

Chapter 4: Environmental Resources



4.1 The Environmental Setting

Los Osos and the surrounding lands occupy a varied landscape created from a complex geological history that resulted in sand deposits. These sand deposits host a unique ecosystem of dune and coastal scrub communities. The sandy soil, known as Baywood fine sand, combines with the region's maritime climate to create a mosaic of natural communities, including coastal scrub, maritime chaparral, and coast live oak woodland. These communities support unique and diverse collections of plants and animals. The unique ecosystems and resources in the region have given rise to a large number of species that are native to the area but have a limited range.

Local features include the marshes and mud flats of the Morro Bay estuary and freshwater springs and creeks such as Los Osos Creek. Varied topography includes the massive volcanic rock formations of the Morros, the rolling to rugged terrain of the Irish Hills and San Luis Range and the relatively flat terrain of the narrow east-west-trending Los Osos Valley. Los Osos Creek runs south to north across the eastern portion of the community; it enters Morro Bay via the Morro Bay Salt Marsh.

[4.2 Morro Bay Estuary and Its Watershed](#)

[4.2.1 Background](#)

[The Morro Bay estuary is a unique resource of national importance. In 1995, Morro Bay became a National Estuary, a distinction given to only 28 estuaries nationwide. Morro Bay is also the first](#)

State Estuary, having earned that honor in 1994, and consists of about 2,300 acres of tidal lands and open water bordered by the community of Los Osos, the city of Morro Bay, and Morro Bay State Park.

The Morro Bay watershed is essential to the health of the bay. It consists of about 48,000 acres of agricultural, forest and urban lands where streams and other runoff eventually flow to the estuary and mix with saltwater from the ocean. The watershed contains a wealth of natural resources, from croplands and grazing lands to forests, streams, and other valuable wildlife habitats. The watershed is also the home and work place of many people, from Los Osos and the city of Morro Bay to Cuesta College, Camp San Luis Obispo, the California Mens Colony, and surrounding rural areas.

The Morro Bay Estuary supports the most significant wetland system on the south central coast. The estuary, together with its watershed, supports a variety of valuable natural and human resources and activities:

- Crop production on fertile bottom lands and grazing on hillsides, and aquaculture
- An established commercial fishing industry
- Spawning grounds for fish and marine life
- Habitat for shorebirds, waterfowl, migrating birds, and more than 24 threatened or endangered plants and animals
- Tourism and recreation, such as fishing, boating, kayaking, golfing, and tourist attractions
- Electric power generation

Morro Bay and its watershed are a rare national treasure. Its scenic wonder is enjoyed by residents and visitors alike, its natural habitats support abundant wildlife, and its resources provide a livelihood for many people and for industries that are vital to the local economy. All of these things, however, depend on maintaining the health of the estuary.

Morro Bay is still relatively unspoiled. However, evidence shows that the estuary is threatened by the effects of an unnaturally fast rate of sedimentation. Other water quality concerns and loss of habitat also threaten the bay. These threats are recognized by the many agencies and groups that have an interest in the bay and its watershed.

A watershed management plan to guide the future of the estuary has been prepared with the participation of government agencies, interest groups and landowners that have an interest in the bay. The intent of that plan is to help achieve goals such as slowing sedimentation of the bay, maintaining water quality, maintaining the functioning of the watershed and its diversity of habitats, reestablishing healthy steelhead habitat, and promoting public awareness and involvement in watershed management issues.

The boundaries of the Morro Bay watershed extend beyond the Estero Planning Area into portions of the Salinas River and San Luis Obispo and San Luis Bay Planning Areas. The upper portions of the watershed extend up the Los Osos and Chorro Valleys and Cuesta Ridge (see Figure 6-4). Land use and development activity in the upper portions of the watershed have a great effect on downstream areas within the Estero Planning Area--and ultimately on the Morro Bay estuary. These downstream effects involve water supply, erosion, pollution, and habitat, for example. Accordingly, land use planning and decisions need to consider the affects of activities in the upper watershed on the rest of the watershed and on the Morro Bay estuary.

The effects of a wildfire, natural or human-caused, on the watershed is dramatic. The 1994 Highway 41 fire burned all of the chaparral vegetation in Morro Bay's upper watershed (9,700 acres or 35 percent of the Chorro Creek watershed). The following winter, runoff from heavy El Niño rainstorms caused major rill and gully erosion on the steep, barren slopes of Cuesta Ridge. A sediment transport study conducted in 1998 estimated that the resulting "pulse" of sediment

entering tributaries to Chorro Creek was a "5,000 year event" (*Morro Bay Estuary Watershed Fire Management Plan Draft, 2002*).

While preventing all fires is both impossible and environmentally unsound, reducing the potential for a wildfire that consumes huge blocks of the watershed is important. The method to do this is generally prescribed fires that provide a younger age class of vegetation that is less volatile, making suppression easier.

The existing agricultural and rural character of the rural portions of the watershed should be maintained so that prescribed fires and other fuel reduction projects such as livestock grazing can be employed, creating large zones of reduced fuels. Fire suppression activities can also create erosion problems following a wildfire. A developed area will require more suppression activities such as creating fire breaks to protect development.

In recognition of the watershed as a single, inter-related system, the update of this plan has taken into consideration the entire Morro Bay watershed. The upper portions of the watershed outside of the Estero Planning Area totaling about 17,400 acres (about 27 square miles) were identified as a "secondary study area." Land uses and environmental constraints in this secondary study area were studied in connection with the goals, policies, standards, and programs of this plan. Ideally, the Estero Planning Area boundaries should correspond to the limits of the Morro Bay watershed. That would make it easier to take a comprehensive watershed approach to land use planning.

4.2.2 Water Quality

Polluted stormwater runoff is also known as nonpoint source pollution, and includes natural sources. It is the major contributor of pollution to affected streams, lakes, marine waters, groundwater basins, wetlands, and estuaries in California, and is an important contributor of pollution to harbors and bays (California Clean Water Act, Section 305(b) Report on Water Quality, 1998). Of the seven priority problems identified in the Morro Bay National Estuary Program's *Comprehensive Conservation and Management Plan for Morro Bay*, four involve nonpoint source pollution: sedimentation, bacteria, nutrients, and heavy metals/toxic pollutants.

The following policies address the control of nonpoint source pollution. Implementation of these and other policies, together with the implementing programs in this plan and the standards in the Coastal Zone Land Use Ordinance, will help prevent and control polluted runoff, thus leading to improved coastal water quality and enhanced coastal resources and uses.

Additional policies for protecting water quality within coastal watersheds are found in the *Coastal Plan Policies* in the chapter titled *Coastal Watersheds*. Detailed performance standards for grading and drainage in new development are found in the Coastal Zone Land Use Ordinance. Those standards, together with standards for protection of environmentally sensitive habitats--especially for buffer areas between development and sensitive areas--will help protect the quality of coastal waters

4.24.3 Biological Resources

The Los Osos community consists of six main vegetation types: coastal sage scrub, central maritime chaparral, woodland, grassland, wetland, riparian and “other.” Other habitats are vegetation types that are highly influenced by human activities, such as urban, planted and agricultural landscapes. The Los Osos community is home to several species protected by federal and state agencies. The California Department of Fish and Wildlife’s California Natural Diversity Database, the California Native Plant Society, and the United States Fish and Wildlife Service Environmental Conservation Online System together list [a combined total of 143](#) special status plants and animal species occurring in the community of Los Osos.

The dominant habitat type in Los Osos is coastal sage scrub. Larger undisturbed areas of coastal sage scrub occur primarily within the greenbelt. Many smaller vacant lots in the urbanized areas of Los Osos also support remnant patches of coastal sage scrub. Along the southern-most fringe of the Los Osos area, coastal sage scrub integrates with maritime chaparral and coast live oak woodland. Along the eastern edge of the community, the Los Osos creek corridor meanders in a northwesterly direction. Portions of this corridor contain well-developed riparian forest and riparian scrub. More discussion regarding sensitive plant and animal species can be found in the Combining Designation section of this chapter.

4.34.4 Cultural Resources

The history of Los Osos dates back to a 10,000-year span of occupation by Native American people. The Native Americans inhabiting the Morro Bay region were hunter-gatherers who spoke the Obispeño language of the Chumash language family. These people apparently shared a greater number of cultural traits with their Salinan neighbors to the north than with their Chumash language-group relatives of the Santa Barbara Channel region to the south. Obispeño Chumash hunter-gatherers made a variety of stone, bone, and shell tools and used vegetal materials such as tule balsa for canoes, and various grasses and thatch for construction of houses and sweat lodges.

Population densities for the Morro Bay area were apparently relatively low, with native settlements consisting of seasonal settlement shifts from temporary camps to more centralized hamlets or villages. Marriage networks extended some 30 miles and in some instances created alliances and exchange networks between coastal and interior groups.

4.44.5 Water Resources

The sole water source for the Los Osos community and the surrounding area is groundwater from the Los Osos Groundwater Basin. The groundwater is withdrawn from the basin by private wells, for agricultural irrigation, and for municipal use by three principal water purveyors. The service districts for these municipal purveyors are shown in Figure [ED.2](#) in Appendix [ED](#).

The groundwater basin is made up of several aquifer layers underlying Los Osos and the surrounding area. The upper and lower aquifers are the main sources of municipal and domestic water supplies. Due to water quality degradation of the upper aquifer from septic systems (nitrates), the water purveyors have been pumping from the lower aquifer. Groundwater extractions have exceeded the sustainable yield of the lower aquifer in the western area; this has resulted in seawater intrusion.

The Los Osos Groundwater Basin is under adjudication in the case of *Los Osos Community Services District v Golden State Water Company, et al.* As a result of the adjudication, a Public Review Draft of the *Basin Plan for Los Osos Groundwater Basin (Draft Basin Plan)* was developed and then released in August 2013. The *Basin Plan* was prepared by the Los Osos Community Services District, Golden State Water Company, S & T Mutual Water Company, and the County.

The *Draft Basin Plan* calls for reduced pumping in the lower aquifer, a decrease in overall basin water demand, and an increase in water supplies in the upper aquifer and lower aquifer (in the central and eastern portions). In order to access these new water supplies, the water purveyors (with financial backing of the water consumers) will need to construct new infrastructure, for example, new groundwater production wells and distribution pipelines.

Sustainable yield of a groundwater basin can be defined as the maximum quantity of water that can be annually withdrawn from a groundwater basin over a long period of time (during which water supply conditions approximate average conditions) without developing an overdraft condition. The *Draft Basin Plan* estimates the current sustainable yield at 2,450 acre-feet per year (AFY). Depending upon which implementation programs are undertaken, the sustainable yield could rise as high as 4,170 AFY under an aggressive implementation scenario. Under the *Draft Basin Plan's* recommendation, sustainable yield would increase to 3,000 AFY. For more information regarding the Basin Management Plan see Appendix E.2.

4.6 Visual Resources

The natural setting of Los Osos is a place of unique beauty. The Los Osos urban area is located at the westerly end of the picturesque and agriculturally productive Los Osos Valley and is bound by the environmentally important Los Osos Creek and riparian corridor on the east and southeast, and the older coastal dunes to the north, south, and southwest. The creek and dune-covered hills form a natural edge and greenbelt for the community. Morro Bay and its tidelands towards the north, the scenic Irish Hills towards the south, Montaña de Oro State Park towards the southwest, and Morro Bay State Park towards the northwest form natural, scenic backdrops. Views of the bay, Morro Rock, and the sand spit are available from a variety of positions on the hillsides, along the banks of the estuary, and from several major roads.

4.54.7 Combining Designations

Sensitive, scenic and other special features of the environment are identified by combining designations—special overlay categories applied in areas of the county with hazardous conditions or special resources. In these areas, careful consideration is needed with development projects to avoid adverse environmental impacts or effects of hazardous conditions on proposed projects. In some cases, specific standards have been adopted for an area where a combining designation is applied to development projects. These standards are found in Chapter 7, Planning Area Standards, in addition to the standards of Chapter 23.07 of the Coastal Zone Land Use Ordinance. The following sections describe the different combining designations, most of which are shown on the combining designation maps at the end of Chapter 7 and on the official maps, Part III of the Coastal Zone Land Use Element, on file in the County Department of Planning and Building. However, certain sensitive or special environmental features, due to their dynamic nature, cannot be mapped.

4.75.1 Local Coastal Program (LCP)

Coastal Zone (LCP). The coastal zone encompasses the entire Los Osos community. The LCP combining designation identifies specific programs to ensure that access to the shoreline is provided in accordance with the policy of the Local Coastal Plan.

4.75.2 Geologic Study Area (GSA)

Los Osos Liquefaction (GSA). Portions of the Los Osos urban area are subject to a high potential for liquefaction, as identified in the Safety Element of the general plan.

Ground Rupture (GSA) Based on information contained in a *Fault Evaluation Report* prepared by the California Department of Mines and Geology (FER-200, 1989), the Los Osos fault zone traverses the southern portion of the Los Osos Valley, extending from the eastern boundary of the Estero Planning Area through Los Osos. A 1,000-foot wide zone on either side of the fault trace has a higher potential for ground rupture during an earthquake.

4.75.3 Flood Hazard (FH)

Los Osos Creek. This flood-prone natural drainage course should be maintained in its natural state to protect native vegetation and wildlife habitats.

[Sea Level Rise Flooding and Inundation Zone. This zone may be subject to increased flooding and inundation due to future sea level rise. New development and redevelopment within this zone should carefully assess and minimize potential hazards for the life of the development through siting, design consistent with CZLUO 23.07.060-066, and where necessary or appropriate, relocation of development. Intensification of development should be avoided.](#)

4.75.4 Historic Site (H)

Los Osos Schoolhouse (H). This schoolhouse was built in 1872 and used until 1954. It is of similar design to other schools of the period. It was moved to the site of the [South Bay Los Osos Community Park](#) and now serves as a meeting hall for private social gatherings or small civic groups.

4.75.5 Archaeologically Sensitive Area (AS)

This combining designation identifies areas of the community known for the potential to contain cultural resources. Applicants of development proposals in these areas are required to obtain a records check and a surface search prior to approval. Standards to protect resources are described in [chapter 7 of this plan, in](#) the LCP Policy Document, and in Section 23.07.104 of the Coastal Zone Land Use Ordinance.

4.75.6 Sensitive Resource Area (SRA)

The following SRAs identify a variety of important natural resources such as wetlands, marshes, sand dunes, natural plant communities, habitat for rare and endangered plants and animals, and sensitive watersheds. Most of these areas are also designated as Environmentally Sensitive Habitats (ESHA). ESHAs are defined by the Coastal Act as “any area in which plant or animal life or their habitats are either rare or especially valuable because of their nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.” Other SRAs are for areas enabling scenic vistas to and along the coast that help

assure public visual access to the coast. Areas with ecologically sensitive features that are listed in Chapter 7, Section 7.4 of this plan are considered SRAs, even if they are not so designated on the official maps of the Land Use Element. The SRA standards in Chapter 7 of this plan are consistent with and help implement the policies of the Conservation and Open Space Element and the Coastal Plan Policies.

A. Morro Bay Estuary and Shoreline

The purpose of the SRA standards for the following SRAs is to protect wetlands, riparian, and other sensitive habitat, and to provide required public access. [This SRA protection is even more important given projected sea level rise and the associated potential vulnerability of these resources.](#) The estuary and shoreline support rare, endangered and threatened plant and animal species. A list of these species is kept on file in the Department of Planning and Building, the California Department of Fish and Wildlife, and the US [Department of Fish and Wildlife Service](#).

1. **Morro Bay Estuary (SRA).** The Morro Bay Estuary is the most important wetland on California's south central coast. It is a shallow lagoon which drains Chorro and Los Osos creeks and supports several biotic communities, including coastal salt marsh, tidal mudflats, and coastal [sage](#) scrub. The bay supports a wide variety of habitats and many sensitive and endangered plants and animals, including many protected species of migratory birds. For example, the migratory Brant goose forages on highly significant eelgrass beds. It is an essential link in the Pacific Flyway, providing one of the state's largest waterfowl habitats south of the San Francisco Bay. The bay is also one of the country's top areas for birds, according to annual bird counts. More information and background regarding the Morro Bay Estuary can be found in Chapter 6 of the Estero Area Plan.
2. **Morro Bay Sand Spit (SRA).** This ridge of sand dunes (a continuation of the Hazard Canyon Dunes) separates most of Morro Bay from Estero Bay and plays an important role in Morro Bay's physical and biological environment. It supports an abundance of plant species, [including some that are State and federally listed](#).
3. **Morro Bay Shoreline (SRA).** The Morro Bay tidelands and adjoining shoreline areas are important to the ecology of the bay and are also highly scenic. Marshlands and riparian areas are particularly important as a source of food and refuge for marine life and also provide feeding and nesting areas for a variety of waterfowl and shorebirds. Critical areas include the following:
 - a. **Sweet Springs, Cuesta-by-the-Sea Marsh, and Riparian Areas (SRA).** Cuesta-by-the-Sea Marsh is a saltwater marsh adjacent to Cuesta-by-the-Sea. Sweet Springs marsh is an unusual combination of a tidal salt marsh and a freshwater spring. Both are adjacent to and flow into Morro Bay. These areas are used as a feeding and resting area by many species of shorebirds and waterfowl.
 - b. **Los Osos Estuary (SRA).** This is a small estuary off Morro Bay at the mouth of Los Osos Creek near South Bay Blvd. Biotic communities represented here are a freshwater marsh, a salt water marsh, coastal scrub, and an estuarine community. The area provides habitat for many species of mammals, birds and fish, including endangered species.
 - c. **Elfin Forest (SRA).** The Elfin Forest is a publicly-owned and managed Natural Area identified in the Parks and Recreation Element of the County General Plan. It contains a diverse and complex assemblage of natural plant communities,

including coastal brackish marsh, riparian woodland fringe, pygmy oak woodland, grassland, coastal dune scrub, and oak-manzanita vegetation. The Elfin Forest supports a documented 25 species of mammals, over 110 kinds of birds, and 11 species of reptiles and amphibians.

- d. **Baywood Peninsula (SRA).** This area is a narrow fringe of dune sands with planted Monterey cypress and pine trees rising above the bay and providing an exceptional close-hand view of the bay.
- B. **Los Osos Monarch Butterfly Habitat (SRA).** This eucalyptus grove is located west of Pecho Valley Road in the vicinity of Monarch Lane. It has been historically used by Monarch butterflies for overwintering and is a regionally important roosting site.
- C. **Los Osos Oaks State Reserve (SRA).** The Los Osos forest is an 86-acre state park reserve containing outstanding examples of California pygmy oaks, which are stunted coast live oaks growing in a stabilized dune area. Other oaks are also present, making this area an outstanding example of an oak woodland. [Adjacent to t](#)The forest [also includes](#) a strip of open space preserved by the developer of Tract 527, but it is not open to public access.
- D. **Los Osos Creek (SRA).** The lower eight miles of the creek are an anadromous fish stream (primarily steelhead) and adjacent riparian areas are rich in wildlife. Environmental concerns include contamination and excessive siltation of both the creek and the bay by development or other adverse uses occurring too close to the creek and its tributaries.
- ~~E. **Eto and Warden Lakes (SRA).** These are two of the few remaining isolated freshwater marshes in the county. Both lie within the Los Osos Creek drainage. The freshwater marshes, along with the associated riparian habitat, are important sites for migratory birds.~~

F.E. Los Osos Ecosystem (SRA).

This Sensitive Resource Area combining designation is also an Environmentally Sensitive Habitat (Terrestrial Habitat). It is located along the southern slopes of the first range of the Irish Hills and to Los Osos Creek, except for the more developed “central urbanized area” of Los Osos (see Figure 4-3). The soils and climate within this area create a unique ecosystem that is found only within Los Osos. The vegetation or plant communities of the ecosystem support globally rare habitat in a unique composition of the following biological communities.

Much of the Sensitive Resource Area has been modified by human land use. Vegetation can reestablish after disturbances [including such as](#) agriculture, grazing, and other clearing, through natural succession or revegetation. Many native plants are adapted to natural disturbances and recolonize cleared areas from seed or vegetative materials (e.g. roots, rhizomes, and tubers). The three most prominent communities in this SRA are:

1. **Coastal Sage Scrub.** [This plant community is typically found on r](#)Relatively flat terraces adjacent to the Pacific Ocean [and](#); on dunes that are middle aged [, largely support coastal sage scrub.](#) This community is dominated by short to medium height, soft-woody shrubs including California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), California goldenbush (*Ericameria ericoides*), silver lupine (*Lupinus albifrons*), dune (or sand) almond (*Prunus fasciculata* var. *punctata*), dune

lupine (*Lupinus chamissonis*), deer weed (*Acmispon glaber*), and black sage (*Salvia mellifera*). Herbaceous plants occur between shrubs, with common species including California croton (*Croton californicus*), wedgeleaf horkelia (*Horkelia cuneata*), rush rose (*Helianthemum scoparium*), and [Common-common sandaster](#) (*Corethrogyne filaginifolia*).

2. **Maritime Chaparral.** The [Los Osos Ecosystem](#) Sensitive Resource area also features central maritime chaparral, which is dominated by sclerophyllous (hard-leaved) shrubs that features scattered trees and herbaceous plants in gaps in the shrub and tree canopy. This community is dominated by Morro manzanita— a shrub endemic to Los Osos ecosystem. Other common species include chamise (*Adenostoma fasciculatum*) coast live oak, wedge-leaf ceanothus (*Ceanothus cuneatus*), and sticky monkeyflower (*Mimulus aurantiacus*). Canopy gaps support a variety of subshrubs including California goldenbush and deer weed, as well as herbs such as wedgeleaf horkelia, seacliff buckwheat (*Eriogonum parvifolium*), California croton, and golden yarrow (*Eriophyllum confertiflorum*).

Central maritime chaparral forms a mosaic with coastal scrub and [oak](#) woodland communities. When compared with the coastal sage scrub, central maritime chaparral occurs on older dunes further inland and steeper slopes.

3. **Coast Live Oak Woodland.** The [Los Osos Ecosystem](#) Sensitive Resource Area also supports vegetation dominated by stunted, wind-pruned coast live oaks, which are typically less than 30 feet in height. The understory of these ‘pygmy oaks’ can feature Morro manzanita, wedgeleaf ceanothus, coffee berry, poison oak, and herbaceous species dominated by non-native annual grasses. These woodlands also support several rare lichens, including splitting yarn lichen (*Sulcaria isidiifera*). The coast live oak woodlands occur as a mosaic with maritime chaparral and coastal sage scrub.

Together, these communities support a diversity of native plant species and a number of rare, endangered or threatened species of plants and animals, including the Morro manzanita, Indian Knob mountainbalm, Morro shoulderband snail, and perhaps the last known population of the endangered Morro Bay kangaroo rat. Many species in these habitats are found nowhere else in the world.

Due to their small geographic range, narrow habitat parameters, and small and declining populations, these four species have been listed as either threatened or endangered under the federal Endangered Species Act and/or California Endangered Species Act. In order to comply with these laws, landowners and others seeking to conduct projects that would impact these species or their habitats must receive an incidental take permit, from the US Fish and Wildlife Service (see Section 4.5.7 for information regarding Incidental Take Permits and the Los Osos Habitat Conservation Plan).

4.75.7 Endangered Species Act and the Los Osos [Community-wide](#) Habitat Conservation Plan

What is an incidental Take Permit?

[Federal Incidental take permits \(ITP\)](#) are required when non-Federal activities [will are likely to](#) result in take of threatened or endangered [animal](#) species. A Habitat Conservation Plan or "HCP" [is part of the supporting documentation that must](#) accompany an application for an [incidental](#)

~~take permit~~ITP. The habitat conservation plan associated with the permit ensures that the effects of the authorized incidental take are adequately minimized and mitigated.

What is “take?”

The Federal Endangered Species Act defines “take” as: to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Harm includes significant habitat modification where it actually kills or injures a listed species through impairment of essential behavior.

Los Osos [Community-wide](#) Habitat Conservation Plan ([LOHCP](#))

The County is seeking a programmatic incidental take permit from the US Fish and Wildlife Service. The County, as the applicant, is requesting a permit term of 25 years to authorize take of covered species associated with covered activities in the Habitat Conservation Plan area, which is approximately 3,560 acres bounded by the Los Osos Urban Reserve Line. As the permittee, the County will have the ability to issue certificates of inclusion to confer incidental take coverage to landowners and other [participating](#) entities as long as their activities [have been fully analyzed in the HCP and](#) are included on the incidental take permit(s).

The Habitat Conservation Plan will identify the suite of activities that will be covered by the permit (covered activities), their anticipated impacts to the listed species covered by the permit (covered species), and the steps that the County and other plan participants will take to avoid, minimize, and mitigate the impacts of the covered activities on the covered species (the conservation strategy). [General categories of c](#)covered activities included in the Habitat Conservation Plan are:

- Commercial and residential development and redevelopment on privately-owned parcels;
- Public entity and private utility company facility and infrastructure development projects;
- Public entity and private utility company activities to operate and maintain, including repair and replace, existing facilities; and
- Activities conducted to implement the Habitat Conservation Plan conservation strategy.

The purpose of issuing a programmatic incidental take permit is to allow the County to authorize the [take of listed species that would result from the implementation of](#) covered activities while conserving the covered species and their habitats. Implementation of a programmatic, multi-species Habitat Conservation Plan, rather than a species-by-species or project-by-project approach, will maximize the benefits of conservation measures for covered species and eliminate potentially expensive and time-consuming efforts associated with processing individual ~~incidental take permits~~ITPs for each project within the proposed Habitat Conservation Plan area. Adoption of the Habitat Conservation Plan and issuance of the incidental take permit(s) will facilitate a streamlined permitting process and also provide a [cohesive—comprehensive](#) conservation strategy managed by one entity with a single funding source. The Conservation strategy will focus on expansion, conservation, ~~maintenance, and~~ enhancement [and management of those lands that collectively comprise](#) of the Los Osos greenbelt (see Figure 4-1).

To mitigate the effects of the covered activities on the covered species, which could otherwise threaten their persistence, the County will be responsible for the implementation of the LOHCP conservation program—a comprehensive program designed to avoid, minimize, and mitigate the [take of/impacts to the covered species as a result](#) of the covered activities ~~to the maximum extent practicable~~. Given the rarity of these narrowly endemic covered species, this regional plan is also [designed-intended](#) to contribute to their recovery, ~~by arresting and reversing threats to survival to ensure long-term persistence.~~

The LOHCP will be implemented by ~~the-an~~ Implementing Entity, in coordination with the County and the US Fish and Wildlife Service (USFWS) who will ensure compliance with the permits.

Figure 4-1: Los Osos Greenbelt

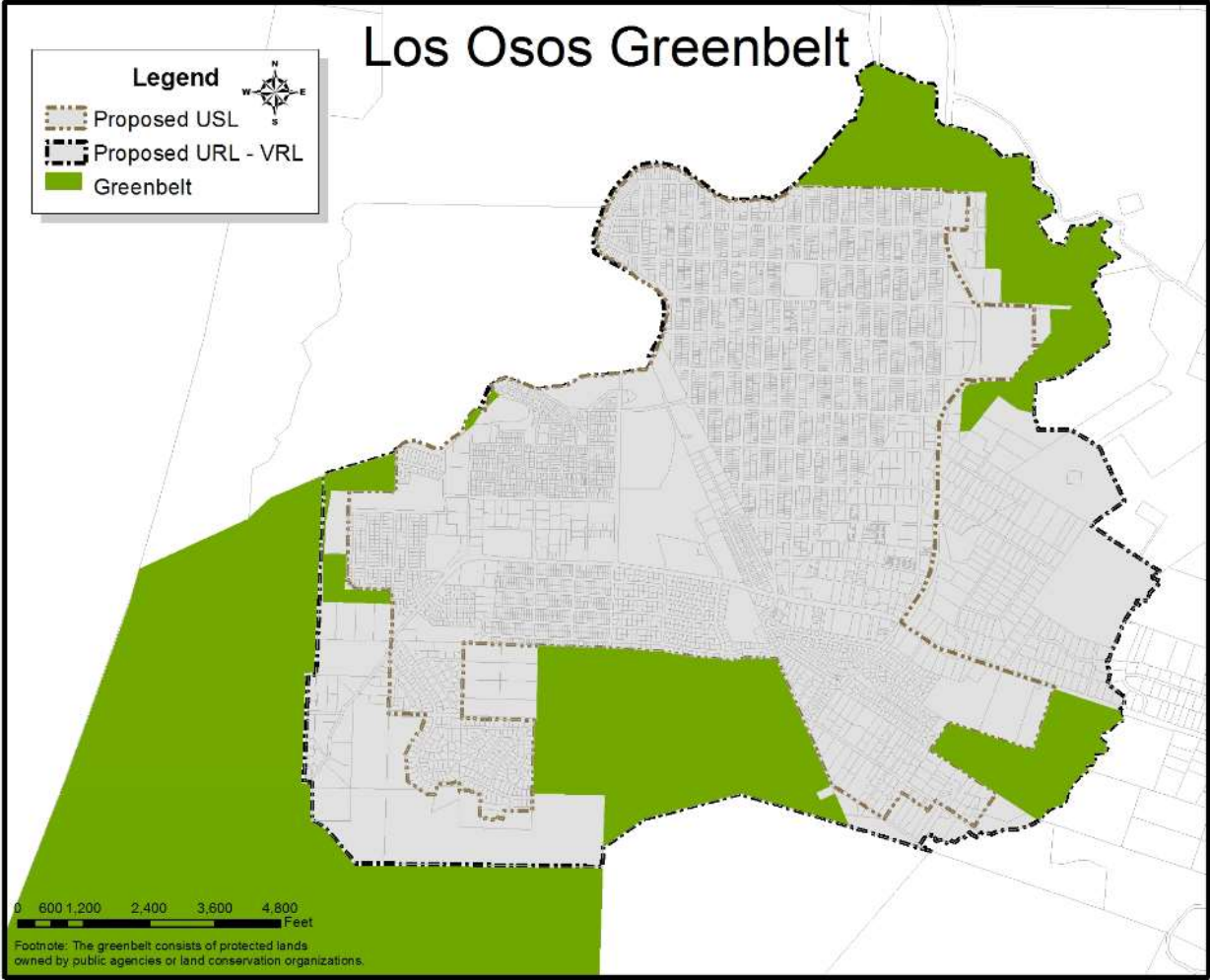


FIGURE 4-1: Los Osos Greenbelt



Figure 4-2: Geologic Study Area

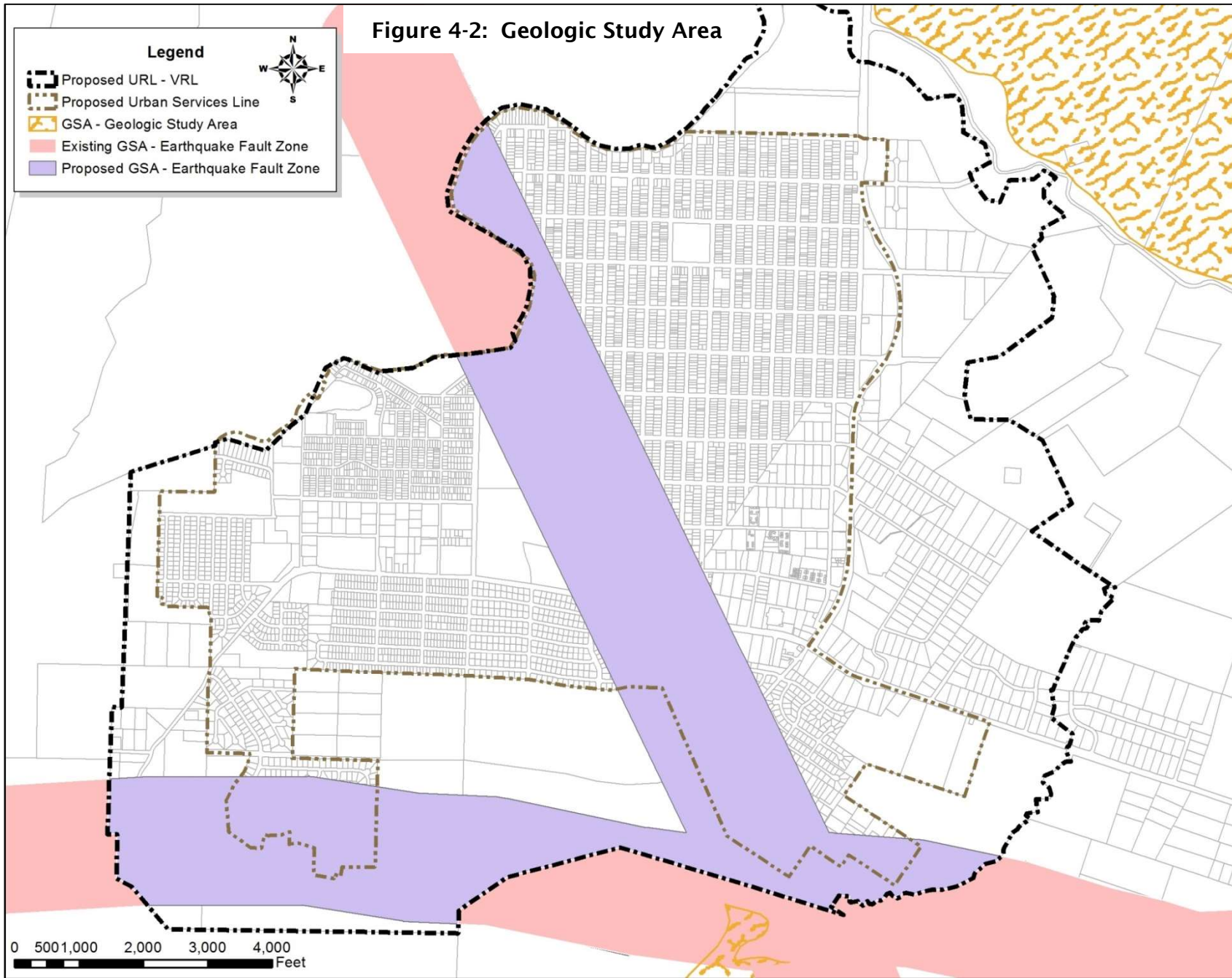


Figure 4-3: Los Osos Ecosystem Environmentally Sensitive Habitat Area (ESHA)





4-15 Environmental Resources

Figure 4-4: Archaeologically Sensitive Areas

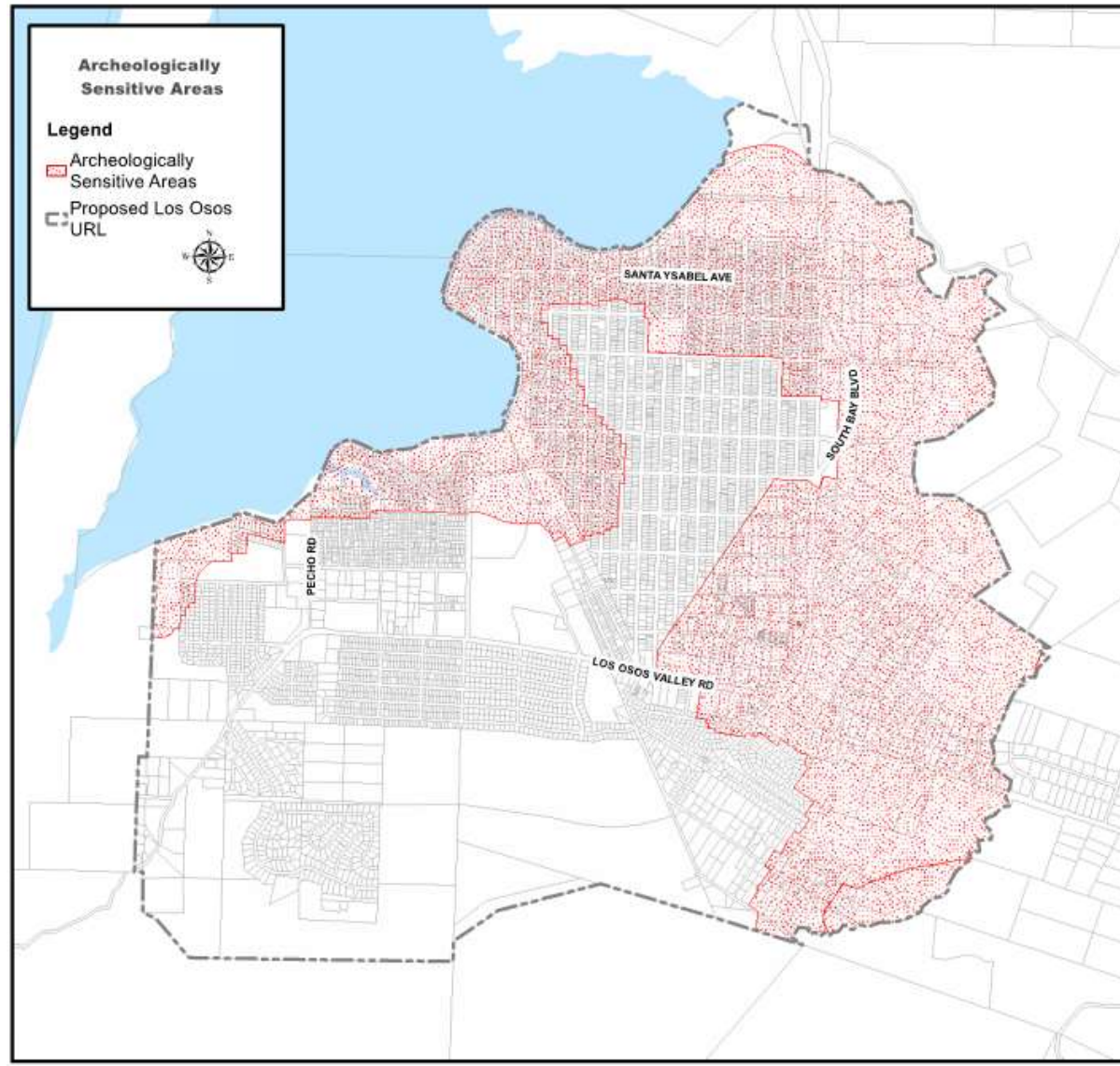


Figure 4-4: Other Combining Designations in Los Osos

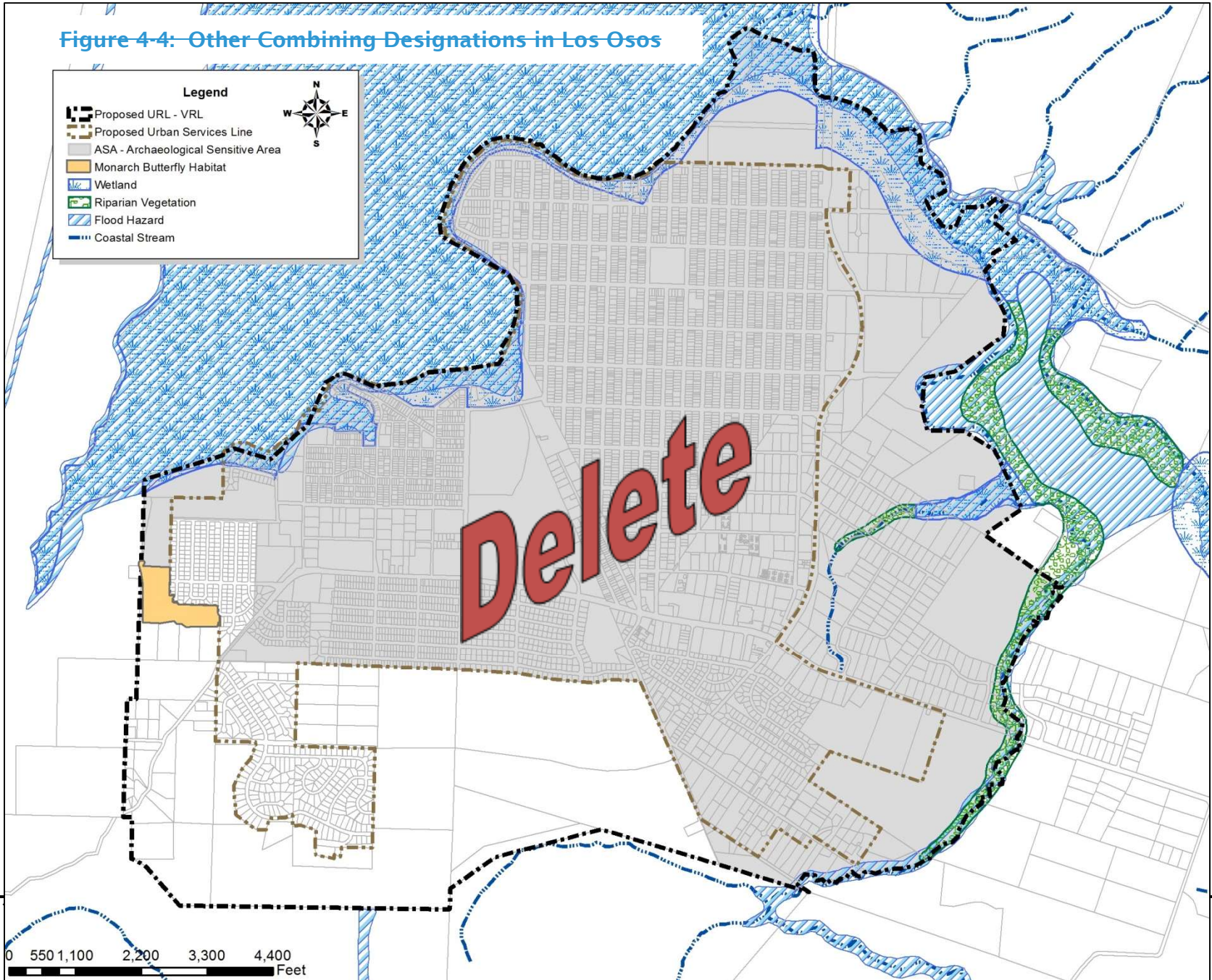


Figure 4-5: Flood Hazard Areas

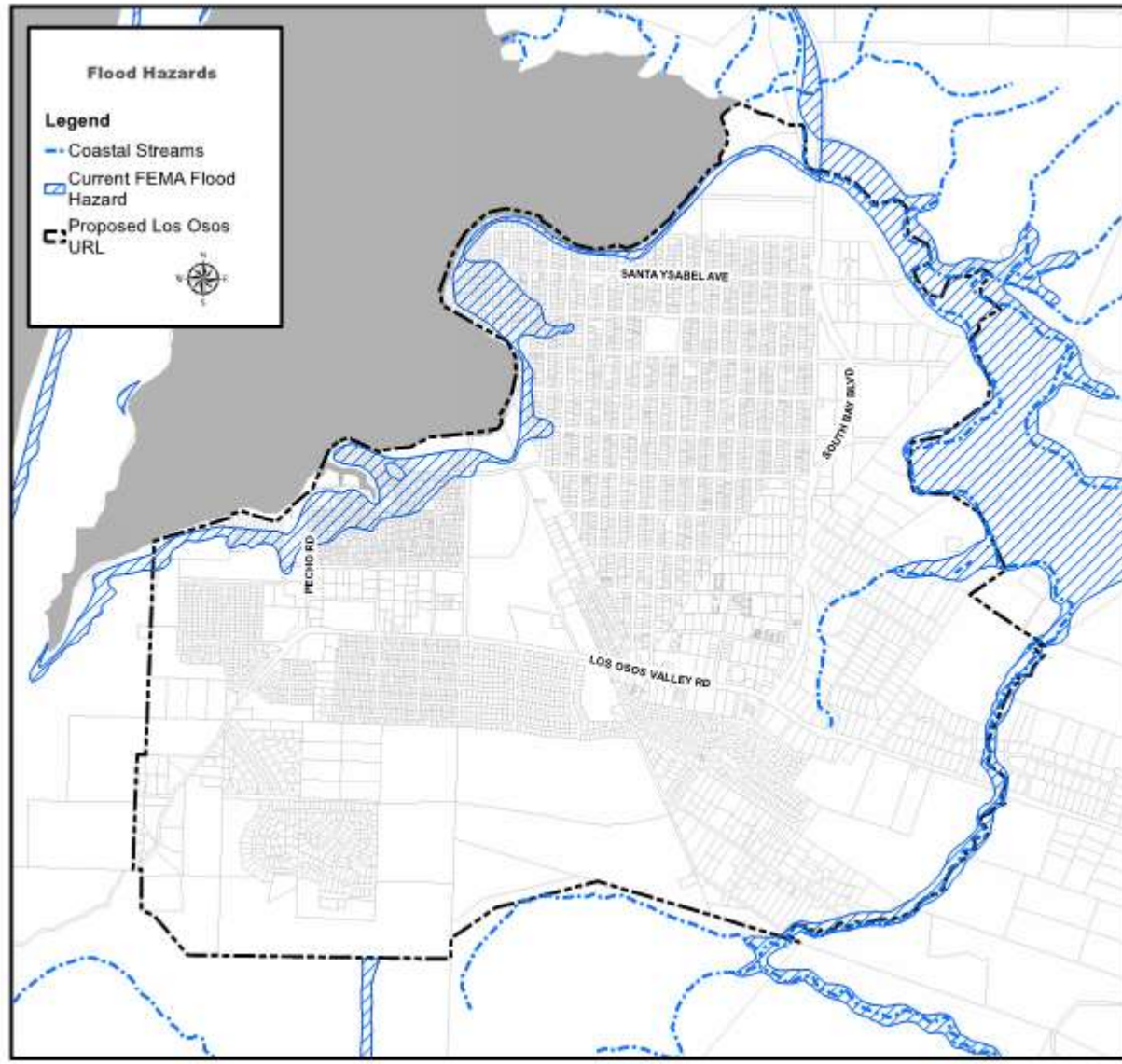
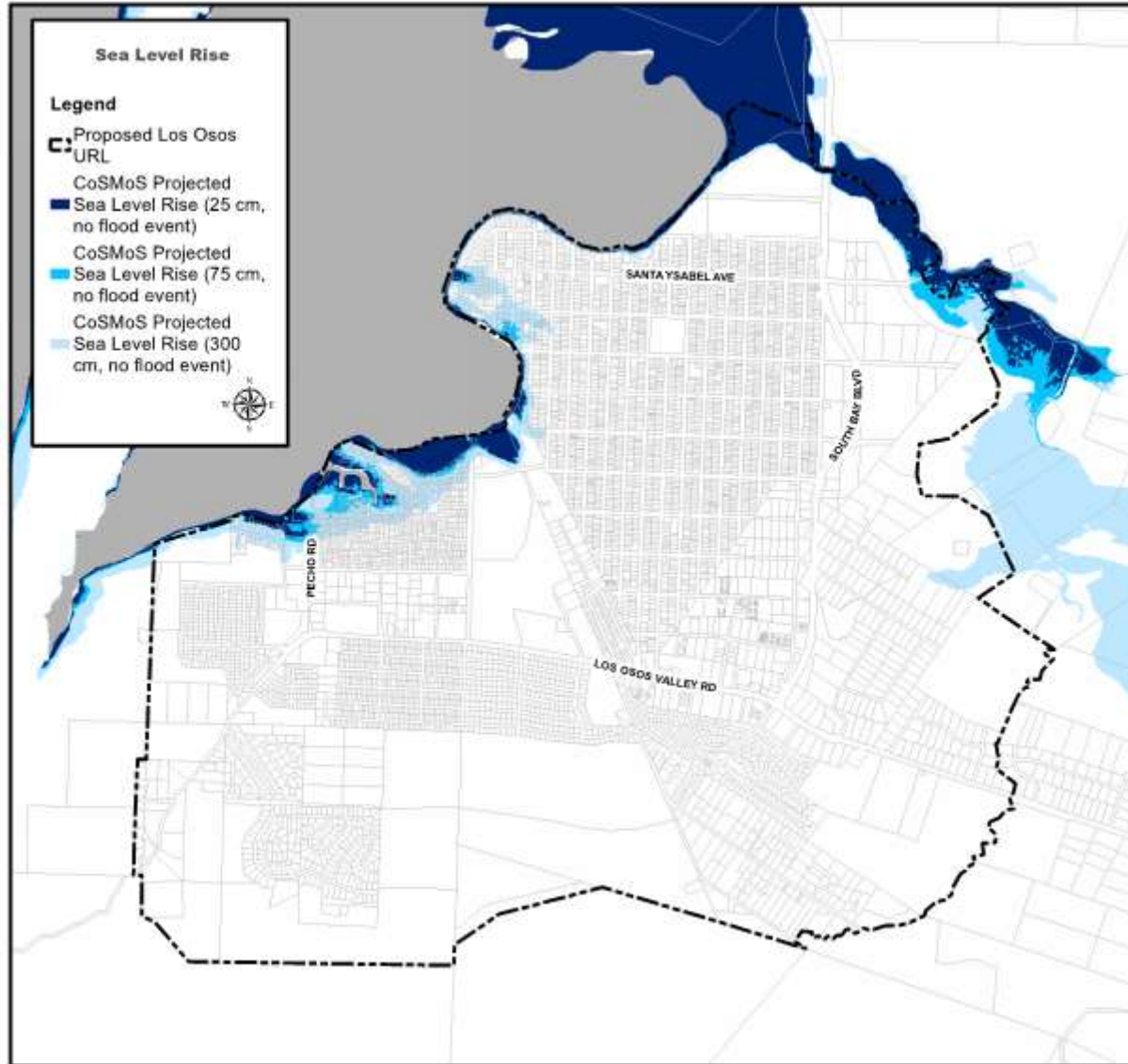


Figure 4-6 Sea Level Rise



This page left intentionally blank.