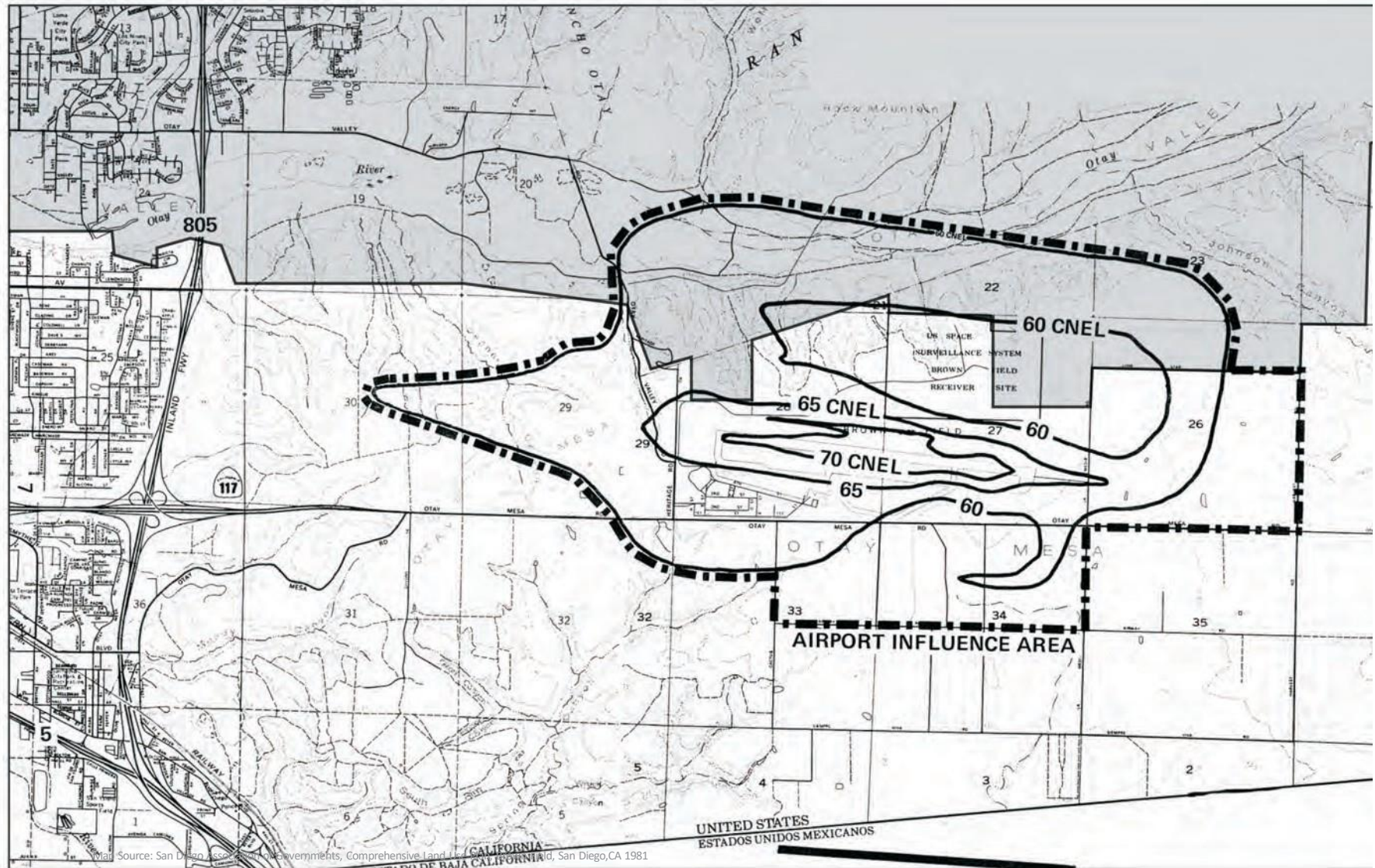


Figure 9-12

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Brown Field Year 2000 Noise Contour Map

Projected Aircraft-Produced Community Noise Equivalent Level (CNEL) Contours



Chula Vista General Plan Area

Figure 9-13

guidelines listed in Table 9-2 reflect the total noise exposure, including vehicular traffic noise levels that are not regulated by the noise control ordinance, that is compatible with a particular land use. Because the noise control ordinance serves a purpose that is distinct from the guidelines within in Table 9-2, the noise control ordinance and the guidelines in Table 9-2 neither conflict with nor contradict one another.

Various types of land uses can be adversely affected by excessive noise. The level of noise exposure that is generally considered compatible varies by land use type, as illustrated in Table 9-2. However, the character (e.g., urban versus suburban) of the area where a particular land use is proposed to be located and/or the nature of the noise that a particular land use would be exposed to can affect this relationship. Therefore, the guidelines listed in Table 9-2 are intended to be considered and applied in light of project-specific considerations.

Objective - E 21

Protect people from excessive noise through careful land use planning and the incorporation of appropriate mitigation techniques.

Policies

- E 21.1** Apply the exterior land use-noise compatibility guidelines listed in Table 9-2 of this Environmental Element to new development, where applicable, and in light of project-specific considerations.
- E 21.2** Where applicable, the assessment and mitigation of interior noise levels shall adhere to the applicable requirements of the California Building Code with local amendments and other applicable established City standards.
- E 21.3** Promote the use of available technologies in building construction to improve noise attenuation capacities.
- E 21.4** Continue to implement and enforce the City's noise control ordinance.

3.5.2 Minimizing Transportation Noise

Vehicular traffic noise associated with a given roadway is a factor of traffic volume, the types of vehicles utilizing the roadway, and the speeds at which they travel. As traffic volumes increase or decrease, noise increases or decreases. Heavy vehicles and trucks produce significantly more noise than automobiles. Noise produced on a roadway is directly proportional to traffic speed. Therefore, lower traffic speeds and traffic calming devices (e.g., narrow roadways, on-street parking in commercial and mixed use districts) result in a commensurate decrease in noise levels.



The electric-powered San Diego Trolley presently extends through Chula Vista parallel to Interstate 5. With the exception of warning horns and audible crossing gates, electric-powered trolleys are relatively quiet. While the intermittent nature of trolley operations does not significantly increase daily average noise exposure, limiting at-grade crossings of roads would decrease noise levels by reducing the number of required audible crossing gates and warning signals.

Minimizing traffic noise can result from reductions in traffic volume, decreases in the number of trucks and heavy vehicles on a roadway, and decreasing traffic speeds. Other methods of reducing and mitigating traffic noise levels are associated with changes in roadway material and the construction of barriers between roadways and adjacent land uses. Dense or open graded asphalt road surfaces produce less source noise than does Portland concrete cement. The greatest noise reduction attributable to roadway surface has been achieved through the use of rubberized asphalt. Barriers reduce noise exposure by interrupting the line of sight from the noise source to the receiver. The effectiveness of a barrier is dependent upon the height of the barrier, the quality of construction, and the barrier material mass and acoustical properties.

Objective - E 22

Protect the community from the effects of transportation noise.

Policies

- E 22.1** Work to stabilize traffic volumes in residential neighborhoods by limiting throughways and by facilitating the use of alternative routes around, rather than through, Neighborhoods.
- E 22.2** Explore the feasibility of using new technologies to minimize traffic noise, such as use of rubberized asphalt in road surface materials.
- E 22.3** Employ traffic calming measures, where appropriate, such as narrow roadways and on-street parking, in commercial and mixed use districts.
- E 22.4** Encourage walking; biking; carpooling; use of public transit; and other alternative modes of transportation to minimize vehicular use and associated traffic noise.
- E 22.5** Require projects to construct appropriate mitigation measures in order to attenuate existing and projected traffic noise levels, in accordance with applicable standards, including the exterior land use/noise compatibility guidelines listed in Table 9-2 of this Environmental Element.



3.6 Environmental Justice

Environmental justice is introduced, defined and discussed in Section 1.6 of this Environmental Element. Please refer to that section, and other related sections of this document for additional background

The following objective and policies augment other parts of this General Plan that help to further, at the local level some of the concepts and principles that have emerged regarding this topic at the national, state, and regional levels.

Objective - E 23

Provide fair treatment for people of all races, cultures, and income levels with respect to development, adoption, implementation, and enforcement of environmental laws, regulations and policies.

Policies

- E 23.1** Provide public outreach efforts and public involvement opportunities for residents affected by proposed City projects.
- E 23.2** Plan for the equitable distribution of public facilities and services.
- E 23.3** Do not site industrial facilities and uses that pose a significant hazard to human health and safety in proximity to schools or residential dwellings.
- E 23.4** Build new schools and residential dwellings with sufficient separation and buffering from industrial facilities and uses that pose a significant hazard to human health and safety.
- E 23.5** Promote more livable communities by expanding opportunities for transit-oriented development.