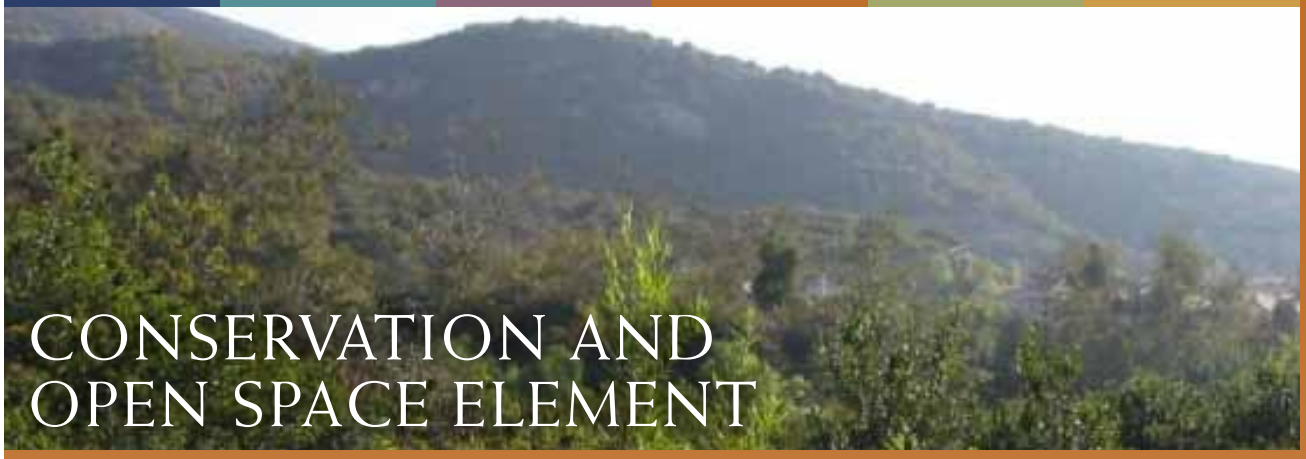
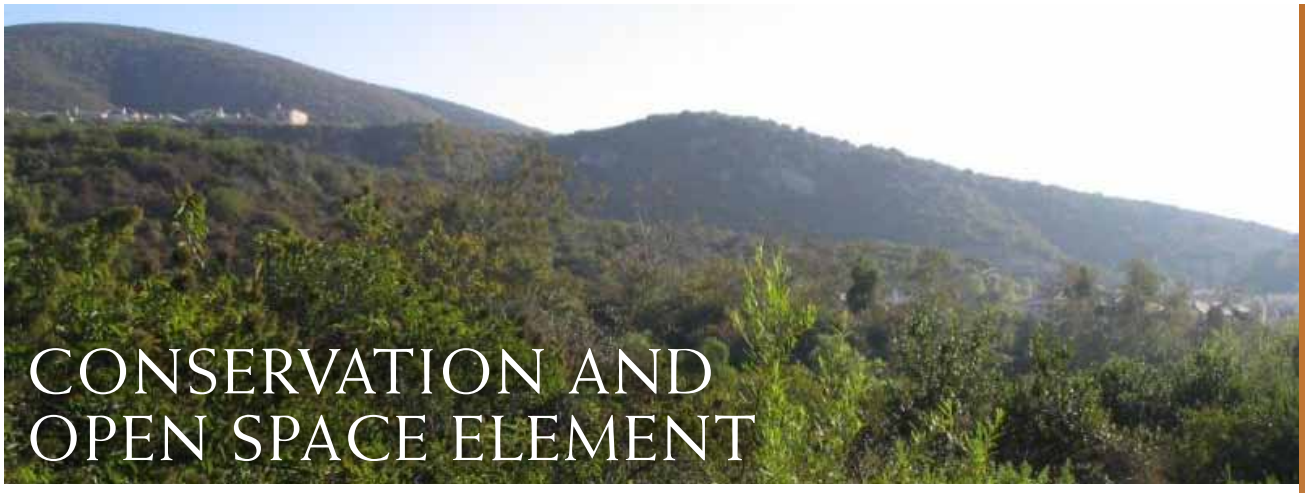


4

CONSERVATION AND OPEN SPACE ELEMENT

This page intentionally left blank.



CONSERVATION AND OPEN SPACE ELEMENT

4.1 Introduction

The urban and suburban areas of San Marcos are surrounded by open space that supports unique habitats like vernal pools, sensitive plant and wildlife species, and agricultural areas—these areas are also valuable aesthetic resources that add visual interest to the landscape. The City recognizes the finite value of the area's environmental resources and is committed to their protection and enhancement. In addition, the City is working to address pressing resource issues like water supply, watershed and water quality protection, air pollution, climate change, and energy independence. The Conservation and Open Space Element sets forth goals and policies that allow the City to take an active role in the management of these resources for the benefit of residents, businesses, and visitors, for years to come.

Purpose of the Conservation and Open Space Element

The purpose of the Conservation and Open Space Element is to identify natural, cultural, historic, and open space resources. This Element provides goals, policies, and programs related to open space and conservation. It also covers a wide range of other topics that together, compose the natural setting of San Marcos including biological, scenic, cultural, and historical resources. The goals and policies contained in this Element also address climate change and practices related to water conservation, energy conservation, air quality, and protection of watersheds and water quality.

The City also understands the importance of providing a framework of natural, managed, and conservation open spaces in line with the guiding principles. Open space that extends throughout the City Connects People with Places by providing pathways to destinations and natural recreation spaces and is critical in Sustaining Environmental Quality by conserving the quality of natural systems. These spaces support water and energy conservation, Building a Greener Community.

Conservation and open space planning implements a rich land use mix, provides recreation choices, and serves as a key land use to maintain long-standing agricultural lands. This supports the creation of A City with Choices and Continues Our Agricultural Heritage.

Scope and Content of the Conservation and Open Space Element

This Conservation and Open Space Element meets State of California requirements for a Conservation Element and Open Space Element of the General Plan (California Government Code 65302(d) and 65302(e)). The purpose of the Conservation Element is to consider the effects of development on natural resources. Similarly, the purpose of the Open Space Element is to recognize that open space land is a limited and valuable resource that must be conserved whenever possible. The City of San Marcos has combined these elements to comprehensively address conservation, protection, and management of its natural, cultural, historic, and open space resources.

Section highlights and key facts relevant to this Element are highlighted in Table 4-1.

4.2 Background and Structure

Ecological and Biological Resources

Although the extent of native habitat in San Marcos is limited, the City has a significant amount of natural communities that support unique habitats like vernal pools, and sensitive plant and wildlife species endemic to the region. Even the lush landscaping and ornamental plantings in suburban areas can provide "greenbelts" of vegetative cover and separation between developed urban and suburban areas and natural communities. The City, working with other federal, state, regional, and local agencies, has contributed to SANDAG's Multiple Habitat Conservation Program (MHCP), and County of San Diego's North County Multiple Species Conservation Program (MSCP) in an effort to better protect these habitats and species.

Vegetation Communities and Land Cover Types

Many of the urban and suburban areas of San Marcos are well landscaped with tree-lined streets and verdant lawns; this ample display adds visual interest and distinguishes neighborhoods within the City. While nonnative landscaping has limited value as habitat for native species, some of the rural and agricultural areas, for example, along Twin Oaks Valley Road, provide nesting and foraging habitat for migratory birds. Large stands of eucalyptus trees, which are found throughout the City, provide nesting habitat for raptors.

The City of San Marcos includes a range of biological and wildlife species.

Photo credit all: City of San Marcos

Table 4-1
Conservation and Open Space Element Highlights and Facts

Portions of the planning area are identified as a subarea in SANDAG's Multiple Habitat Conservation Program (MHCP). In addition, other portions of the planning area occur within the boundaries of the County of San Diego's North County Multiple Species Conservation Program (MSCP).
About 25 percent of the City is currently undeveloped and provides habitat for a range of vegetation communities. These large areas of open space and conservation land are mostly located on the hillsides surrounding the City and the natural creek areas.
The U.S. Fish and Wildlife Service (USFWS) has identified critical habitat to protect four species: the thread-leaved brodiaea, the spreading navarretia, the San Diego fairy shrimp, and the coastal California gnatcatcher.
Wildlife movement within the City is primarily limited to the northern and southern parts but may occur along riparian creeks and drainage corridors that traverse the City, including San Marcos Creek, Buena Creek, and Agua Hedionda Creek.
The City contains 2,499 acres of dedicated open space, which is approximately 12 percent of the City's acreage.
The northern Sphere of Influence (SOI) within the Twin Oaks Valley neighborhood includes some areas where either mineral deposits are present or where there is a high likelihood for their presence. Current mining/quarry operations do not exist within the City.
San Marcos has prominent landforms such as Mt. Whitney, Double Peak, Owens Peak, San Marcos Mountains, Merriam Mountains, Cerro de Las Posas, and Franks Peak that add visual interest to the landscape.
Air quality in the City is affected not only by local emissions, but also by pollutants transported from other areas, in particular, ozone and ozone precursor emissions from the South Coast Air Basin (e.g., Los Angeles) and Mexico.
San Marcos will address climate change and greenhouse gas emissions through a broad range of policies and programs that take into account land use efficiency, transportation patterns, and energy efficiency.
Southern California water resources are facing unprecedented water supply challenges. Severe drought and court-ordered pumping restrictions have caused water supplies to drop to historically low levels. During severe drought seasons, voluntary and mandatory water rationing for homes and businesses may be imposed per water district ordinances. Water resources in San Marcos include imported water resources such as the Second San Diego Aqueduct connections to the Vallecitos Water District, Vista Irrigation District, Olivenhain Municipal Water District, Rincon del Diablo Municipal Water District (Rincon Water District), and the siphon Vista Canal. Other local groundwater and surface water resources include Discovery Lake, South Lake, privately owned and operated Lake San Marcos, and multiple wells.
The protection of watersheds and water quality is a prominent concern for San Marcos since all of the major creeks and their tributaries (San Marcos, Agua Hedionda, and Escondido) are listed by the State Water Resources Control Board as impaired for a variety of pollutants that ultimately affect the water quality of surface and groundwater supplies and biological resources. The City has partnered with other jurisdictions in the watersheds to implement Water Quality Management Plans in coordination with the San Diego Regional Water Quality Control Board Region 9 for nutrients and bacteria to protect the watersheds and address the water body impairments. The City is the lead agency for the nutrient management plan in the Upper San Marcos Creek Watershed.
Cultural resources within San Marcos include archaeological and historical objects, sites and districts; historic buildings and structures; cultural landscapes; and sites and resources of concern to local Native American and other ethnic groups.

About 25 percent of the City is currently undeveloped and provides for a range of vegetation communities. These large areas are mostly located on the hillsides surrounding the City. The most prominent classifications are Diegan coast sage scrub and southern mixed chaparral (Figure 4-1). Within San Marcos, wetland and riparian vegetation communities are supported by San Marcos Creek, areas around Lake San Marcos, Buena Creek, Agua Hedionda Creek, Las Posas Creek, Twin Oaks Valley Creek, Buena Creek, and their tributaries.

Within the City, including the urban core area of the Business/Industrial District, there are isolated vernal pools that support a suite of wetland plant species and, in favorable rainfall years, aquatic species such as pale spike-sedge, American pillwort, and water-starwort. Vernal pools often support sensitive plant and wildlife species.

Special vegetation species include spreading navarretia

Photo credit: CNPS Inventory

Sensitive Habitat and Species

Wildlife typically associated with the urban and suburban areas of the City are predominantly nonnative or common species that have adapted to urban settings such as common reptiles, blackbirds, gopher snakes, sparrows, raptors, mourning doves, and ground squirrels.

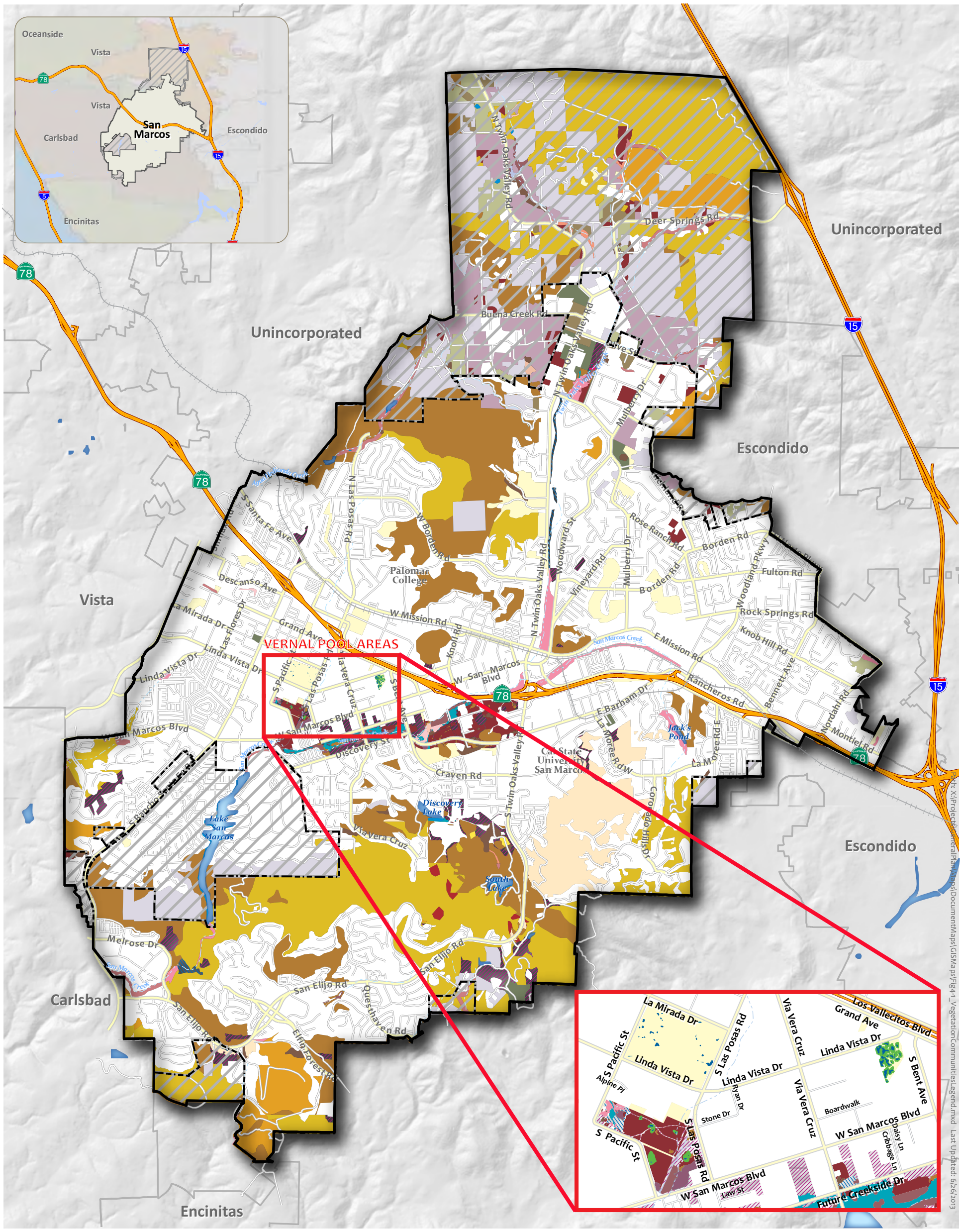
However, San Marcos contains some important habitats and species that are considered sensitive by resource agencies, including U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), San Diego Regional Water Quality Control Board (SDRWQCB), California Native Plant Society (CNPS), SANDAG's Multiple Habitat Conservation Program (MHCP), and County of San Diego's Multiple Species Conservation Program (MSCP). Sensitive habitats and sensitive species are federal-, state- or local-listed species that are afforded a higher level of protection because of their status (e.g., threatened, endangered, critical). Typically, development applications will have to demonstrate that these habitats will not be affected or will provide abatement mitigation measures for any possible negative effects. Permit authorization from regulatory agencies and mitigation would be required if a proposed project were to have the potential to impact sensitive species or their habitats or jurisdictional waters, including vegetative wetlands.

Fifteen special-status plants and 24 special-status wildlife species are known to occur in San Marcos. Of note is a large population of the federally threatened coastal California gnatcatcher that is associated with Diegan coastal sage scrub habitats, which occur within the undeveloped open space areas in the northern and southern portions of the planning area. These areas are connected to protected lands on the north (i.e., MSCP lands) and undeveloped coastal sage scrub communities on the south (MHCP critical habitat). In addition, the USFWS has identified critical habitat to protect four species: thread-leaved brodiaea, spreading navarretia, San Diego fairy shrimp, and coastal California gnatcatcher.

FIGURE 4-1

City of San Marcos

Vegetation Communities



San Marcos City Limits
Sphere of Influence
Planning Area
Major Hydrologic Features
Creeks
Railroad
Freeway
Highway
Major Road
Minor Road
Vernal Pools
Vernal Pool Watersheds

Vegetation and Land Cover Types

Upland Vegetation Communities
- Chaparral
- Coast Live Oak Woodland
- Coastal Sage-Chaparral Scrub
- Diegan Coastal Sage Scrub
- Non-Native Grassland
- Open Engelmann Oak Woodland
- Southern Mixed Chaparral
- Valley Needlegrass Grassland
- Valley and Foothill Grassland

Riparian and Wetland Vegetation Communities
- Coastal and Valley Freshwater Marsh
- Emergent Wetland
- Disturbed Wetland
- Freshwater
- Non-Vegetated Channel, Floodway, Lakeshore Fringe
- Riparian Forests
- Southern Coast Live Oak Riparian Forest
- Southern Cottonwood-Willow Riparian Forest
- Southern Riparian Forest
- Southern Riparian Scrub
- Southern Sycamore-alder Riparian Woodland (Pauma and Pala areas)
- Southern Willow Scrub

Non-Native, Disturbed, and Developed Communities
- Disturbed Habitat
- Eucalyptus Woodland
- Extensive Agriculture - Field/Pasture, Row Crops
- Field/Pasture
- Intensive Agriculture - Dairies, Nurseries, Chicken Ranches
- Orchards and Vineyards
- Row Crops
- Urban/Developed

0 0.25 0.5 1 Miles

SOURCES OF DATA:
City of San Marcos 9/12 and SANDAG, 8/1995

Note: All properties proposing development may be required to conduct a biological survey to verify vegetation community

* Project sites subject to a biological survey to verify vegetation on individual parcels.

This page intentionally left blank.

Wildlife corridors include San Marcos Creek, along Twin Oaks Valley tributaries and open spaces.

Photo credit: City of San Marcos

Wildlife Corridors and Linkages

Wildlife movement corridors are essential in urban and suburban areas like San Marcos for the sustenance of healthy and genetically diverse animal communities. At a minimum, corridors promote colonization of habitat and genetic variability by connecting isolated areas. These areas are often separated by otherwise foreign or inhospitable habitats, such as roadways, subdivisions, or other man-made barriers. Isolation of wildlife populations can have many harmful effects and may contribute significantly to local species extinction.

Wildlife movement within the City is primarily limited to the northern and southern parts, since the central portion of San Marcos consists mostly of the developed urban core. However, within urban and suburban parts of the City, wildlife movement occurs along riparian creeks and drainage corridors, including San Marcos Creek, Las Posas Creek, Twin Oaks Valley Creek, Buena Creek, Agua Hedionda Creek, and some tributaries. These narrow riparian corridors are important in allowing wildlife to move through the core of the urban and suburban areas. City identified wildlife corridors and linkages are shown on Figure 4-2

The northern hillsides of the College Area and Twin Valley Oaks neighborhoods consist primarily of undeveloped habitats and connect to mitigation lands associated with Twin Oaks Valley Ranch. A secondary linkage via the San Diego aqueduct is also available for wildlife movement, connecting the City and North County MSCP lands to the north. Within the southern portion of the City, five internal corridors within the planning area are identified that provide linkages: one corridor connects to north Carlsbad, one corridor connects to the Questhaven/La Costa Meadows Open Space area, one corridor connects to southwest Carlsbad, and three corridors connect to open space lands associated with the MHCP and MSCP. As discussed previously, these regional corridors are important in connecting wildlife species including, but not limited to, the regional coastal California gnatcatcher populations (SANDAG 2001).

Open Space and Limited Resources

Open space and agricultural areas within San Marcos are highly valued by the community as they represent a key component of the City's character. They include public and private parks; hillsides; canyons; creeks; open space corridors; agricultural lands; and various utility, roadway, and buffer easements. The purpose of designating these open space areas is to preserve environmental resources and aesthetic attributes. Within the City, there are also other resources, such as mineral or paleontological resources, that represent limited, nonrenewable, and sensitive materials.

Open Space

Open space areas and preserves within San Marcos protect the area's natural beauty and contribute to a regional system of hiking, biking, and equestrian trails. In addition, the open space areas within the community preserve habitat for a variety of plants and animals. The City contains 2,499 acres of dedicated open space, which is approximately 12 percent of the City's acreage. Figure 4-3 shows the location of open space in San Marcos.

Open space resources total 2,499 acres of land within the City.

Photo credit: City of San Marcos

Agricultural Resources

The City contains productive agricultural areas within the planning area, as illustrated in Figure 4-4. A broad range of agricultural activities occur in San Marcos including nurseries, horse farms, and produce production. These areas are primarily located in the Twin Oaks Valley Neighborhood within the Sphere of Influence area.

The Planning Area contains approximately 166 acres identified as Prime Farmland, 145 acres of Farmland of Statewide Importance, and 1,407 acres of Unique Farmlands. The Planning Area also contains approximately 807 acres of farmland classified by the County of San Diego as Farmland of Local Importance. In addition, approximately 11 acres of Williamson Act contract lands are located in the Twin Oaks Valley Neighborhood within the Sphere of Influence area. While the City is committed to supporting local farming and preserving agricultural land uses and activities, some conversion of agricultural land may occur over the life of this General Plan. Agricultural conversion is a sensitive process dependent on land use designation, evaluating the scale and regional importance of activities, and site-specific analysis.

Mineral Resources

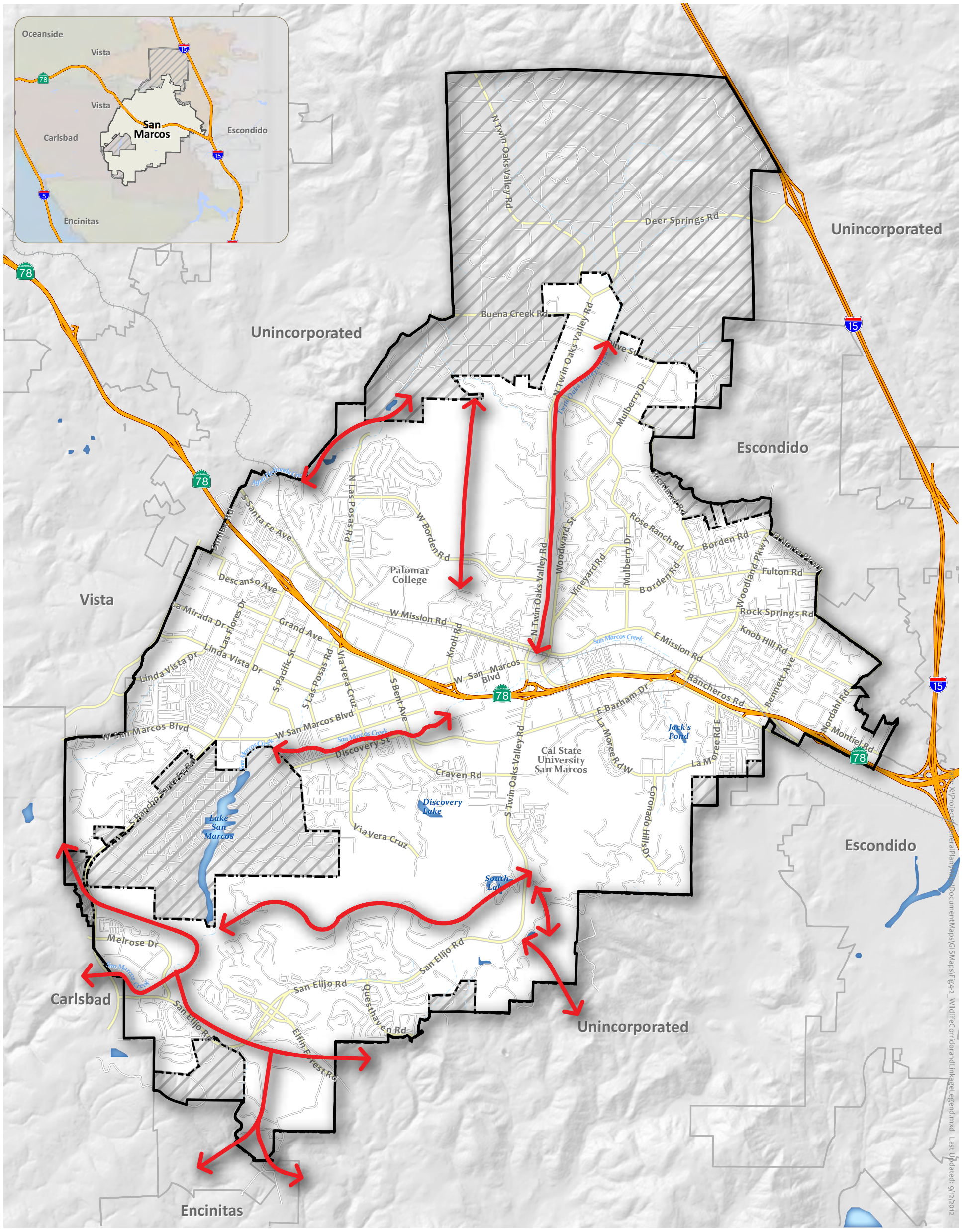
Pursuant to the California Surface Mining and Reclamation Act (SMARA) of 1975, the California Geological Survey (CGS) classifies land through a mineral inventory process intended to ensure that important mineral deposits are identified and protected for future extraction. The State Geologist classifies mineral areas, Mineral Resource Zones (MRZ) as one of four zones:

- MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence.
- MRZ-2: Areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.
- MRZ-3: Areas containing mineral deposits the significance of which cannot be evaluated from available data.
- MRZ-4: Areas where available information is inadequate for assignment to any other MRZ zone.

FIGURE 4-2

City of San Marcos

Wildlife Corridor and Linkage



- San Marcos City Limits
- Sphere of Influence
- Planning Area
- Major Hydrologic Features
- Creeks
- Railroad
- Freeway
- Highway
- Major Road
- Minor Road
- Wildlife Corridor

SOURCES OF DATA:
City of San Marcos 9/12

This page intentionally left blank.

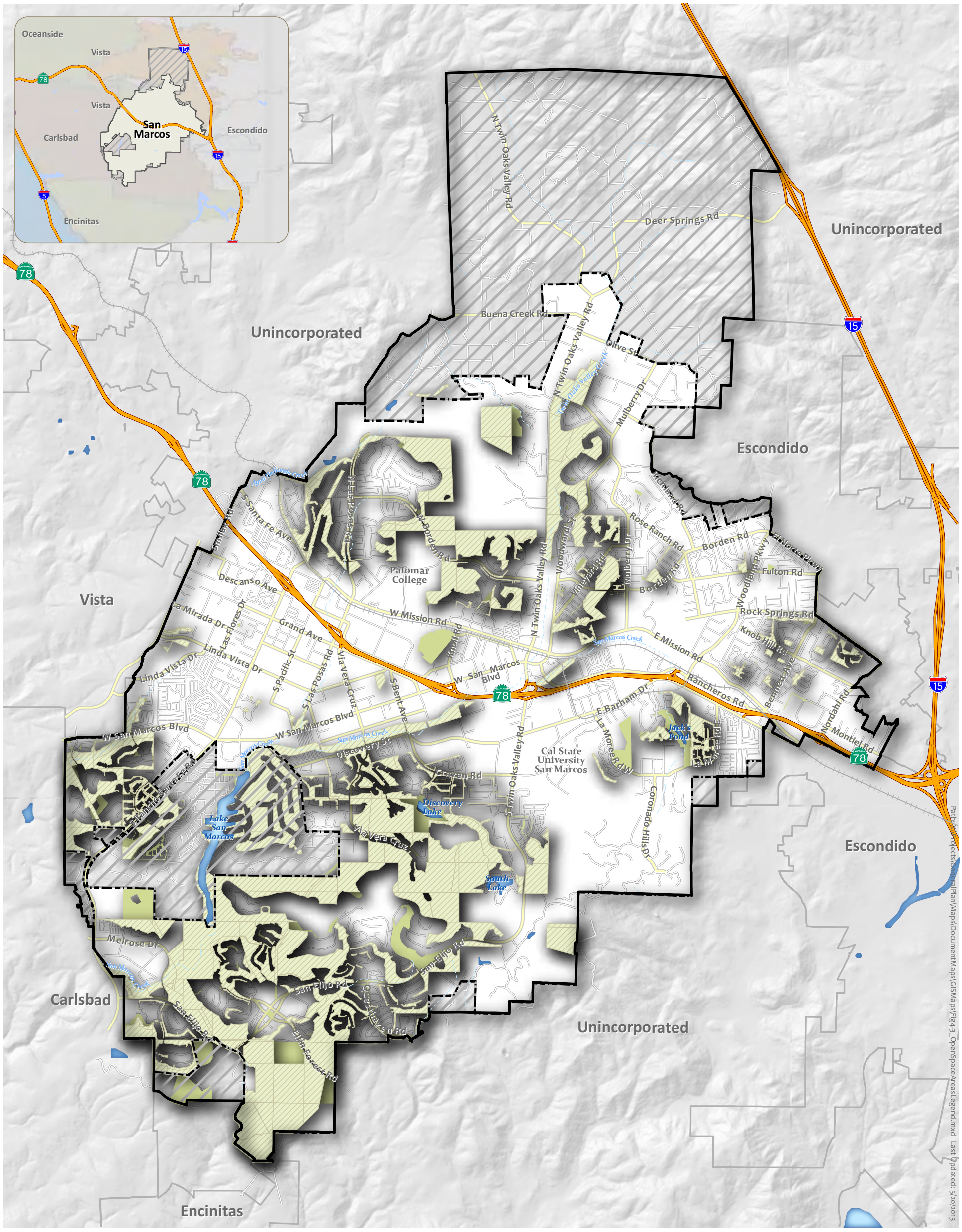


FIGURE 4-3

City of San Marcos

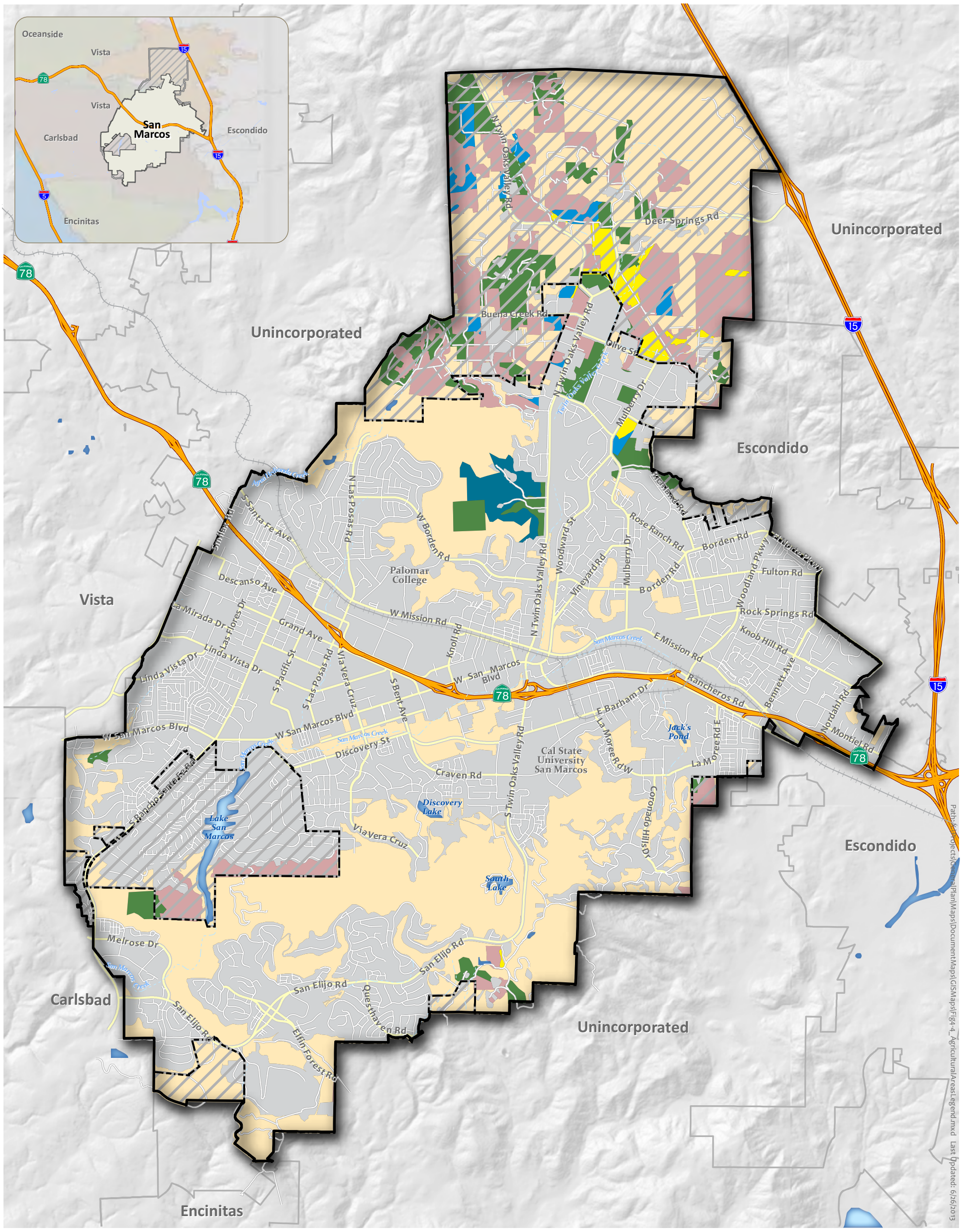
Open Space Areas

- San Marcos City Limits
- Sphere of Influence
- Planning Area
- Major Hydrologic Features
- Creeks
- Railroad
- Freeway
- Highway
- Major Road
- Minor Road
- General Plan Open Space
- Existing Open Space/Preserve

0 0.25 0.5 1 Miles

SOURCES OF DATA:
City of San Marcos 9/12

This page intentionally left blank.



4 CONSERVATION AND OPEN SPACE ELEMENT

FIGURE 4-4

City of San Marcos

Agricultural Areas

- San Marcos City Limits
- Sphere of Influence
- Planning Area
- Major Hydrologic Features
- Creeks
- Railroad
- Freeway
- Highway
- Major Road
- Minor Road

FMMP Farmland Designations

- Prime Farmland
- Statewide
- Unique Farmland
- Farmland of Local Importance
- Grazing Land
- Urbanized
- Water
- Non-Farmland/Open Space

0 0.25 0.5 1 Miles

SOURCES OF DATA:
City of San Marcos 9/12 and California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, 2008

This page intentionally left blank.

According to CGS, the planning area is not a suitable source for construction materials. However, the San Marcos Planning area has land classified in all four MRZ zones:

- MRZ-1 areas are located north of State Route 78.
- MRZ-2 areas include small portions between Double Peak, Mt. Whitney, and Franks Peak; and small portions in the northern Sphere of Influence within Twin Oaks Valley Neighborhood.
- MRZ-3 areas include the majority of the undeveloped northern and southern areas of the City.
- MRZ-4 covers the majority of the developed areas.

These classifications are based solely on evaluation of geological factors and do not consider existing land use.

California does not require that local governments protect land designated as MRZ-1, MRZ-3, or MRZ-4. However, the City is responsible for recognizing lands designated as MRZ-2 and protecting these areas from premature development incompatible with mining through General Plan policy. In addition, if new significant aggregate resources are ultimately found in the City, state policy favors conservation and development of those resources.

The City currently does not have active mines or quarries, although two historical mining/quarry locations does exist within the corporate City limits; Meadowlark Ranch Quarry located in the Questhaven/La Costa Meadows Neighborhood and the former mine near Village Drive at Twin Oaks Valley Road. The Galbrath Quarry is located in the planning area's Sphere of Influence within the Twin Oaks Valley Neighborhood. Should new mineral resources be discovered in the future, the City will maintain awareness and comply with state policies regarding protection and extraction.

Paleontological Resources and Unique Geological Formations

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 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 sensitive scientific and educational resources.

Scenic Resources and Landform Features

The City's scenic resources are preserved for the mutual enjoyment of community residents and visitors. Scenic resources within the City include, but are not limited to, undeveloped hillsides; prominent landforms such as the San Marcos Mountains, Merriam Mountains, Mount Whitney, Cerro de La Posas, Double Peak, Owens Peak, and Franks Peak; creek corridors; eucalyptus stands; rock outcroppings; landmarks or historic buildings; and ocean views.

Scenic Resources/Visual Character

San Marcos has prominent landforms such as Mount Whitney, Double Peak, Owens Peak, San Marcos Mountains, Merriam Mountains, Cerro de Las Posas, Franks Peak, and canyon areas that enhance the visual and scenic aesthetics of the City. Stunning views of these peaks and views of the City's urban and suburban landscape are visible from overlook points, trails, and roads. Views from Twin Oaks Valley Road include the San Marcos Mountains, and Merriam Mountains on the north; and Double Peak and Mount Whitney on the south. State Route 78, is designated by the City as a view corridor and eligible as a State scenic highway. This highway corridor provides views of the Merriam Mountains, Mount Whitney, Double Peak, California State University San Marcos (CSUSM), and Palomar Community College. Pacific Ocean views can be enjoyed from Double Peak Park and from roads and pathways within San Elijo Hills.

Scenic resources including hills, mountains, and ocean views make San Marcos a beautiful place.

Photo credit: City of San Marcos

The City has a Ridgeline Protection and Management Overlay Zone to protect natural viewsheds and unique natural resources, minimize physical impacts to ridgelines, and establish innovative sensitive architectural standards. It also has restrictions on night-time lighting in commercial areas to limit the amount of light that spills onto adjacent properties or reflects into the sky.

Other scenic resources within the City include, but are not limited to, creek corridors, eucalyptus stands, rock outcroppings, landmark or historic buildings, and ocean views. Scenic Resources are shown in Figure 4-5.

Air Quality, Climate Change, and Energy

Addressing air pollution, climate change, and energy independence will continue to be a pressing challenge throughout the life of the General Plan and beyond. Because these are regional, statewide, national, and even international concerns, the City will not be alone in its efforts. However, the City does not have to wait—through local initiative and innovation it can mitigate air quality impacts, quantify community-wide and municipal greenhouse gas (GHG) emissions, set GHG reduction targets, and implement programs that will increase energy efficiency and reduce dependence on nonrenewable energy sources.

Air Quality

San Marcos is within the San Diego Air Basin, which covers the entirety of San Diego County (Figure 4-6). Air quality in the San Diego Air Basin is impacted not only by local emissions, but also by pollutants transported from other areas, in particular, ozone and ozone precursor emissions from the South Coast Air Basin (e.g., Los Angeles) and Mexico. In addition to regional factors, air quality conditions in San Marcos are determined by localized factors such as topography and weather.

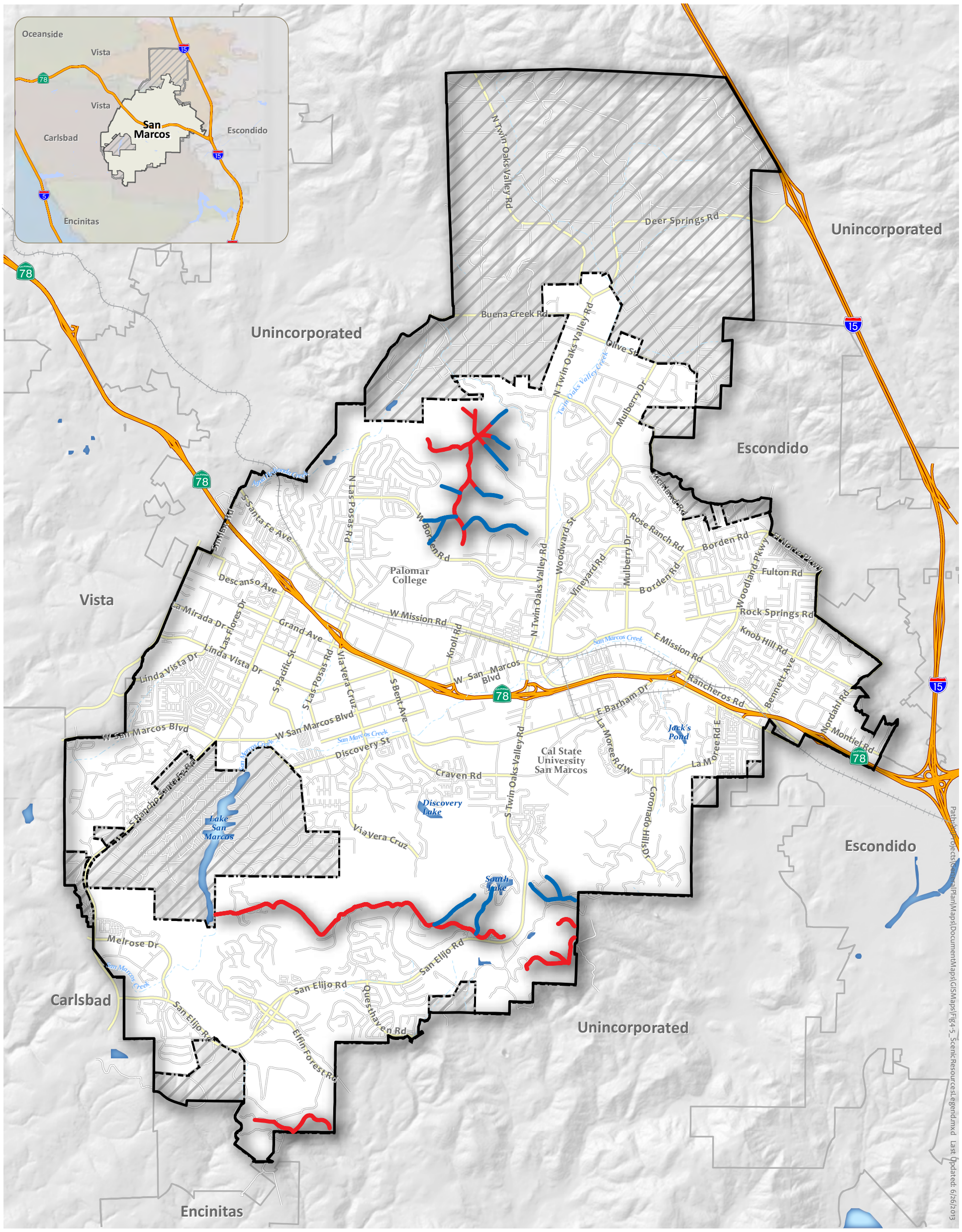


FIGURE 4-5

City of San Marcos

Scenic Resources

- San Marcos City Limits
- Sphere of Influence
- Planning Area
- Major Hydrologic Features
- Creeks
- Railroad
- Freeway
- Highway
- Major Road
- Minor Road

Ridgelines
- Primary
- Secondary

0 0.25 0.5 1 Miles

SOURCES OF DATA:
City of San Marcos 9/12

Every effort has been made to assure the accuracy of the maps and data provided; however, some information may not be accurate or current. The City of San Marcos assumes no responsibility arising from use of this information and incorporates by reference its disclaimer regarding the lack of any warranties, whether expressed or implied, concerning the use of the same. For additional information, see the Disclaimer of the City's website.

This page intentionally left blank.

Pathways for non-vehicular mobility, like this one leading to Double Peak Park, improved air quality in the community.

Photo credit: City of San Marcos

Overall air quality in the San Diego Air Basin has improved since the early 1970s when SANDAG and the San Diego Air Pollution Control District began working together to reduce regional emissions through increasing efficiency of the transportation system and motor vehicles, and encouraging bicycling and other modes of transportation. However, the Basin is still a federal and state nonattainment area for ozone and a state nonattainment area for particulate matter.

Residential areas are considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants. Recreational land uses are considered moderately sensitive to air pollution because exercise places a high demand on respiratory functions, which can be impaired by air pollution even though exposure periods during exercise are generally short. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time.

Greenhouse Gases and Climate Change

Transportation and energy use in the built environment is a primary contributor to global climate change and GHG emissions. The global scientific community has expressed very high confidence (i.e., at least 90 percent) that human-caused increases in GHGs have contributed and will continue to contribute to global climate change and will lead to adverse climate change effects around the globe (IPCC 2007). Global average temperature is expected to increase by 3 to 7°F by the end of the century, depending on future GHG emission scenarios (IPCC 2007). Global climate change has the potential to result in sea level rise (resulting in flooding of low-lying areas), to affect rainfall and snowfall (leading to changes in water supply and runoff), to affect temperatures and habitats (affecting biological and agricultural resources), and to result in many other adverse effects.

The California Air Resources Board (ARB) has developed a GHG Inventory for the State of California that identified and quantified Statewide anthropogenic GHG emissions and sinks. California produced 484 million metric tons (MMT) of GHG emissions in 2008 (ARB 2010). Transportation was the sector with the largest percentage of GHG emissions, 37 percent, followed by electricity generation (25 percent), and industrial sources (20 percent). In addition to the State of California GHG Inventory, more specific regional GHG inventories have been prepared for on-road mobile sources and land use emissions.

The University of San Diego School of Law Energy Policy Initiative Center prepared a GHG inventory for San Diego County (EPIC 2008). Total GHG emissions in San Diego County for the year 2006 are estimated at 34 MMT. Transportation is the largest emissions sector, accounting for 16 MMT, or 46 percent of total emissions. Energy consumption, including electricity and natural gas use, is the next largest source of emissions at 34 percent of the total; see Figure 4-7.

Neither mitigation nor adaptation alone can eliminate all climate change impacts, but together they can significantly reduce the risks of climate change. Near-term action is particularly important given the cumulative nature of GHG emissions (reductions in the near term result in a lower eventual atmospheric concentration than the same reductions delayed several decades into the future).

The California Global Warming Solutions Act of 2006, widely known as Assembly Bill (AB) 32, requires ARB to develop and enforce regulations for reporting, verifying, and reducing statewide GHG emissions. The heart of the legislation is the requirement that statewide GHG emissions be reduced to 1990 levels by 2020. California would need to reduce GHG emissions to approximately 15 percent below 2005 levels and 28 percent below business-as-usual predictions of year 2020 GHG emissions to achieve this goal.

Signed in September 2008, Senate Bill (SB) 375 aligns regional transportation planning efforts, regional GHG-reduction targets, and land use and housing allocation. SB 375 provides for a new planning process to coordinate land use planning and regional transportation plans (RTP), and funding priorities to help California meet the GHG reductions established in AB 32. It requires MPOs, including SANDAG, to adopt a Sustainable Communities Strategy (SCS) as part of the RTP that demonstrates how the region would achieve GHG emission reduction targets set by ARB.

ARB has established regional reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. San Diego County regional targets are per capita CO_2 emissions reductions of 7 percent by 2020 and 13 percent by 2035 relative to 2005 levels.

Under SB 375, local governments retain land use planning authority, and city or county land use policies (including general plans) are not required to be consistent with the RTP. However, to meet the goals of AB 32 and reduce the adverse effects associated with global climate change, substantial GHG emissions reductions must occur within the lifetime of the City's General Plan. Because of its geographic location, the climate change adaptation strategies for San Marcos will address water shortages, increased wildfires, and changes to flora and fauna that will together create imbalances in the natural environment making it difficult to predict exactly how the health and safety of the community will be affected. Reducing GHG emissions by increasing energy efficiency and diversifying to use renewable energy resources will also

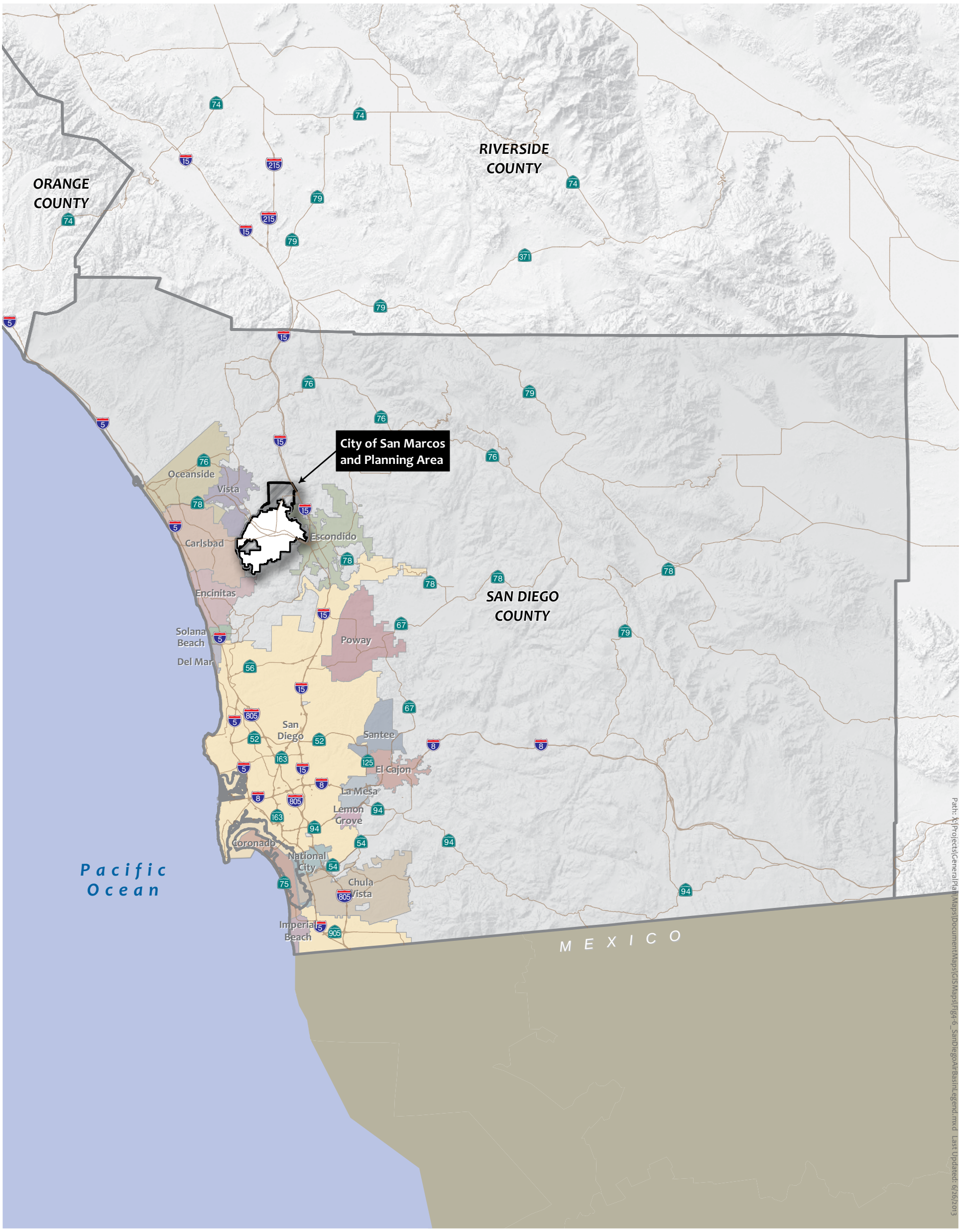


FIGURE 4-6

City of San Marcos

San Diego Air Basin

- San Marcos City Limits
- Planning Area
- Major Roads and Freeways

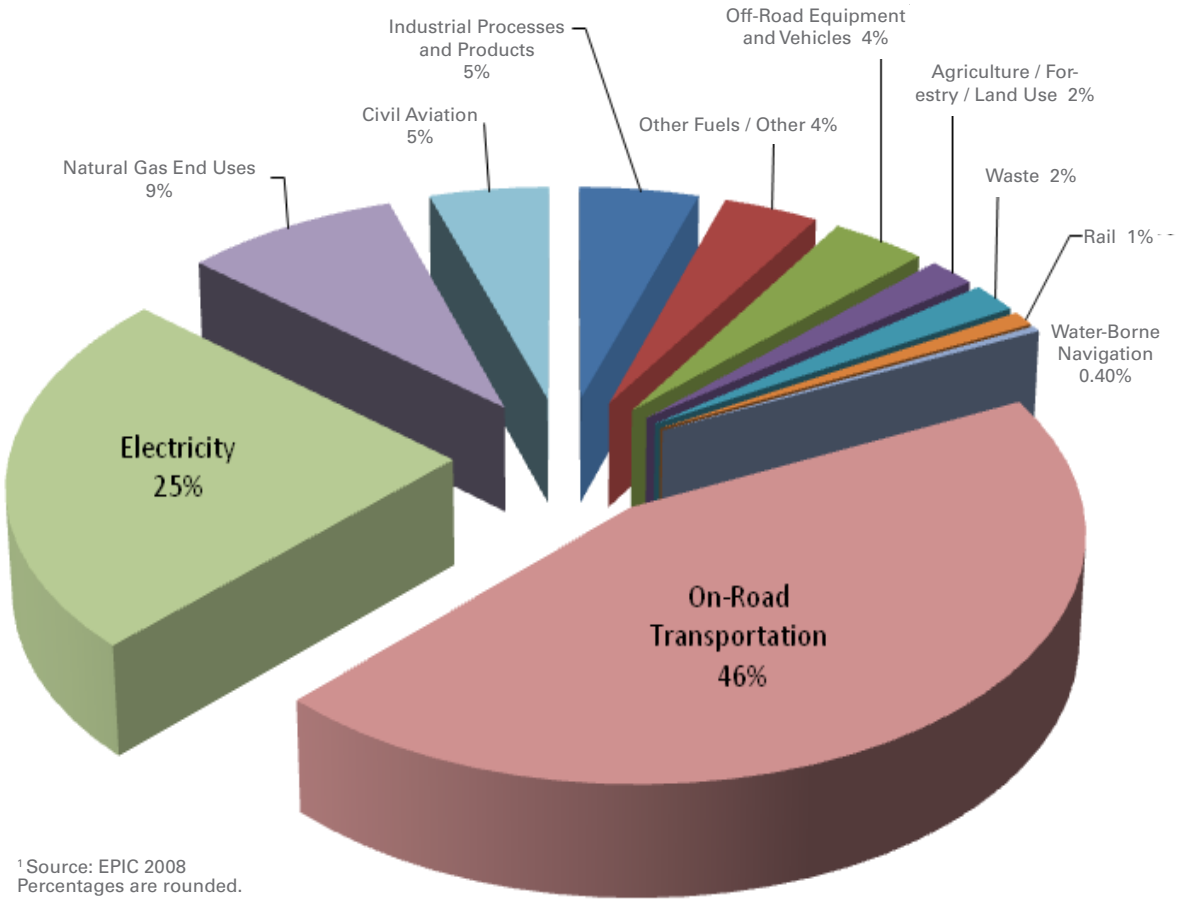
San Diego Air Basin (covers entirety of San Diego County)

- Carlsbad
- Chula Vista
- Coronado
- Del Mar
- El Cajon
- Encinitas
- Escondido
- Imperial Beach
- La Mesa
- Lemon Grove
- National City
- Oceanside
- Poway
- San Diego
- Santee
- Solana Beach
- Vista

SOURCES OF DATA:
City of San Marcos, 10/12, Department of Conservation's Farmland Mapping and Monitoring Program, 7/97, and U.S. Census Bureau, 12/08

This page intentionally left blank.

Figure 4-7 San Diego County's Greenhouse Gas Emissions by Economic Sector (2006)[1]



[1] Source: EPIC 2008
Percentages are rounded.

help the community conserve monetary resources. The General Plan policies addressing land use patterns, future growth, mobility, green building, City operations, and other issues will affect the rate of GHG emissions in the City for the long term.

Energy Use and Energy Conservation

Energy is essential to maintaining the existing quality of life, economic development, and sustainability of the region. Recognizing the sources of our energy—particularly those sources that are nonrenewable—and understanding the consequences associated with energy waste would assist in more efficient use. With limited, nonrenewable resources providing the major source of energy, San Marcos recognizes the importance of efficient energy use and conservation by all community residents.

Efficient energy use can be encouraged by changing customer behavior, rewarding use of energy-saving appliances, and employing building design and construction approaches that reduce electric power and natural gas usage. The primary sources of energy in San Marcos are electricity and natural gas from SDG&E. SDG&E provides technical assistance and incentives for residents and businesses to increase energy efficiency through energy audits, appliance

rebate programs, and smart energy metering. The City encourages energy conservation and the use of alternative energy sources within the community, and will continue to upgrade, renovate, or retrofit City facilities to increase energy efficiency and save money.

Water Supply and Conservation

Water is considered a limited natural resource given climate conditions and the reliance of Southern California communities on imported domestic water supplies from as far away as the Sacramento-San Joaquin Delta and the Colorado River. San Marcos recognizes the critical nature of water resources relative to regional growth and works with residents, businesses, and water authorities to conserve water supplies.

Water Supply

Surface and groundwater supplies within San Marcos include local resources: privately held and managed Lake San Marcos, Discovery Lake, South Lake, Jacks Pond, San Marcos Creek, and Agua Hedionda Creek. Imported drinking water resources include the Second San Diego Aqueduct and the Siphon Vista Canal. There are many private and municipal well systems in San Marcos that augment the local surface water and imported water supply for agricultural and municipal irrigation sources. Surface water impoundments such as the lakes mentioned above are not used for drinking water.

San Marcos' water supply and services are provided primarily by Vallecitos Water District (VWD). Limited portions of the Business/Industrial District and College Area Neighborhood are served by Vista Irrigation District (VID), and a very small portion of the planning area is served by Olivenhain Municipal Water District (OMWD) and Rincon Water District.

VWD and VID both updated their Urban Water Management Plan (UWMP) in June 2010 to assess current and future demand for water, facilities, and storage. To lessen their dependence on imported water, local water retail agencies throughout Southern California, including VWD and other local water purveyors, are implementing water conservation measures and seeking alternative local sources of water.

VWD buys water from the San Diego County Water Authority (SDCWA), which is the largest purchaser of water from the Metropolitan Water District of Southern California (MWD). MWD owns and operates the Colorado River Aqueduct and buys the most water from the State Water Project for the delivery of Sacramento-San Joaquin Delta water to Southern California. An additional water purchase agreement for desalinated water from the future Carlsbad Seawater Desalination Facility is in place, which would comprise 35 percent of VWD's supply at current demand levels.

VWD updated its Integrated Water Resources Plan in 2007 and UWMP in 2010 to assess current and future demand for water, facilities, and storage. To lessen their dependence on imported water, local water retail agencies throughout Southern California, including VWD, are implementing water conservation measures and seeking alternative local sources of water.

Discovery Lake is used for conservation and recreation.

Photo credit: City of San Marcos

VWD is participating in regional efforts to expand local sources through conservation, reuse, and capital improvements. Alternative sources, like purchase of desalinated water from Carlsbad, help address drought-related supply issues and support conservation efforts. As San Marcos continues to develop, ensuring adequate water supplies requires diligent efforts on behalf of the City, VWD, VID, OMWD, and Rincon Water District to promote water-efficient practices and to implement water conservation programs.

Water Conservation

Southern California is facing unprecedented water supply challenges. Severe drought and court-ordered pumping restrictions have caused water supplies to drop to historically low levels. It is likely that in the future, especially during the summer months, water rationing for homes and businesses will be imposed.

Water conservation represents the most cost-effective and environmentally sound way to reduce current and future demand. Residents and businesses in San Marcos can take many actions to reduce water use, such as using water-conserving toilets and washers, fixing leaks, planting low water use landscaping, and simply avoiding overwatering plants. The City, in collaboration with all four water districts, continues to encourage the residents of San Marcos to reduce water consumption and promote water conservation.

Consistent with California State mandates, the City adopted the Water Efficiency Landscape Ordinance in 2009 to reduce water usage through design, maintenance, and landscape choice. Furthermore the City, VWD, and VID currently partner to implement water conservation programs in the City. These agencies have installed drought-tolerant gardens—at Heritage Park, Jack's Pond Park, and the District's administration offices—to demonstrate how residents can reduce outdoor water use. The City already uses water-efficient drip irrigation to maintain the majority of its more than 100 miles of roadway medians; some medians are well watered or use nonpotable irrigation. Large community parks and most other City facilities are watered using well water pumped from each site or from other nearby wells. Well water gives the City a cost-effective way to green San Marcos without using potable water supplies. The City also makes daily adjustments to irrigation controllers based upon weather conditions using a sophisticated computerized monitoring system. In addition to the water conservation program, the City will work with VWD, VID, OMWD, and Rincon Water District should they consider expanding retrofit and incentive programs to reduce water use.

Watershed and Water Quality Protection

The City of San Marcos is committed to being a leader and key player in the regional stewardship of watershed and water quality protection. Since the initial municipal stormwater permit was issued in 2001 by the SDRWQCB, the 2007 Municipal Stormwater Permit and the upcoming draft Regional Municipal Stormwater Permit have shifted significantly to address the region's water bodies under a watershed-based principal to protect the region's water quality and beneficial uses of water bodies and groundwater basins.

The City of San Marcos is recognizing the future significant shift toward addressing water quality on a watershed and subwatershed basis. In the upcoming Regional Municipal Stormwater Permit, a holistic approach is implemented regarding key impairments within the City's watersheds through groundbreaking projects such as the voluntary nutrient abatement project for the Upper San Marcos Creek to address the impairments listed by the State for San Marcos Creek and Lake San Marcos nine years in advance of a formal order, also known as a Total Maximum Daily Load (TMDL) order. The order is intended to restore the impaired water body to the Basin Plan designations.

Watershed protection for surface water and groundwater quality in the General Plan area is implemented under the Federal Environmental Protection Agency (EPA) Clean Water Act through State programs and policies under the State Water Resources Control Board (SWRCB), which in turn delegates other mandated EPA programs to a regional local agency. The local regional agency has adopted policies, plans, permits, orders, and resource designations to be protective of watershed surface and groundwater beneficial uses and water quality.

The delegated authority for watershed protection of surface and groundwater quality beneficial uses in the General Plan area is the SDRWQCB (Region 9).

The SWRCB has designated primary hydrographic units (HUs) and hydrographic subareas (HSAs) to define each watershed. The General Plan area is located within the Carlsbad Hydrographic Unit (HU) and is separated into four primary subwatersheds based on topographical drainage areas to creek systems:

- 904.1 San Luis Rey River (Moosa Creek)
- 904.3 Agua Hedionda Creek
- 904.5 San Marcos Creek
- 904.6 Escondido Creek

Watershed and water quality protection are important to the City and the region.

Photo credit: City of San Marcos

Each of these subwatershed areas is further refined by eight creek system branches by HSA (list below). Figure 4-8 shows the location of these SWRCB HSA areas in relationship to the eight General Plan neighborhoods. Table 4-2 summarizes the acreages of each HA within each General Plan Neighborhood.

Table 4-2 shows the percentage of each General Plan Neighborhood by the four primary watersheds. Land use types and associated activities have been designated by the SDRWQCB as being linked to potential pollutants entering the receiving

San Luis Rey

- 903.13 Moosa Creek

Agua Hedionda Creek

- 904.31 Agua Hedionda Creek
- 904.32 Buena Creek

San Marcos Creek

- 904.51 San Marcos Creek
- 904.52 Richland
- 904.53 Twin Oaks Valley

Escondido Creek

- 904.61 Escondido Creek
- 904.62 Escondido Creek

Each HSA has unique features that characterize the watershed, including land use, current listed impairments, topography, historical use of the water bodies that form the basis for the regulatory framework in place that are protective of each watershed's water quality, and groundwater quality. See Figure 4-8.

waters such as creeks and lakes and affecting water quality and beneficial use designations. The City of Vista adopted the Agua Hedionda Watershed Management Plan (AHWMP) in 2009; preparation included collaboration and support from the cities of Carlsbad, Oceanside, San Marcos, Vista and the County of San Diego. The City of San Marcos carried the principles of watershed planning from the AHWMP in to the goals and policies for watershed planning by affected watershed within the AHWMP and General Plan areas.

The characteristic land uses that make up each General Plan Neighborhood in relationship to where the neighborhood is located within an HSA will direct the City's efforts toward managing and protecting its watersheds and addressing the impairments in the four primary creek systems and watersheds within the City. Each HSA has unique attributes that contribute to the creek system and the General Plan neighborhoods drain to each of those creek systems.

Table 4-2
General Plan Neighborhoods Percent of Watershed

Neighborhood	Neighborhood % of Watershed			
	San Luis Rey	Agua Hedionda Creek	San Marcos Creek	Escondido Creek
Barham/Discovery Community	0%	0%	18%	10%
Business/Industrial District	0%	30%	11%	0%
College Area Neighborhood	0%	55%	5%	0%
Lake San Marcos Neighborhood	0%	0%	10%	0%
Questhaven/La Costa Meadows Neighborhood	0%	0%	10%	83%
Richland Neighborhood	0%	0%	13%	0%
Richmar Neighborhood	0%	0%	4%	7%
Twin Oaks Valley Neighborhood	100%	15%	29%	0%

Source: City of San Marcos 2011

Surface Water Quality

The SDRWQCB has adopted a Basin Plan that outlines beneficial uses and water quality objectives that are protective of the beneficial uses for each of the HSA areas in the General Plan Area. In addition, the SDRWQCB has adopted Order R9-2007-0001, the San Diego Municipal Stormwater Permit, the Bacteria I Order TMDL, and is providing oversight with a stakeholder-driven nutrient TMDL for the Upper San Marcos Creek (USMC) (HSA 904.52 and 904.53) to address the impairments in San Marcos Creek and Lake San Marcos. The City is the lead agency for the USMC nutrient TMDL.

The City of San Marcos regionally and locally implements the requirements of Order R9-2007-0001. This includes best management practice inspection programs for businesses, municipal facilities, and treatment control facilities; preventative programs such as street sweeping and storm drain facility cleaning; monitoring water quality within the City of San Marcos; and integrating site design, source control, low impact development (LID), treatment controls, and hydromodification design for City projects and private development and redevelopment to reduce polluted stormwater from entering the City's stormdrain system.

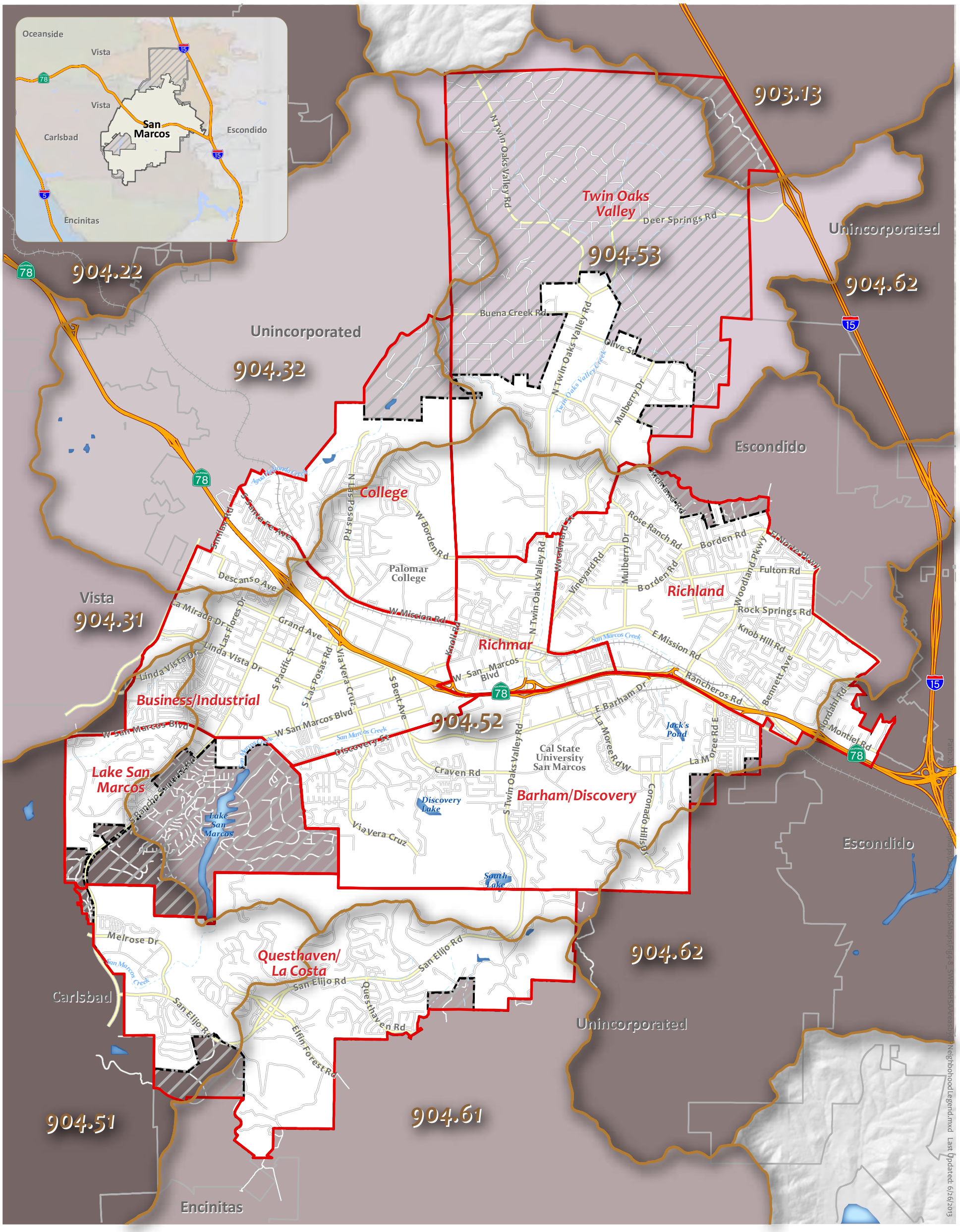


FIGURE 4-8

City of San Marcos

Hydrologic Sub Areas by General Plan Neighborhood

0 0.25 0.5 1 Miles

- San Marcos City Limits
- Sphere of Influence
- Planning Area
- General Plan Neighborhoods
- Major Hydrologic Features
- Creeks
- Railroad
- Freeway
- Highway
- Major Road
- Minor Road

Regional Water Quality Control Board Hydrologic Sub Areas (HSA)

- 903.13
- 904.10
- 904.21
- 904.22
- 904.31
- 904.32
- 904.40
- 904.51
- 904.52
- 904.53
- 904.61
- 904.62
- 904.63

SOURCES OF DATA:
City of San Marcos 9/12

This page intentionally left blank.

Table 4-3 identifies the 2010 SWRCB 303(d) listed as impaired water bodies in the planning area. Of the four creek systems in the planning area, three are impaired and require TMDL plans to restore the Basin Plan beneficial uses and meet the Basin Plan water quality objectives. Figure 4-9 locates the impaired water bodies in relationship to the General Plan Neighborhoods.

Groundwater Quality

Protection of the groundwater beneficial uses identified in the Basin Plan through the implementation of watershed protection programs in the City is critical to protecting the City's ability to use these resources. Each General Plan Neighborhood based on its land use characteristics has an ability to infiltrate urban runoff and affect the water quality of both formally designated groundwater basins. Historical agricultural use is a concern in the groundwater as it affects both the beneficial use of the groundwater and downgradient surface water bodies such

Table 4-3
SWRCB 303(d) Listed Water Bodies in General Plan Area

San Luis Rey River Watershed	Escondido Creek Watershed
Moosa Creek • No listings	**Escondido Creek** • Pesticides: DDT (Dichlorodiphenyltrichloroethane) • Pathogens: Enterococcus, Fecal Coliform • Metals/Metalloids: Selenium, Manganese • Nutrients: Phosphate, Total Nitrogen as N • Total Dissolved Solids: Salinity • Toxicity • Other Inorganics: Sulfates
Agua Hedionda Creek Watershed	**San Marcos Creek Watershed**
Agua Hedionda Creek • Pathogens: Enterococcus Fecal Coliform • Metals/Metalloids: Selenium, Manganese • Nutrients: Phosphorus, Total Nitrogen as N • Total Dissolved Solids: Salinity • Toxicity	**San Marcos Creek** • Pesticides: DDE (Dichlorodiphenyldichloroethylene) • Nutrients: Phosphorus • Toxicity: Sediment Toxicity • Metals/Metalloids: Selenium
Buena Creek • Pesticide: DDT (Dichlorodiphenyltrichloroethane) • Nutrients: Nitrate and Nitrite	**San Marcos Lake** • Nutrients: Ammonia as Nitrogen

as Lake San Marcos. The ability to meet the Basin Plan surface water quality objectives and beneficial uses may be impaired by historic groundwater issues. These relationships are important to understand as the shift toward watershed protection of impaired water bodies through agency direction or TMDL plans takes on a prominent role in the future management of watersheds within the General Plan Area.

The SDRWQCB Basin Plan identifies beneficial uses for groundwater in the four primary subwatersheds as municipal, agricultural, and industrial uses.

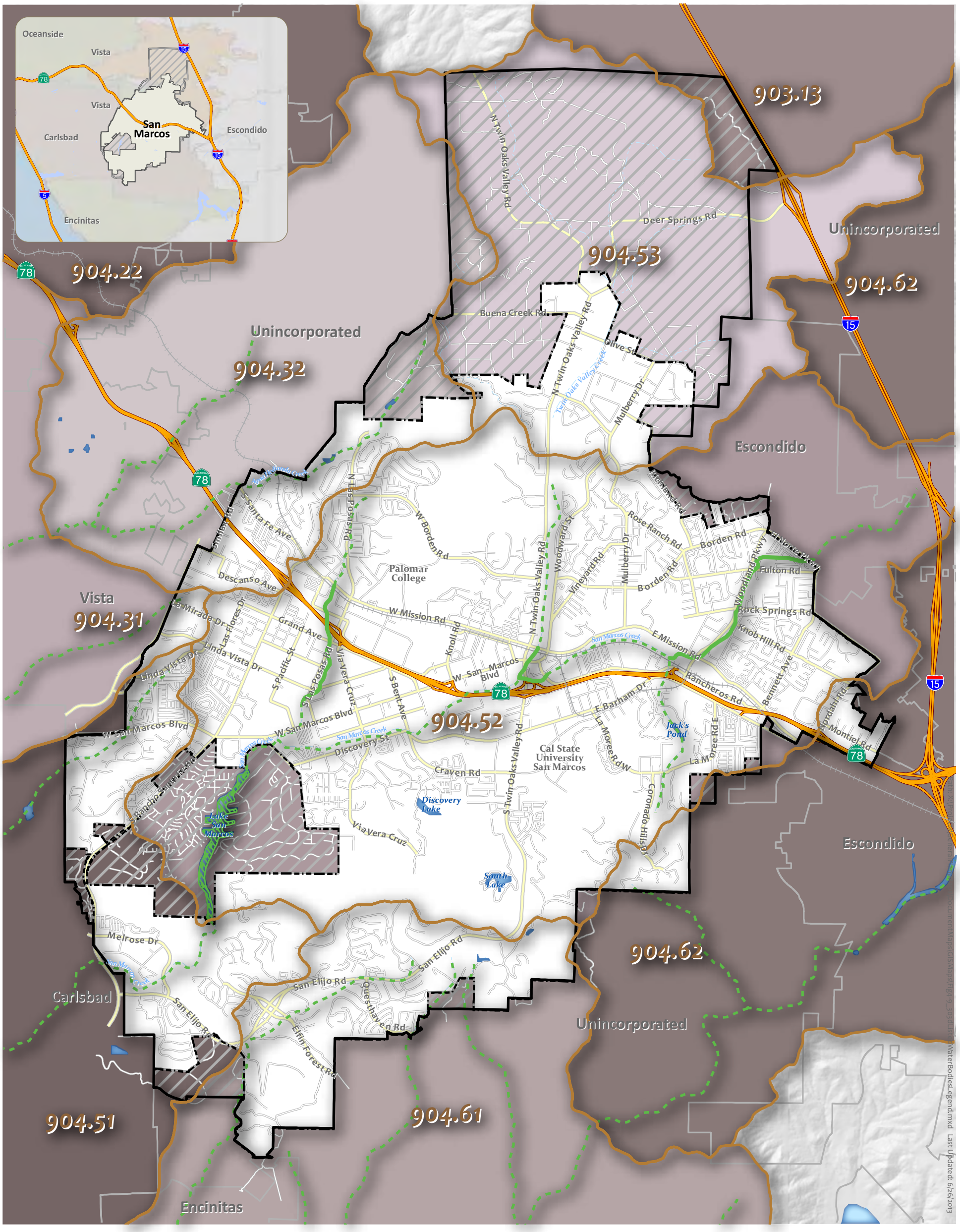
The City of San Marcos is located in the Department of Water Resources (DWR) South Coast Hydrologic Region. DWR Bulletin 118 identifies the San Marcos Area as Basin 9-32. There are 27 groundwater basins in San Diego County. Groundwater basins in San Diego and in the General Plan Area have mainly calcium and sodium cations and bicarbonate and sulfate anions. Local impairments of nitrate, sulfate, and TDS are common. There are generally five contaminant groups found as inorganics, radiological, nitrates, pesticides, and VOCs. The DWR San Marcos Area is 2,129 acres (see Figure 4-10). This groundwater basin is located entirely within San Marcos Creek HSA 904.52, which is designated as impaired (see Table 4-3) and has a hydrologic connection to Lake San Marcos, which will be assessed under the City's nutrient plan TMDL process currently underway. The outcome of the assessment is to understand the groundwater influence on the lake's water quality impairment.

Other minor groundwater basins and wells are located throughout the General Plan area outside of Basin 9-32; however, the DWR Basin 9-32 is the only groundwater basin formally designated in the General Plan Area. Table 4-4 represents the acreage of the San Marcos Area Basin in each General Plan Neighborhood.

FIGURE 4-9

City of San Marcos

303(d) Listed Water Bodies



San Marcos City Limits	303(d) Listed Water Bodies
Sphere of Influence	Impaired Box/Piped Waterbody
Planning Area	Impaired Exposed Waterbody
Major Hydrologic Features	Impaired Lake
Creeks	Regional Water Quality Control Board Hydrologic Sub-Units
Railroad	903.13
Freeway	904.10
Highway	904.21
Major Road	904.22
Minor Road	904.31
	904.32
	904.40
	904.51
	904.52
	904.53
	904.61
	904.62
	904.63

0 0.25 0.5 1 Miles

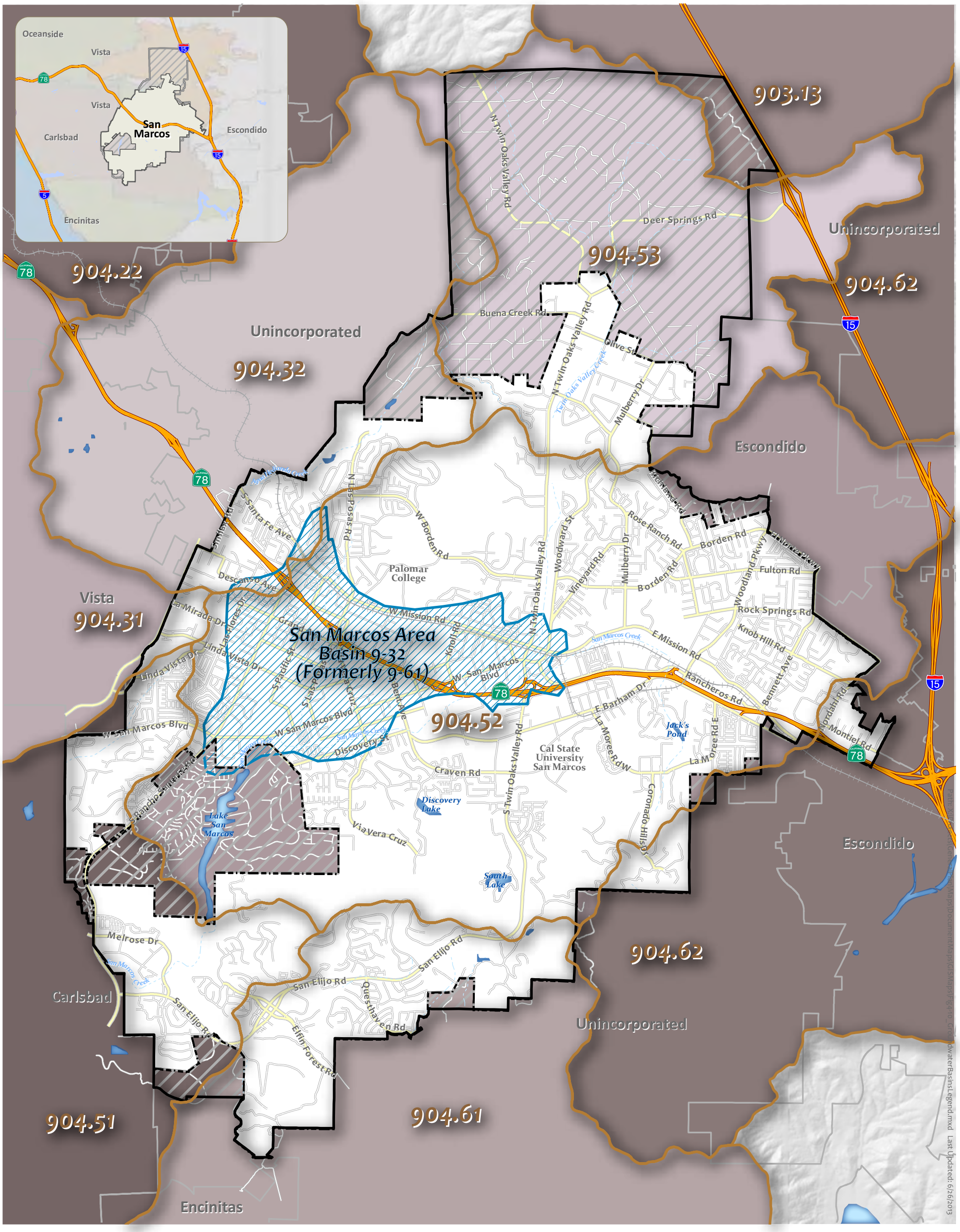
SOURCES OF DATA:
City of San Marcos 9/12

This page intentionally left blank.

FIGURE 4-10

City of San Marcos

Groundwater Basins



SOURCES OF DATA:
City of San Marcos 9/12

- San Marcos City Limits
- Sphere of Influence
- Planning Area
- Major Hydrologic Features
- Creeks
- Railroad
- Freeway
- Highway
- Major Road
- Minor Road
- Department of Water Resources Groundwater Basin 9-32 Area

Regional Water Quality Control Board Hydrologic Sub-Units

- 903.13
- 904.10
- 904.21
- 904.22
- 904.31
- 904.32
- 904.40
- 904.51
- 904.52
- 904.53
- 904.61
- 904.62
- 904.63

This page intentionally left blank.

Table 4-4
San Marcos Groundwater Basin Acreages in General Plan Neighborhoods

General Plan Neighborhood	Acres	Percent of Basin
Barham/Discovery Community	54	2%
Business/Industrial District	1,455	68%
College Area Neighborhood	140	7%
Lake San Marcos Neighborhood	88	4%
Questhaven/La Costa Meadows Neighborhood	0	0%
Richland Neighborhood	18	1%
Richmar Neighborhood	374	18%
Twin Oaks Valley Neighborhood	0	0%
TOTAL	2,129	100%

Source: City of San Marcos 2011

Recycling and Solid Waste

Solid waste and recycling services in San Marcos are provided by EDCO, a private waste collection and recycling company. This service is available to residential and nonresidential customers. Residents pay for EDCO service on a per household basis for automated rubbish, recycling, and green waste (e.g., lawn clippings) collection. EDCO also provides options for electronic waste disposal, residential hazardous waste disposal, and temporary-use dumpsters and roll-off containers. The City works with EDCO to promote its construction and demolition material waste removal and recycling program. See Chapter 2, Land Use and Community Design Element for more information on EDCO and solid waste disposal in the City.

Cultural and Historic Resources

San Marcos was originally founded in 1797 when, according to legend, a small band of Native Americans stole livestock from the Spanish settlement and fled into the hills. Spanish soldiers pursued them, encountering a fertile valley on April 25, which was then named Los Vallecitos de San Marcos to honor the feast day of St. Mark.

The valley was first settled as a few scattered communities and ranchos. In 1833, John H. Barham founded the first town in Twin Oaks Valley called Barham. At this time, the California Southern

Railroad ran between Los Angeles and San Diego, approximately 7 miles west of Barham. By 1886, San Marcos was centered at the current intersection of Grand Avenue and Rancho Santa Fe Road. By 1887, the majority of the remaining rancho lands were sold to the San Marcos Land Company, which divided the community into lots to create a planned community of San Marcos. At this time, a train depot was built to service daily passenger, freight, and mail traffic. By 1888, four trains a day ran through San Marcos to Los Angeles and San Diego. By 1907, San Marcos was an established community with a railroad, mail delivery, telephone service, a general store, and several schools. Agriculture continued to be the largest industry in the San Marcos area into the 20th century.

In the 1950s, the construction of State Route 78 and the diversion of water from the Colorado River to San Marcos increased the potential for development in the community, resulting in a period of growth. Agriculture was still predominant, but new businesses, like dairy and poultry productions, started during this time. When population increased to 2,500 residents, the City incorporated on January 28, 1963. In the 1970s and early 2000s, San Marcos was the third fastest-growing city in California, with a population of 17,479 in 1980, 33,800 in 1990, 82,743 in 2000, and 83,781 in 2010.

Historic Bidwell House at Heritage Park.

Photo credit: City of San Marcos

Cultural and Historic Resource Inventory

Cultural resources within San Marcos include archaeological and historical objects, sites and districts, historic buildings and structures, cultural landscapes, and sites and resources of concern to local Native American and other ethnic groups. Previously documented cultural resources within the City include prehistoric isolated finds, prehistoric archaeological sites, historic archaeological sites, multicomponent (prehistoric and historic) archaeological sites, and historic architectural sites. As of 2009, 149 historical and archaeological resource sites were known within San Marcos. The documented history suggests that there may be several resources associated with early settlement development that could be potentially eligible for the California Register of Historical Resources (CRHR) or the National Register of Historic Places (NRHP).

Historic archaeological sites include evidence of chicken coop foundations, homestead sites, refuse scatters, mining sites, rock cairns, and water storage reservoirs. There are numerous historic architectural resources that represent a variety of structures from the late 18th century to the mid-20th century including residential complexes (with privies, cabins, a shed, and a barn), eight residences, a Quonset-type industrial building, a commercial building, an adobe house, a cement silo, a farmhouse, and a historic cemetery. Of these, the Merriam House and outbuildings, dating from the 1890s, are the most notable. They are associated with one of the founding families and Florence Augusta Merriam, an important naturalist, and are potentially eligible for the CRHR.

Conservation and preservation of natural and open space resources is a central theme for San Marcos.

Photo credit: City of San Marcos

Historic Preservation

The documented history of early settlement in the San Marcos Valley suggests there are resources that could be eligible for the CRHR or NRHP. In addition, many buildings that were built during early Cityhood will soon be eligible for consideration as historic resources. As San Marcos continues to grow and change over time, the City will continue efforts to preserve prehistoric and historic artifacts, sites, and structures for future generations. Resources such as Heritage Park, the new site of the Bidwell House, are being conserved and cherished. Heritage Park was set aside a as part of Walnut Grove Park, among other conservation efforts, to protect and enjoy the historic resources of San Marcos.

4.3 Conservation and Open Space Plan

San Marcos is committed to the conservation and protection of its natural resources, including its open spaces, water resources, biological species and habitat, agricultural land, mineral resources, air quality, and scenic amenities. Preservation and conservation of these national resources and maintenance of their quality is not only beneficial to current residents but is crucial to the sustainability of future generations. The goals and policies identified in this section set both broad and specific direction for the future of the San Marcos based on identified issues, as captured in the Guiding Themes and expressed by the community, City staff, and decision makers.

Sustaining Our Ecological and Biological Resources

Connection to Guiding Themes
Sustaining Environmental Quality

The City recognizes the finite value of the area's ecological and biological resources and is committed to their protection and enhancement. San Marcos has natural communities that support unique habitats like vernal pools and sensitive plant and wildlife species endemic to the region.

The City will continue to work with federal, state, regional, and local agencies to implement programs and regulations that identify sensitive species and protect habitats. Additional protection for ecological and biological resources will be implemented on a case-by-case basis through the development application process to ensure that site specific resources are preserved and protected.

Goal COS-1

Identify, protect, and enhance significant ecological and biological resources within San Marcos and its adaptive Sphere of Influence.

Policy COS-1.1: Support the protection of biological resources through the establishment, restoration, and conservation of high quality habitat areas.

Policy COS-1.2: Ensure that new development, including Capital Improvement Projects, maintain the biotic habitat value of riparian areas, oak woodlands, habitat linkages, and other sensitive biological habitats.

Policy COS-1.3: Continue to work with other federal, State, regional, and local agencies to implement SANDAG's MHCP.

Open space resources like P Mountain characterize San Marcos.

Photo credit: City of San Marcos

Open Spaces and Limited Resources

Connection to Guiding Themes
Sustaining Environmental Quality; Continuing Our Agricultural Heritage

Open space areas and preserves within San Marcos protect the area's natural beauty and contribute to a regional system of hiking, biking, and equestrian trails. Agricultural and mineral resource areas within the City play an important role in the local economy. Paleontological resources and archaeological resources, such as landmark or historic buildings, represent a limited, sensitive scientific and educational resource.

Goal COS-2

The City is committed to conserving, protecting, and maintaining open space, agricultural, and limited resources for future generations. By working with property owners, local organizations, and state and federal agencies, the City can limit the conversion of resource lands to urban uses.

Policy COS-2.1: Provide and protect open space areas throughout the City for its recreational, agricultural, safety, and environmental value.

Policy COS-2.2: Limit, to the extent feasible, the conversion of open space to urban uses and place a high priority on acquiring and preserving open space lands for recreation, habitat protection and enhancement, flood hazard management, water and agricultural resources protection, and overall community benefit.

City regulations require development to design to suit the topography and respect ridgelines.

Photo credit: City of San Marcos

Policy COS-2.3: Protect existing agricultural areas, encourage farm to consumer, promote public health, and promote small-scale agriculture such as community gardens and the growing of organic produce.

Policy COS-2.4: Ensure compliance with State of California requirements for mineral resources contained in the State Surface Mining and Reclamation Act.

Policy COS-2.5: Continue to review future development proposals to ensure that cultural resources (including prehistoric, historic, paleontological, and Senate Bill 18 Tribal resources) are analyzed and conserved in compliance with CEQA requirements.

Policy COS-2.6: Preserve healthy mature trees where feasible; where removal is necessary, trees shall be replaced at a ratio of 1:1.

Protecting Scenic Resources and Landform Features

Connection to Guiding Themes

Sustaining Environmental Quality

The City has scenic resources such as the San Marcos, Merriam, and Double Peak Mountains, creek corridors, mature trees, rock outcroppings, and ocean views.

The City is committed to maintaining architectural and landscaping designs that enhance or complement the hillsides, ridgelines, canyons, and view corridors that comprise the visual character in San Marcos. The City will continue to protect scenic resources and ensure that they are conserved in compliance with federal, state, and local requirements.

Goal COS-3

Protect natural topography to preserve and enhance the natural beauty of San Marcos.

Policy COS-3.1: Preserve scenic resources, including prominent landforms such as Double Peak, Owens Peak, San Marcos Mountains, Merriam Mountains, Cerro de Las Posas, Franks Peak, and canyon areas through conservation and management policies.

Policy COS-3.2: Encourage and maintain high-quality architectural and landscaping designs that enhance or complement the hillsides, ridgelines, canyons, and view corridors that comprise the visual character in San Marcos.

Policy COS-3.3: Continue to work with new development and redevelopment project applicants in designing land use plans that respect the topography, landforms, view corridors, wildlife corridors, and open space that exists.

Policy COS-3.4: Evaluate potential impacts to visual and aesthetic resources, including the potential to create new light sources, while still maintaining and being sensitive to rural lighting standards.

Hillsides and ridgelines add aesthetic quality to the City, new development is required to evaluate potential impacts on aesthetic resources.

Photo credit: City of San Marcos

Air Quality, Climate Change, and Energy

Connection to Guiding Themes
Sustaining Environmental Quality; Building a Greener Community; A Healthy and Safe Community

Addressing air pollution, climate change, and energy independence will continue to be a pressing challenge throughout the life the General Plan and beyond. Throughout the General Plan there are policies addressing land use patterns, future growth, mobility and transportation, green building, City operations, and other issues which will affect the rate of greenhouse gas (GHG) emissions in the City for the long term. The Mobility Element also includes goals and policies that address GHG emission reductions through actions that aim to minimize vehicle miles travelled and fuel consumption.

Through local initiatives and innovation, the City can increase energy efficiency and reduce greenhouse gas emissions. Implementing programs will employ a range of techniques; from participation in regional planning processes to developing a Climate Action Plan for the City.

Goal COS-4

Improve regional air quality and reduce greenhouse gas emissions that contribute to climate change.

Policy COS-4.1: Continue to work with the U.S. Environmental Protection Agency (EPA), California Air Resources Board, SANDAG, and the San Diego Air Pollution Control District (SDAPCD) to meet State and federal ambient air quality standards.

Policy COS-4.2: Require new sensitive-use development, such as schools, day care centers and hospitals, located near mobile and stationary toxic air contaminants be designed with consideration of site and building orientation, location of trees, and incorporation of appropriate technology (i.e., ventilation and filtration) for improved air quality to lessen any potential health risks.

Policy COS-4.3: Participate in regional efforts to reduce greenhouse gas emissions.

Policy COS-4.4: Quantify community-wide and municipal greenhouse gas (GHG) emissions, set a reduction goal, identify and implement measures to reduce greenhouse gas emissions as required by governing legislation.

Policy COS-4.5: Encourage energy conservation and the use of alternative energy sources within the community.

Policy COS-4.6: Promote efficient use of energy and conservation of available resources in the design, construction, maintenance and operation of public and private facilities, infrastructure and equipment.

Policy COS-4.7: As City facilities and services are constructed or upgraded, incorporate energy and resource conservation standards and practices by:

- Taking a leadership role in implementing programs for energy and water conservation, waste reduction, recycling and reuse and increased reliance on renewable energy.
- Upgrading City buildings and infrastructure facilities to comply with State of California green building standards.
- Implementing landscaping that reduces demands on potable water; this may include the use of drought tolerant landscaping and/or use of well water for irrigation, favoring recycling and energy-efficient products and practices when issuing City purchase agreements.

Policy COS-4.8: Encourage and support the generation, transmission and use of renewable energy.

Policy COS-4.9: Encourage use and retrofitting of existing buildings under Title 24 of the California Building Energy Code.

Water Supply and Conservation

Connection to Guiding Themes
Sustaining Environmental Quality; Building a Greener Community;

Water conservation represents the most cost-effective and environmentally sound way to reduce current and future demand. Working with applicable water districts, the City will implement programs that protect water resources, increase water use efficiency, and educate the public about efficient water usage. In addition, the City will work with development applicants on a case-by-case basis to maximize water conservation features.

Goal COS-5

Reduce water consumption and ensure reliable water supply through water efficiency, conservation, capture, and reuse.

Policy COS-5.1: Support the consideration and implementation of a broad range of strategies to ensure the long-term sustainability of water supply, including strategies related to conservation, reclamation, recharge, and diversification of supply.

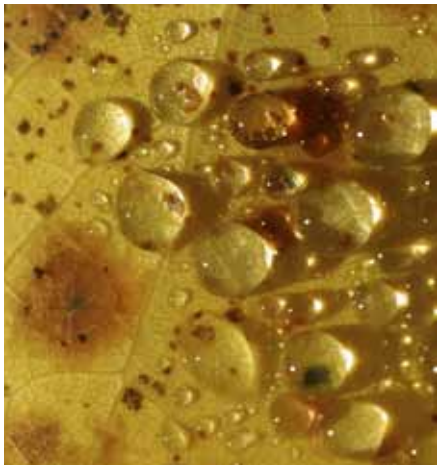
Policy COS-5.2: Support water conservation efforts to reduce energy consumption resulting from transport and treatment of water from outside the region.

Policy COS-5.3: The City will continue its reliance on well water for irrigation and/or graywater applications.

Watershed and Water Quality Protection

Connection to Guiding Themes
Sustaining Environmental Quality; A Healthy and Safe Community

San Marcos recognizes the critical nature of water resources relative to regional growth and is committed to conserving water supplies and protecting watersheds and water quality for the City's current residents and visitors, and future generations. Maintaining water quality is essential for the health of residents and the sustainability of the environmental resources in San Marcos.



Managing and conserving water resources and quality is important to the City and the region.

Photo credit: AECOM

Goal COS-6

Protect and restore appropriate surface water and groundwater beneficial uses through prioritizing the improvement of locally impaired water bodies within the City of San Marcos subwatersheds.

Policy COS-6.1 Establish sources, constituents, and water body priorities based on surface water quality and groundwater quality for each watershed within the City of San Marcos.

- For each subwatershed promote beneficial use designations and water quality objectives that are scientifically valid for each subwatershed.
- Reduce pollutant loads and flows that adversely impact ground water and surface water integrity in each subwatershed.
- For each subwatershed, support the identification and development of sustainable projects that provide diverse habitats and water quality benefits.
- For each subwatershed, coordinate development with existing watershed management plan;

Policy COS-6.2: Promote watershed stewardship as the community norm.

Policy COS-6.3: Develop partnerships with other agencies to prioritize and implement watershed protection plans.

Goal COS-7

Achieve sustainable watershed protection for surface and ground water quality that balances social, economical, and environmental needs.

Policy COS-7.1: Promote public policies that support watershed protection for surface water, ground water quality, and attainable beneficial uses.

Policy COS-7.2: Obtain public support for long term sustainable funding for stormwater management, surface water quality, hydromodification, and groundwater quality initiatives.

Goal COS-8

Focus watershed protection, surface and groundwater quality management on sources and practices that the City has the ability to affect.

Policy COS-8.1: Identify pollutants of concern in each subwatershed for groundwater and surface water.

Policy COS-8.2: Work with regulatory agencies and other parties to ensure that pollutant sources in subwatersheds to surface water and groundwater are re-assigned to the appropriate regulatory process (air, waste, water).

Policy COS-8.3: Promote public policy that reduces pollutants of concern in subwatersheds, surface water and groundwater through source pollutant replacement, substitution, or application.

Policy COS-8.4: Require new development and redevelopment to protect the quality of water bodies and natural drainage systems through site design, source controls, storm water treatment, runoff reduction measures, Best Management Practices (BMPs), low impact development (LID), hydromodification strategies consistent with the Current San Diego Regional Water Quality Control Board Municipal Stormwater National Pollutant Discharge Elimination System (NPDES) Permit, and all future municipal stormwater permits.

Goal COS-9

Support the development of a regulatory framework and organizational structure that facilitates the implementation of the most effective and efficient watershed protection programs for surface water and groundwater quality and beneficial use programs.

Policy COS-9.1: Focus each watershed assessment on information needed to implement the most effective control strategies and adaptive management.

Policy COS-9.2: Focus surface water, hydromodification, and groundwater quality monitoring programs, BMPs, and management programs at a subwatershed scale within each service neighborhood.

Policy COS-9.3: Establish watershed-based educational programs for residents and business owners to reduce and prevent pollutants from entering the surface water and groundwater through the watershed and City's storm drain system.

The City encourages the use of recycled goods and the recycling of materials.

Photo credit: AECOM

Recycling and Solid Waste

Connection to Guiding Themes
Sustaining Environmental Quality; Building a Greener Community; A Healthy and Safe Community

Throughout the General Plan, the City is committing to goals, policies, and programs that will conserve water, increase energy efficiency, reduce vehicle trips, and lower greenhouse gas emissions. By reducing, reusing, and recycling, residents, businesses, and visitors can contribute to this effort to sustain the local environment.

Many of the implementing actions will be carried out in coordination with the City's municipal waste provider; however, the City plays an important role by setting guidelines for construction, waste recycling, and by educating the public on options for reducing, reusing, and recycling.

Goal COS-10

Establish and maintain an innovative, sustainable solid waste collection, recycling, and disposal delivery system for present and future generations.

Policy COS-10.1: Promote the curbside recycling program to divert residential refuse from the landfills.

Policy COS-10.2: Develop programs requiring recycling and reuse of construction and demolition materials that divert solid waste from area landfills.

Policy COS-10.3: Encourage the use of reusable and recyclable goods, educational displays and activities, and through sustainable purchasing policies and practices.

Policy COS-10.4: Support alternative energy opportunities (methane recovery) at solid waste facilities.

Preserve Cultural and Historic Resources

Connection to Guiding Themes
Sustaining Environmental Quality

San Marcos has settlement history that spans multi-cultural, multi-national, and multi-generational boundaries. Cultural resources within San Marcos include archaeological and historical sites and districts, historic buildings and structures, cultural landscapes, and sites and resources of concern to local Native American and other ethnic groups.

As the City continues to grow, it will be increasingly important to preserve the City's cultural and historic resources. Preservation of such resources will continue to be protected by the Mills Act Program and will primarily be carried out on a case-by-case basis as each development application analyzes the potential for sensitive cultural and historic resources, and avoids or reduces impacts to these important resources in compliance with CEQA.

Goal COS-11

Continue to identify and evaluate cultural, historic, archeological, paleontological, and architectural resources for protection from demolition and inappropriate actions.

Policy COS-11.1: Identify and protect historic and cultural resources including individual properties, districts, and sites (e.g., archaeological sites) in compliance with CEQA.

Policy COS-11.2: Prohibit the demolition or removal of a historic structure without evaluation of the condition of the structure, the cost of rehabilitation, and the feasibility of alternatives to preservation in place including but not limited to relocation, or reconstruction offsite, and/or photo-preservation.

Policy COS-11.3: Identify opportunities for adaptive reuse of historic sites and buildings to preserve and maintain their viability.