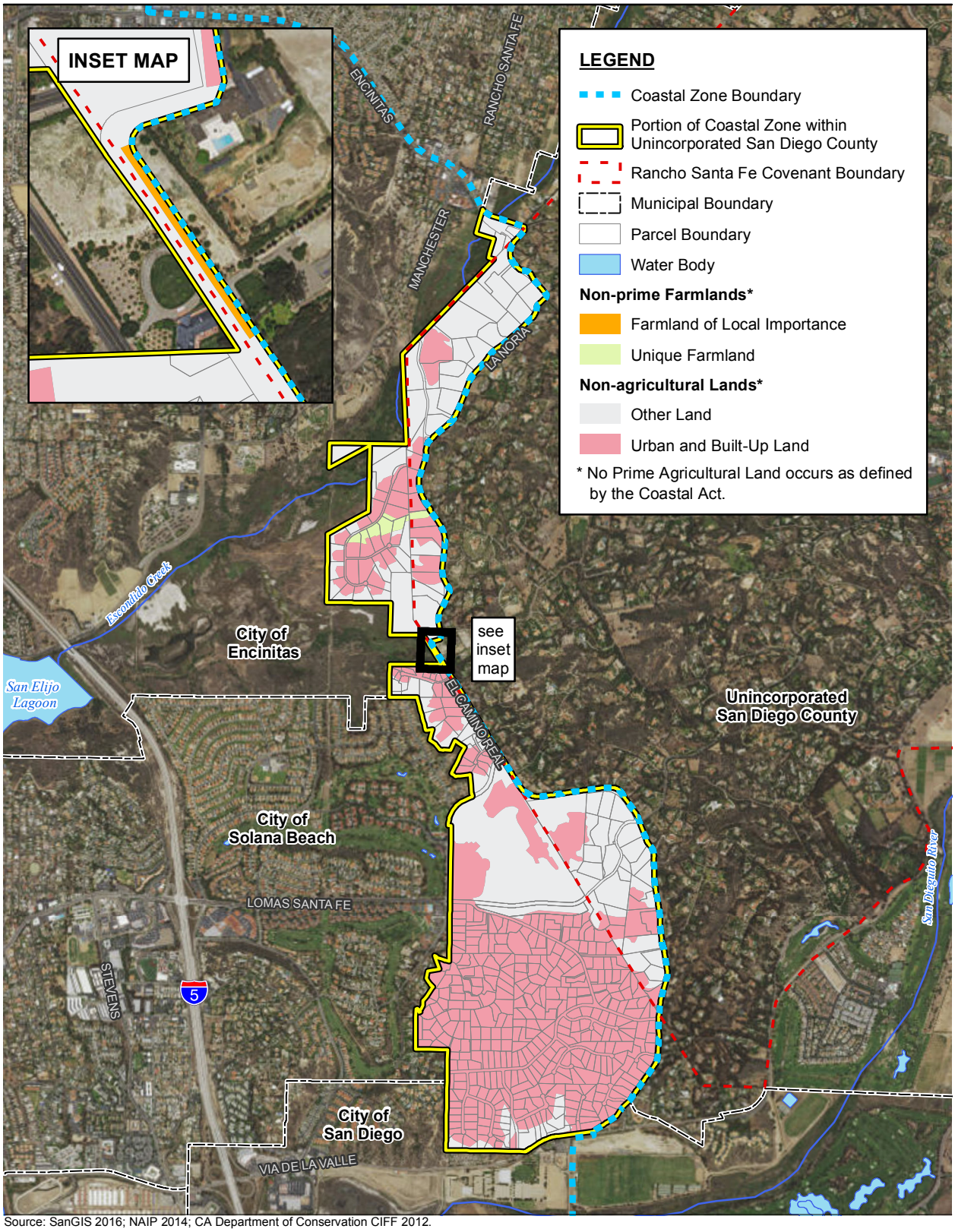

Source: SanGIS 2016; NAIP 2014; CA Department of Conservation CIFF 2012.

3,000 1,500 0 3,000 Feet

Scale: 1:36,000; 1 inch = 3,000 feet

Figure 13
Agricultural Land

Table 3. Summary of Use Regulations Addressing Agriculture in the County's Coastal Zone

Use Regulation	Description	Estimated Acreage
A70 – Limited Agricultural	Primarily for agricultural crop production, with a limited number of small farm animals. Agricultural products raised on the premises may be processed. This designation is intended to protect moderate to high quality agricultural land. Permitted uses include family residential, civic uses (essential services and fire protection services), and agricultural uses (horticulture, tree crops, row and field crops, packing and processing: limited). Other uses may be permitted subject to minor or major use permit.	52
RS – Single Family Residential	Family residential use is the principal and dominant use with other civic uses (essential services and fire protection), as well as agricultural uses (horticulture cultivation, tree crops, row and field crops) also permitted. Other uses may be permitted subject to minor or major use permit.	489
RR - Rural Residential	Residential areas where agricultural use compatible with a dominant, permanent residential use is desired. Applied to areas where urban levels of service are not available and where large lots are desired. In addition to family residential, other civic uses (essential services and fire protection), as well as agricultural uses (horticulture cultivation, tree crops, row and field crops) are permitted. Other uses may be permitted subject to minor or major use permit.	340
RV – Variable Family Residential	Family residential use is the principal and dominant use with other civic uses (essential services and fire protection), as well as agricultural uses (horticulture cultivation, tree crops, row and field crops) also permitted. Other uses may be permitted subject to minor or major use permit.	10
S80 – Open Space	Land generally unsuitable for intensive development that is applied to hazard or resource areas, public lands, recreation areas, or lands subject to open space easement or similar restrictions. Allowable uses include those that have a minimal impact on the natural environment, or those compatible with hazards, resources, or other restrictions. All development requires site plan review. In addition to family residential, other civic uses (essential services and fire protection), as well as agricultural uses (horticulture cultivation, tree crops, row and field crops) are permitted. Other uses may be permitted subject to minor or major use permit.	161
	Total Estimated Acreage	**1,052**

Note: Acreage determined from GIS mapping estimates and is for planning purposes only.

Although most County Use Regulations allows for agricultural uses within the County's Coastal Zone, there are no existing ongoing, large-scale agricultural operations, so policies addressing these types of uses are not discussed in Section 5.3 of this LUP. No policies regarding coastal-specific development and activities, which are not related to the unique uses and location of the County's Coastal Zone, are included in this LUP. Policies presented in Section 5.3 are intended to allow for the continued existence of secondary agriculture, such as orchards, within the areas of the Coastal Zone designated as A70 – Limited Agriculture, RS – Single Family Residential, RR - Rural Residential, RV – Variable Family Residential, and S80 – Open Space.

5.2 Coastal Act Policies

This section incorporates the principal Coastal Act policies relevant to agriculture.

Section 30113

"Prime agricultural land" means those lands defined in paragraph (1), (2), (3), or (4) of subdivision (c) of Section 51201 of the Government Code (known as the California Land Conservation Act of 1965 or as the *Williamson Act*):

(1) All land that qualifies for rating as Class I or Class II in the Natural Resource Conservation Service land use capability classifications.

(2) Land which qualifies for rating 80 through 100 in the Storie Index Rating.

(3) Land which supports livestock used for the production of food and fiber and which has an annual carrying capacity equivalent to at least one animal unit per acre as defined by the United States Department of Agriculture.

(4) Land planted with fruit- or nut-bearing trees, vines, bushes, or crops which have a nonbearing period of less than five years and which will normally return during the commercial bearing period on an annual basis from the production of unprocessed agricultural plant production not less than two hundred dollars ($200) per acre for three of the previous five years.

(5) Land which has returned from the production of unprocessed agricultural plant products an annual gross value of not less than two hundred dollars ($200) per acre for three of the previous five years.

Section 30241

The maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of the areas' agricultural economy, and conflicts shall be minimized between agricultural and urban land uses through all of the following:

(a) By establishing stable boundaries separating urban and rural areas, including, where necessary, clearly defined buffer areas to minimize conflicts between agricultural and urban land uses.

(b) By limiting conversions of agricultural lands around the periphery of urban areas to the lands where the viability of existing agricultural use is already severely limited by conflicts with urban uses and where the conversion of the lands would complete a logical and viable neighborhood and contribute to the establishment of a stable limit to urban development.

(c) By permitting the conversion of agricultural land surrounded by urban uses where the conversion of the land would be consistent with Section 30250.

(d) By developing available lands not suited for agriculture prior to the conversion of agricultural lands.

(e) By assuring that public service and facility expansions and non-agricultural development do not impair agricultural viability, either through increased assessment costs or degraded air and water quality.

(f) By assuring that all divisions of prime agricultural lands, except those conversions approved pursuant to subdivision (b), and all development adjacent to prime agricultural lands shall not diminish the productivity of such prime agricultural lands.

Section 30241.5

(a) If the viability of existing agricultural uses is an issue pursuant to subdivision (b) of Section 30241 as to any local coastal program or amendment to any certified local coastal program submitted for review and approval under this division, the determination of "viability" shall include, but not be limited to, consideration of an economic feasibility evaluation containing at least both of the following elements:

(1) An analysis of the gross revenue from the agricultural products grown in the area for the five years immediately preceding the date of the filing of a proposed local coastal program or an amendment to any local coastal program.

(2) An analysis of the operational expenses, excluding the cost of land, associated with the production of the agricultural products grown in the area for the five years immediately preceding the date of the filing of a proposed local coastal program or an amendment to any local coastal program.

For purposes of this subdivision, "area" means a geographic area of sufficient size to provide an accurate evaluation of the economic feasibility of agricultural uses for those lands included in the local coastal program or in the proposed amendment to a certified local coastal program.

(b) The economic feasibility evaluation required by subdivision (a) shall be submitted to the commission, by the local government, as part of its submittal of a local coastal program or an amendment to any local coastal program. If the local government determines that it does not have the staff with the necessary expertise to conduct the economic feasibility evaluation, the evaluation may be conducted under agreement with the local government by a consultant selected jointly by local government and the executive director of the commission.

Section 30242

All other lands suitable for agricultural use shall not be converted to non-agricultural uses unless: (1) continued or renewed agricultural use is not feasible, or (2) such conversion would preserve prime agricultural land or concentrate development consistent with Section 30250. Any such permitted conversion shall be compatible with continued agricultural use on surrounding lands.

5.3 Land Use Plan Policies

This section provides land use policies intended to preserve agricultural resources.

Policy 5.1

"Non-prime agricultural land" means other coastal agricultural lands that are now in use for crops or grazing, or that are otherwise suitable for agriculture, but are not considered Prime Agricultural Land.

Policy 5.2

Commercial Agriculture means a routine and ongoing enterprise associated with a farm, grove, dairy, or other agricultural business, and shall include:

(a) The cultivation and tillage of soil; crop rotation; fallowing for agricultural purposes; the production, cultivation, growing, replanting and harvesting of any agricultural commodity including viticulture, vermiculture, apiculture, or horticulture;

(b) The raising of livestock, bees, fur bearing animals, fish or poultry, and dairying for sale;

(c) Any practices performed by a farmer on a farm as incident to or in conjunction with those farming or grove operations, including the preparation for market, delivery to storage or to market, or delivery to carriers for transportation to market; and

(d) Ordinary pasture maintenance and renovation and dry land farming operations consistent with rangeland management and soil disturbance activities.

Commercial Agriculture does not include crops or agriculture for personal consumption.

Policy 5.3

Existing agricultural uses within the County's Coastal Zone shall be encouraged when permitting development under the A70 – Limited Agriculture, RS – Single Family Residential, RR – Rural Residential, and RV – Variable Family Residential Use Regulation designation. To allow for the continued existence of agriculture, such as orchards and small farm activity, within the areas of the Coastal Zone designated as A70 – Limited Agriculture, R, the following shall be required:

(a) The concentration of residential and accessory uses on a given lot will be encouraged to maintain the maximum amount of land available for agricultural use; and

(b) The visual, natural resource and wildlife habitat values of subject properties and surrounding areas will be maintained. Proposed development would be required to be clustered to avoid or minimize impacts to environmental and other coastal resources, such as natural topography, native vegetation and public views.

Policy 5.4

Reclaimed water shall be utilized for irrigation, where feasible.

Policy 5.5

The County shall support the acquisition or voluntary dedication of agriculture conservation easements and programs that preserve agricultural lands, in accordance with the County Purchase of Agricultural Conservation Easement (PACE) program.

Policy 5.6

The County shall encourage the involvement and input of the agricultural community in matters relating to trails on or adjacent to agricultural lands.

Policy 5.7

Disposal of animal waste, wastewater, and any other byproducts of agricultural or equestrian activities in or near any watercourse is prohibited.

Policy 5.8

New development or redevelopment that includes livestock or animal husbandry shall include a Manure Management Plan to ensure the collection, storage, and disposal of manure is consistent with all of the policies of the LUP.

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6 Scenic and Visual Resources

6.1 Introduction

The protection of scenic resources within California's coastal zones is a central component of LCPs. Section 30251 of the Coastal Act requires consideration to, and the protection of, scenic and visual qualities of coastal resources for the public. Section 30253 (e) of the Coastal Act also requires the protection of special communities that, because of their unique characteristics, are popular visitor destination points for recreational uses. The County's Coastal Zone does not contain special communities per this definition, though the unique rural residential neighborhood character and large areas of open space within the County's Coastal Zone greatly enhances the scenic qualities of the region.

The rolling, tree-lined hills within the County's Coastal Zone provide a complementary scenic contrast to the sandy beaches and coastal bluffs along the coastline from Manchester Avenue, I-5, and Pacific Coast Highway. The topography of San Elijo Lagoon provides unique opportunities for future restoration and climate adaptation, as it feeds inland into parts of the County's Coastal Zone, providing a natural overlap between open spaces for preservation and rural residential neighborhoods. With the exception of a few vacant lots, the County's Coastal Zone is fully built out with rural residential properties nestled within the hills having scenic views of mature vegetation. The scenic resources of the County's Coastal Zone provide value and contribute to the coastal viewshed due to the ample spacing between properties and preservation of mature and dense vegetation. Viewsheds within the County Coastal Zone are shown in Figure 14, Viewsheds.

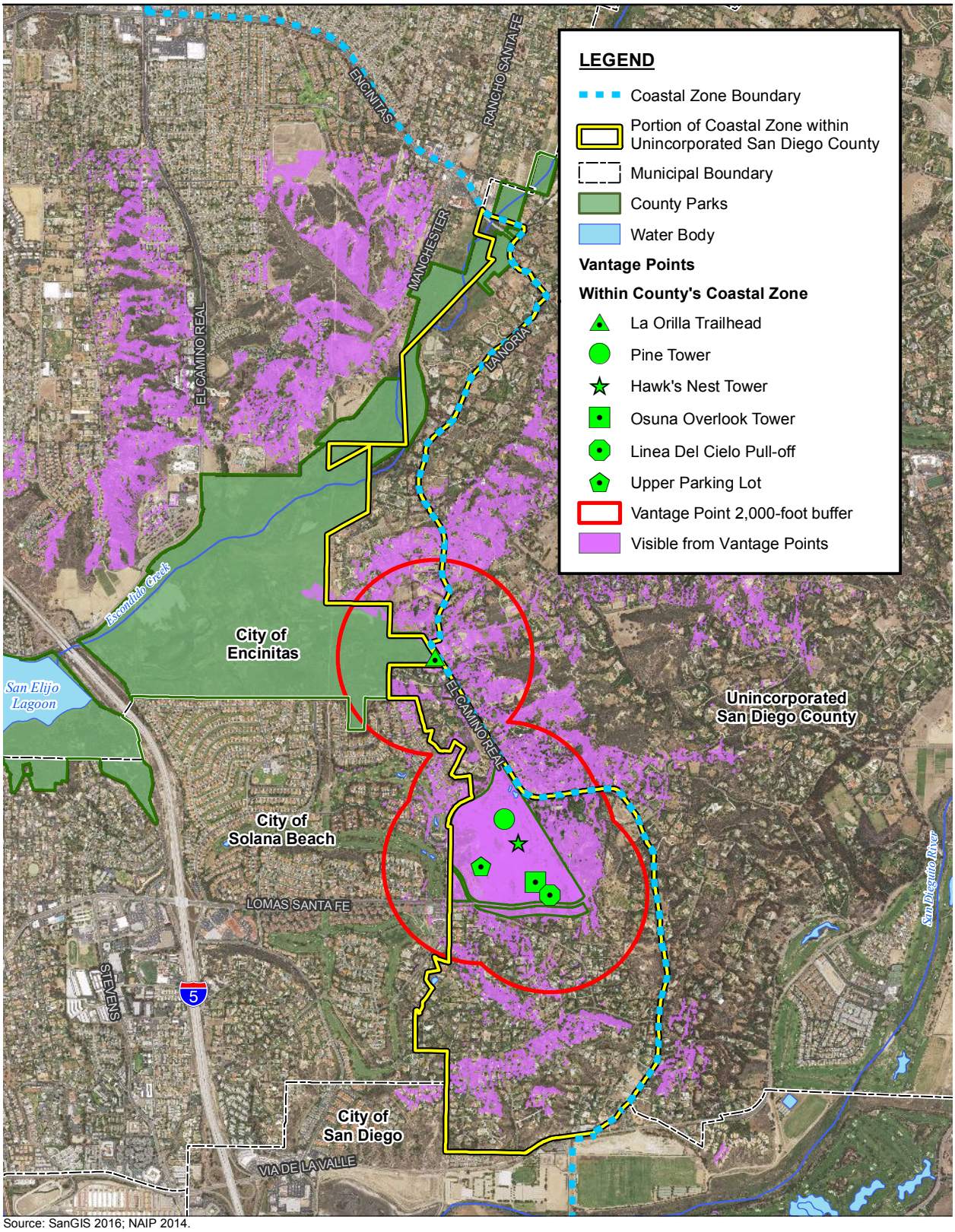
Public viewing areas outside of the County's Coastal Zone include Manchester Avenue, I-5, Pacific Coast Highway, Lomas Santa Fe Drive, and Via De La Valle; open space areas within the County's Coastal Zone are generally at least partially visible from these public viewing areas. Public viewing areas within the County's Coastal Zone are in the Park, La Orilla Trailhead (which connects to the trail networks within San Elijo Lagoon Ecological Reserve), and the scenic drives along La Bajada to La Noria and El Camino Real, La Noria and El Camino Real, Highland Drive, Lomas Santa Fe Drive and Linea Del Cielo, and Sun Valley Road. Trail connections and viewpoints within the northern portion of the County's Coastal Zone, adjacent to San Elijo Lagoon, are privately accessible.

6.2 Coastal Act Policies

This section incorporates the principal Coastal Act policies relevant to scenic and visual resources.

Section 30251

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually



Source: SanGIS 2016; NAIP 2014.

3,000 1,500 0 3,000 Feet

Scale: 1:36,000; 1 inch = 3,000 feet

Figure 14
Viewsheds

degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the California Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

6.3 Land Use Plan Policies

This section provides land use policies intended to protect and preserve scenic and visual resources.

6.3.1 Preservation of Views and Vistas

Policy 6.1

Preserve the scenic and visual qualities of the County's Coastal Zone, including designated open space areas for conservation and recreation adjacent to the San Elijo Lagoon, San Dieguito Park, mature vegetation, and the rural residential neighborhoods of Stone Bridge, Sun Valley and Vicinity, and surrounding communities. Street trees and vegetation shall be chosen so as not to block views upon maturity.

Policy 6.2

A Coastal Development Permit may only be approved for new development on legally created lots. All applications for new development on a vacant parcel shall provide evidence of the date and method by which the subject parcel was created. If no such evidence can be found, a Coastal Development Permit shall be sought to establish the legality of the parcel.

Policy 6.3

Land divisions, including lot line adjustments, shall be designed to minimize impacts to visual resources by:

- clustering the building sites to minimize site disturbance and maximize open space;
- prohibiting building sites on ridgelines;
- minimizing the length of access roads and driveways;
- reducing the maximum allowable density in steeply sloping and visually sensitive areas;
- minimizing grading and alteration of natural landforms;
- landscaping or revegetating all cut and fill slopes, and other disturbed areas at the completion of grading; and
- incorporating interim seeding of graded building pad areas, if any, with native plants unless construction of approved structures commences within 30 days of the completion of grading.

Policy 6.4

Subsequent development on a parcel created through a land division shall conform to all provisions of the approved Coastal Development Permit that authorized the land division or any amendments thereto.

Policy 6.5

The following existing viewing points will be maintained, and where necessary, upgraded:

- Upper parking lot at San Dieguito Park;
- Pull-off on Linea del Cielo within San Dieguito Park;
- La Orilla Trailhead, and portions of the trail adjacent to the County's Coastal Zone;
- Pine Tower;
- Hawk's Nest Tower; and
- Osuna Overlook Tower

Policy 6.6

Public views to the County's Coastal Zone and open spaces adjacent to San Elijo Lagoon from major public viewpoints, as identified in Figure 6 of the LUP shall be protected. Development that may affect existing or potential public views shall be designed and sited in a manner that restores, preserves, or enhances designated view opportunities and visual qualities of the site.

Locations along public roads, railways, trails, parklands, and beaches that offer views of scenic resources are considered public viewing areas. Road alignments within the County's Coastal Zone shall minimize alterations to the landscape by following the contours of existing, natural topography such that scenic areas are enhanced. Existing public roads within the County's Coastal Zone that provide views of the ocean or other scenic resources include:

- La Bajada to La Noria and El Camino Real
- La Noria and El Camino Real
- Highland Drive
- Lomas Santa Fe Drive and Linea Del Cielo
- Sun Valley Road

Public viewing areas shall be protected. To protect vista points, the scenic and visual qualities within the County's Coastal Zone shall be designated as "Critical View Sheds" within which the character of development would be regulated to protect the integrity of the vista points (Figure 6).

(a) Critical View Shed areas should meet the following requirements:

    (1) Extend radially for 2,000 feet (610 meters) from the vista point, with the exception of San Dieguito Park, which would be included in its entirety;

    (2) Include areas upon which development could potentially obstruct, limit, or degrade the view.

(b) Development within the Critical View Shed area will be subject to design review as part of any discretionary review and will be based on the following:

(1) Building height, bulk, roof line and scale should not obstruct, limit or degrade the existing views;

(2) Landscaping should not, at maturity, obstruct views;

(3) Landscaping should be located to screen adjacent undesirable views (parking lot areas, mechanical equipment etc.).

6.3.2 Development

Policy 6.7

Development within the County's Coastal Zone shall be subject to review based on the following design criteria, and in accordance with existing County regulations and ordinances. Development shall not obstruct public views within the Coastal Zone:

(a) Protection of site topography and steep slopes.

(b) Minimize or prevent substantial grading or reconfiguration of the project site.

(c) Minimize grading outside of the building footprint.

(d) Eliminating flat building pads on slopes and utilizing split level or stepped-pad designs.

(e) Requiring that man-made contours mimic the natural contours to and blend with the existing terrain of the site and surrounding area.

(f) Clustering structures to minimize site disturbance and to minimize development area.

(g) Minimizing height and length of cut and fill slopes.

(h) Minimizing the height and length of retaining walls.

(i) Cut and fill operations may be balanced on-site, where the grading does not substantially alter the existing topography and blends with the surrounding area.

(j) Export of cut material may be required to preserve the natural topography.

(l) Natural site amenities such as trees, rocks, and natural drainage channels.

(m) Protection of ridgelines.

(n) Preservation of dark skies.

(o) Building height, bulk, roof line, and scale should not obstruct, limit, or degrade the existing views.

(p) Visual compatibility with the character of surrounding areas.

(q) Incorporation of natural features (including mature trees and rock formations) into proposed development and require avoidance of sensitive environmental resources.

(r) Minimal removal of native vegetation, and landscape compatibility with existing vegetation.

(s) Proposed landscaping should be compatible with existing landscaping and should take into consideration the appropriateness of selected plan materials to the area. Landscaping and plantings should be used to the maximum extent practical to screen unsightly parking, storage and utility areas. Landscaping and plantings should not obstruct significant views, either when installed or when they reach mature growth. (County of SD Z2 Use Regs, 2341.c.4) Require approval of landscaping plans.

Policy 6.8

New development on properties visible from public trails in and around San Elijo Lagoon and San Dieguito Park, or other public viewing areas, shall be sited and designed to protect public views of the ridgelines and natural features of the area through measures including, but not limited to, providing setbacks from the slope edge, restricting the building maximum size, reducing maximum height limits, incorporating landscape elements and screening, incorporating earthen colors and exterior materials that are compatible with the surrounding natural landscape (avoiding bright whites and other colors except as minor accents). The use of highly reflective materials shall be prohibited.

Policy 6.9

Fences, walls, and landscaping shall not block major public views of scenic resources or views from other public viewing areas.

Policy 6.10

The impacts of proposed development on existing public views of scenic resources shall be assessed by the County prior to approval of proposed development or redevelopment to preserve the existing character of established neighborhoods. Existing public views of the ocean and scenic resources shall be protected.

Policy 6.11

Require development to conform to the natural topography to limit grading and to incorporate and not significantly alter the dominant physical characteristics of the site.

Policy 6.12

Buildings should be designed to fit the existing topography. This can be accomplished by planning single level houses for relatively flat sites, and stepping houses up or down gradually sloped sites where this would not introduce impacts to sensitive habitats, result in geologic instability or impact scenic resources available from public viewing areas.

6.3.3 Signage

Policy 6.13

Signs shall be prohibited in areas within the County's Coastal Zone with the exception of signs that serve as way-finding and road usage under the County's jurisdiction, temporary real estate signs, and signage

allowed through commercial zoning designations. The location, design, number, and size of all other signs must not detract from the visual setting of the County's Coastal Zone, obstruct significant views, nor incur any adverse impact upon the basic character of the community or on property values.

6.3.4 Night Lighting

Policy 6.14

Exterior lighting (with the exception of traffic lights, navigational lights, and other similar safety lighting) shall be minimized, restricted to low intensity features, screened, and directed downward and away from ESHA to minimize impacts on wildlife and limit visibility from any adjoining property or street. Night lighting for any development located adjacent to ESHA, ESHA buffers, or where night lighting would increase illumination in ESHA shall be prohibited.

Policy 6.15

The County's Coastal Zone contains limited street lighting in order to preserve the dark night sky as part of the rural residential character. As such, street lighting deemed necessary for traffic safety at road intersections and along streets shall be low level, timed, directed downward, and screened to minimize lighting impacts on the dark sky.

6.3.5 Telecommunications Facilities

Policy 6.16

Utilities shall be constructed and routed underground except in cases where natural features prevent undergrounding or where safety considerations necessitate above ground construction and routing. Utilities determined to be constructed aboveground shall be done in a manner that minimizes impacts to views and colocation of utilities shall be required where feasible.

Policy 6.17

New development, including a building pad, if provided, shall be sited on the flattest area of the project site, except where there is an alternative location that would be more protective of scenic resources or ESHA.

Policy 6.18

All new structures shall be sited and designed to minimize impacts to scenic resources by:

- Ensuring visual compatibility with the character of surrounding areas;
- Avoiding large cantilevers or under stories; and
- Incorporating setbacks.

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7 Planning, New Development, and Public Works

7.1 Introduction

The County's General Plan guides the intensity, location, and distribution of land uses in the County's Coastal Zone by identifying land use designations. Land within the County's Coastal Zone is primarily designated as Semi-Rural Residential (SR-2). The remaining land within the County's Coastal Zone is designated as Rural Lands (RL-20), Open Space (Conservation), Open Space (Recreation), and small pockets of Office Professional (Semi-Rural) and Public/Semi-Public Facilities (P/SP). The land use designations below are based on existing definitions as contained in the County's General Plan. The designations denote the type, density, and intensity of development that maybe permitted for each property consistent with all applicable LCP policies. The Land Use Designations that are applicable to the County's Coastal Zone are shown in Figure 4. Following is a description of the land use designations:

- **Semi-Rural Residential (SR-2)** – (one dwelling unit per two acres): Semi-Rural designations are applied to areas of the County identified for lower-density residential neighborhoods, recreation areas, agricultural operations, and related commercial uses that support rural communities. The principle permitted use is a single-family dwelling. Semi-Rural areas often function as a transition between Village and Rural Lands categories, providing opportunities for development but without the intensity and level of public services expected in Villages and with design approaches that blend the development with the natural landscape.
- **Rural Lands (RL-20)** – (one dwelling unit per twenty acres): Rural Lands categories area applied to large open space and very-low density private and publicly owned lands that provide for agriculture, managed resource production, conservation, and recreation and thereby retain rural character. The principle permitted use is a single-family dwelling. Rural areas are not appropriate for intensive residential or commercial uses due to significant topographical or environmental constraints, limited access, and the lack of public services or facilities.
- **Open Space (Conservation)**: This designation is applied to large tracts of land, undeveloped and usually dedicated to open space, that are owned by a jurisdiction, public agency, or conservancy group. The principle permitted use is habitat preservation. Allowed uses include habitat preserves, passive recreation, and reservoirs. Grazing and other uses or structures ancillary to the primary open space may be permitted if they do not substantially diminish protected resources or alter the character of the area. Such ancillary uses within this designation will typically be controlled by use-permit limitations. This designation is normally not applied to conservation easements within residential subdivisions on private lots.
- **Open Space (Recreation)**: This designation is applied to large, existing recreational areas. The principle permitted use is low-intensity recreation. This designation allows for active and passive recreational areas such as parks, athletic fields, and golf courses. Uses and structures ancillary to the primary open space may be permitted to enhance recreational opportunities only if they relate to the recreational purpose and do not substantially alter the character of the area.
- **Office Professional (Semi-Rural)**: This designation provides areas dedicated to administrative and professional services as well as limited retail uses related to or serving the needs of the

primary office uses. The principle permitted use is professional and business offices. Residential development may also be allowed as a secondary use in certain instances. The maximum intensity of Office Professional development allowed within the Coastal Zone is 0.45 FAR.

- **Public/Semi-Public Facilities (P/SP)**: This designation identifies major facilities built and maintained for public use. The principle permitted use is public facilities. Examples include institutional uses, academic facilities, government complexes, and community service facilities such as County airports, public schools, correctional institutions, solid waste facilities, water facilities, and sewer facilities. A maximum FAR of 0.50 is permitted by this designation.

In terms of existing uses within the County's Coastal Zone, the majority of the area is already built out as low-density estate residential, with pockets of open space for recreation and for conservation. In addition, there are small areas with commercial uses and with public facility uses. Thus, there is little undeveloped or vacant land. The majority of development that is anticipated to occur within the County's Coastal Zone is expected to be residential additions and repairs/replacements. All new development is subject to review for consistency with existing County regulations including but not limited to the General Plan, San Dieguito Community Plan, Zoning Ordinance, Code of Regulatory Ordinances, and CEQA in addition to conformance with the LCP. Public works facilities within the Coastal Zone include County maintained roadways and the following three channels: Rancho Serena flood control channel, San Valley Rd road fund channel, and Linea Del Cielo Rd road fund channel. Regular maintenance of roadways and channels does not require a Coastal Development Permit provided that any work would not result in impacts to coastal resources. Replacement or expansion of public works facilities must be evaluated on a case by case basis to determine whether a Coastal Development Permit is required.

7.2 Coastal Act Policies

This section incorporates the principal Coastal Act policies relevant to planning, new development and public works.

Section 30250

(a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. In addition, land divisions, other than leases for agricultural uses, outside existing developed areas shall be permitted only where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average size of surrounding parcels.

(b) Where feasible, new hazardous industrial development shall be located away from existing developed areas.

(c) Visitor-serving facilities that cannot feasibly be located in existing developed areas shall be located in existing isolated developments or at selected points of attraction for visitors.

Section 30252

The location and amount of new development should maintain and enhance public access to the coast by (1) facilitating the provision or extension of transit service, (2) providing commercial facilities within or adjoining residential development or in other areas that will minimize the use of coastal access roads, (3) providing nonautomobile circulation within the development, (4) providing adequate parking facilities or providing substitute means of serving the development with public transportation, (5) assuring the potential for public transit for high intensity uses such as high-rise office buildings, and by (6) assuring that the recreational needs of new residents will not overload nearby coastal recreation areas by correlating the amount of development with local park acquisition and development plans with the provision of onsite recreational facilities to serve the new development.

7.3 Land Use Plan Policies

This section provides land use policies related to planning, new development, and public works.

7.3.1 General Policies

Policy 7.1

Figure 4 shows the existing Land Use Designations for each property within the County's Coastal Zone. All development that requires a discretionary action is subject to written findings affirming that it is consistent with all LUP policies, regulations within the IP, and provisions of the County's certified LCP, except as otherwise noted in Section 9404 (Exemptions) of the IP.

Policy 7.2

Development within the County's Coastal Zone shall comply with the principal permitted use as established in this section and described in the IP. Uses other than the principal permitted use must be approved in accordance with all policies of this LCP, and are subject to appeal to the Coastal Commission.

Policy 7.3

If there is a conflict between a provision of this LCP and a provision of the General Plan, or any other County-adopted plan, resolution, or ordinance not included in the LCP, and it is not possible for the development to comply with both the LCP and such other plan, resolution or ordinance, the LCP shall take precedence and the development shall not be approved unless it complies with the LCP provision.

Policy 7.4

"Economic life of a structure" means 75 to 100 years unless specified and restricted for specific development proposals.

Policy 7.5

"Infill Development" is defined as new development sited on an existing, legally created, vacant lot or redeveloped parcel within an existing urban or sub-urban community.

Policy 7.6

"Development" means, on land, in or under water, the placement or erection of any solid material or structure; discharge or disposal of any dredged material or of any gaseous, liquid, solid, or thermal waste; grading, removing, dredging, mining, or extraction of any materials; change in the density or intensity of use of land, including, but not limited to, subdivision pursuant to the Subdivision Map Act (commencing with Section 66410 of the Government Code), and any other division of land, including lot splits, except where the land division is brought about in connection with the purchase of such land by a public agency for public recreational use; change in the intensity of use of water, or of access thereto; construction, reconstruction, demolition, or alteration of the size of any structure, including any facility of any private, public, or municipal utility; and the removal or harvesting of major vegetation other than for agricultural purposes.

Policy 7.7

“New Development” is defined as the site preparation for, and construction of, entirely new structures and/or significant extensions to existing structures that exceed either the floor area, height or bulk of the former structure by more than 10 percent, whether or not the site was previously occupied.

Policy 7.8

“Redevelopment” is defined as the demolition or removal of 50 percent or more of the major structural components of an existing development, which includes exterior walls, floor and roof structures, or the foundation; or a cumulative increase of 50 percent of the floor area of an existing development or replacement of more than 50 percent of the structure.

Redevelopment of existing impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed exposing underlying soil during construction. Redevelopment does not include trenching and resurfacing associated with utility work, resurfacing existing roadways, new sidewalk construction, pedestrian ramps, or bike lane on existing roads; and routine replacement of damaged pavement, such as pothole repair.

Policy 7.9

“Nonconforming Structure” is defined as a building, structure or facility, or portion thereof, which was lawfully erected, altered, or maintained prior to the adoption date of the LUP that does not conform to the provisions of the LCP. When redevelopment of an existing, non-conforming structure or use includes the cumulative redevelopment of 50 percent, the entire structure shall be brought into conformance

with all policies and standards of the LCP including, but not limited to steep slopes, ESHA, and floodplain policies. “Nonconforming Use” is defined as the use of a building, structure, or site, or portion thereof, which was lawfully established and maintained prior to the adopted date of the LUP, but which, no longer conforms to the specific regulations applicable to the zone in which it is located. Such uses may be maintained and repaired, as long as the improvements do not increase the size or degree of the non-conformity.

Policy 7.10

“Principal Permitted Use” means the primary use for which land or a building is or may be intended, occupied, maintained, arranged or designed as established by the County’s LUP.

Policy 7.11

New development and redevelopment shall be sited and designed to minimize impacts to coastal resources by:

- Minimizing grading and landform alteration.
- Minimizing the removal of natural vegetation, both that required for the building pad or driveway, as well as, the required fuel modification around structures.
- Locate accessory structures within the approved development area and cluster structures to minimize the need for fuel modification.
- Minimizing the length of the access road or driveway, except where a longer roadway can be demonstrated to avoid or be more protective of resources. Access roads and driveway lengths must comply with fire code requirements.
- Grading for access roads and driveways should be minimized; the standard for new on-site access roads shall be a maximum of 300 feet or one-third the parcel depth, whichever is less. Longer roads may be allowed on approval of the Planning Commission, if the determination can be made that adverse environmental impacts will not be incurred. Such approval shall constitute a conditional use to be processed consistent with the LUP provisions.
- Limiting earthmoving operations during the rainy season to prevent soil erosion, stream siltation, reduced water percolation, and increased runoff.
- Prevent net increases in baseline flows for any receiving waterbody.
- Minimizing impacts to water quality.

Policy 7.12

Off-street parking, shall be provided for all new development to assure there is adequate public access to coastal resources.

Policy 7.13

Grading should retain the natural appearance of the existing land forms, and natural slopes in excess of 25 percent shall be protected from grading, excavation, and deposition of soil or any other material in

accordance with the County's Resource Protection and Grading Ordinance restrictions, as specified in the IP.

Policy 7.14

Communication processing, storage, and transmission facilities, and lines shall be sited, designed, and operated to avoid, or minimize impacts to ESHA, and scenic resources consistent with all provisions of the LCP. If there is no feasible alternative that can eliminate all impacts, the alternative that would result in the fewest or least impacts shall be selected consistent with federal regulations.

Policy 7.15

Land divisions shall be designed to cluster development, including building pads, if any, in order to minimize site disturbance, landform alteration, and removal of native vegetation, to minimize required fuel modification, and to maximize open space, as feasible.

Policy 7.16

The County shall not approve a land division if any parcel being created would not be consistent with the maximum density designated by the LUP map, and the slope density criteria. In cases where additional density is desired, Coastal Commission approval in the form of an LCP amendment would be required in addition to County approval.

Policy 7.17

Manage the location of new development and redevelopment to avoid impacts to resources including but not limited to, visual and scenic resources, public access and recreation, ESHA, and wetlands.

Policy 7.18

Land divisions are only permitted if they are approved by a Coastal Development Permit. Land divisions include subdivisions (through parcel map, tract map, grant deed, or any other method), lot line adjustments, revisions, mergers, and certificates of compliance.

Policy 7.19

Subsequent development on a parcel created through a land division shall conform to all provisions of the approved land division permit, including, but not limited to, the building site location, access road/driveway design, and grading design, and volumes.

Policy 7.20

For issuance of an unconditional certificate of compliance pursuant to Government Code Section 66499.35 for a land division that occurred prior to the effective date of the Coastal Act (or Proposition 20 for parcels within the coastal zone as defined in that proposition), where the parcel(s) was created in compliance with the law in effect at the time of its creation and the parcel(s) has not subsequently been

merged, subdivided, subject to a lot line adjustment, lot split or any other division of land or otherwise altered, the County shall not require a Coastal Development Permit. For issuance of a conditional certificate of compliance pursuant to Government Code Section 66499.35 for a land division that occurred prior to the effective date of the Coastal Act, where the parcel(s) was not created in compliance with the law in effect at the time of its creation, the conditional certificate of compliance shall not be issued unless a Coastal Development Permit that authorizes the land division is approved. In such a situation, the County shall only approve a Coastal Development Permit if the land division, as proposed or as conditioned, complies with all policies of the LCP.

Policy 7.21

For issuance of either a conditional or an unconditional certificate of compliance pursuant to Government Code Section 66499.35 for a land division that occurred after the effective date of the Coastal Act, the certificate of compliance shall not be issued unless a Coastal Development Permit that authorizes the land division is approved. In such a situation, the County shall only approve a Coastal Development Permit if the land division, as proposed or as conditioned, complies with all policies of the LCP.

Policy 7.22

Existing, lawfully established structures that were built prior to the adopted date of the LUP that do not conform to the provisions of the LCP shall be considered non-conforming structures. Non-conforming uses or structures may not be increased or expanded into additional locations or structures. Such structures may be maintained and repaired as long as the improvements do not increase the size or degree of non-conformity. This section shall not be interpreted to allow the reconstruction of a non-conforming structure unless destroyed by a disaster as defined in Public Resources Code § 30610(g)(2)(A). Additions and improvements to such structures may be permitted provided that such additions or improvements do not increase the size or degree of the non-conformity.

Policy 7.23

Protection of ESHA and public access shall take priority over other development standards and where there is any conflict between general development standards and ESHA and/or public access protection, the standards that are most protective of ESHA and public access shall have precedence.

Policy 7.24

A land division shall not be approved if it creates a parcel that would not contain an identified building site that could be developed consistent with all of the policies of the LCP.

Policy 7.25

Assess the potential for environmental effects of new development or redevelopment before granting County approval in accordance with CEQA and to avoid, reduce and/or mitigate impacts where feasible.

Policy 7.26

New development shall conform to the County's LCP regarding steep slopes, including measures to minimize potential impacts to scenic and visual resources, and to minimize the risk from hazards. The measures include, but are not limited to limiting grading, retaining walls, restricting development on steep slopes, protecting ridgelines, and applying siting, and design restrictions (scenic and visual policies).

Policy 7.27

The installation of reclaimed water lines to provide irrigation for approved landscaping or fuel modification areas for approved development may be permitted, if consistent with all policies of the LUP.

Policy 7.28

Consistent with the Coastal Act (Public Resources Code §30610(d)), repair and maintenance activities that do not result in an addition to, or enlargement or expansion of, the object of those repair or maintenance activities do not require a Coastal Development Permit, although the County may require a permit if the County determines such repairs and maintenance involve a substantial adverse environmental impact that cannot be mitigated.

However, for purposes of compliance with the Public Resources Code Section 30610(d), the following extraordinary methods of repair and maintenance shall require a Coastal Development Permit because they involve a potential risk of substantial adverse environmental impact:

(a) Any repair or maintenance to facilities, or structures, or work located in an ESHA that include:

(1) The placement or removal, whether temporary or permanent, of any form of solid materials.

(2) The presence, whether temporary or permanent, of mechanized equipment or construction materials on any sand area, bluff, or environmentally sensitive habitat area, or within 20 feet of coastal waters or streams.

(3) The replacement of 20 percent or more of the exterior materials of an existing structure with materials of a different kind; or

7.3.2 Commercial Policies

Policy 7.29

Upgrade existing commercial areas through clean-up, landscaping, beautification, utility undergrounding, and by repaving and/or redesign of parking lots.

Policy 7.30

Consider commercial uses in adjacent urbanized areas when determining the need for additional or expanded commercial uses within San Dieguito.

Policy 7.31

Maintain and protect land planned and zoned for office-professional, and general commercial, land uses along Via de la Valle. These commercial zoning districts provide business that serve both visitors and local residents with a diverse selection of goods and services.

Policy 7.32

Encourage visitor serving retail uses in the commercial zones. Existing visitor serving uses shall be protected and new visitors serving facilities are encouraged.

7.3.3 Residential Policies

Policy 7.33

Require lot sizes within the Residential areas of the Covenant of Rancho Santa to be preserved at 2.86 acres and 2 acres, in zoning and through discretionary actions.

Policy 7.34

Except within the Covenant of Rancho Santa Fe, site designs should emphasize the clustering of dwelling units in order to improve upon the amount and character of usable open space.

Policy 7.35

New and existing residential development should provide landscaping between the curb and abutting property line and underground utilities.

Policy 7.36

When the natural terrain is altered, new landscaping shall be in conformance with the County's LCP which requires compliance with water conservation measures and the use of native, drought tolerant, and fire resistive species in conformance with the California Model Water Efficient Landscape Ordinance in effect at the time of application submittal.

Policy 7.37

All residential development, including land divisions and lot line adjustments, shall conform to all applicable LCP policies, including maximum density provisions. Allowable densities are stated as maximums. Compliance with the other policies of the LCP may further limit the maximum allowable density of development.

Policy 7.38

The provision of parking spaces shall be in conformance with the parking standards set forth in the LCP, and determined by the type of development application. In no case should the provision of parking negatively impact the ability for the public to access scenic and other coastal resources within the Coastal Zone.

Policy 7.39

All lands having a slope with natural gradient of 25% or greater and a minimum rise of 10 feet, unless said land has been substantially disturbed by previous legal grading are determined to be steep slope lands. The minimum rise shall be measured vertically from the toe of the slope to the top of the slope within the project boundary.

Policy 7.40

If a parcel contains steep slope lands, prior to the issuance of a Coastal Development Permit, a slope analysis must be completed by a qualified person such as a registered or licensed architect, landscape architect, engineering geologist, land surveyor, or civil engineer based upon a topographic map using ten foot contour intervals or less. The slope analysis shall show the slope categories for the entire property in acres. Categories must include the following:

- Less than 25% slope
- 25% and greater up to 50% slope
- 50% and greater slope

Policy 7.41

For all types of projects, the maximum encroachment that may be permitted into steep slope lands shall be set forth by the table below. This encroachment may be further reduced due to environmental concerns or other design criteria.

Percentage of Lot in Steep Slope Lands	Maximum Encroachment Allowance in Steep Slope Lands
75% or less	10%
80%	12%
85%	14%
90%	16%
95%	18%
100%	20%

Policy 7.42

When steep slopes cover 10 percent or more of a lot proposed for development, the development must place the steep slopes into an open space easement.

Policy 7.43

Notwithstanding the provisions of Policy 7.41 above, the following types of development shall be allowed on steep slope lands and shall not be subject to the encroachment limitations set forth above:

a. All public roads identified in the LUP, see Figure 2, provided that written findings are made by the hearing body approving the application that no less environmentally damaging alternative alignment or non-structural alternative measure exists.

b. Local public streets or private roads and driveways which are necessary for primary access to the portion of the site to be developed, provided written findings are made that no less environmentally damaging alternative exists. The determination of whether or not a proposed road or driveway qualifies for an exemption, in whole or in part, shall be made by the Director of Planning & Development Services based upon an analysis of the project site.

c. Public and private utility systems, provided that written findings are made that the least environmentally damaging alignment has been selected. However, septic systems are not included in this exemption unless Department of Health has certified that no grading or benching is required.

d. Areas with native vegetation, which are cleared or trimmed to protect existing or proposed structures in potential danger from fire, provided that written findings are made that the area of such clearance is the minimum necessary to comply with applicable fire codes or orders of fire safety officials and that such slopes retain their native root stock or are planted with native vegetation having a low fuel content, and provided further that the natural landform is not reconfigured.

e. Trails for passive recreational use according to approved park plans.

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8 Cultural and Paleontological Resources

8.1 Introduction

The Coastal Act requires mitigation for any adverse impacts on archaeological/cultural and/or paleontological resources. As such, a brief history of the region and results from the existing cultural records search is provided in this section.

8.1.1 Regional History

The San Elijo Lagoon area supported a substantial native coastal population, starting around 8,000 years ago, as SLR began to slow and shape formations of a productive bay, lagoon, and estuary habitats (San Elijo Lagoon Conservancy 2016). The Kumeyaay group occupied much of San Elijo Lagoon and the County's Coastal Zone prior to Spanish colonization starting in the late 1700s. Most of the area was largely undeveloped under the Spanish land grant and ownership of Juan Maria Osuna between 1830 to early 1900s, and mainly used for grazing and agriculture (San Diego County 2014).

Under ownership of the Santa Fe Railway and Santa Fe Land Improvement company between the early 1890s through 1928, Coast Highway 101 and the Atchison, Topeka, and Santa Fe Railroad developed as major transportation routes to enable coastal access, alongside the communities of Solana Beach, Encinitas, and Rancho Santa Fe around the lagoon (San Elijo Lagoon Conservancy 2016). The Rancho Santa Fe Covenant was established in 1928 and set in place basic restrictions and conditions regulating future development of the community in order to maintain the characteristics of farmer estates, thereby becoming one of the first planned communities in California (Rancho Santa Fe Historical Society 2016; California State Parks 2016). The Santa Fe Covenant area was designated as a California State Landmark in 1982 in recognition of its history and unique development pattern (San Diego County 2014).

8.1.2 Existing Cultural Records Search Results

A records search was performed of the records on file at the South Coastal Information Center (SCIC) and provided to the County under contract. The SCIC manages the San Diego County portion of the State of California's records of cultural resources for the California Office of Historic Preservation (OHP). The search area included the County's Coastal Zone and a buffer of 300 feet.

The records search identified a total of 15 cultural resources within the search area. Of the 15 resources, 13 are prehistoric archaeological sites, 1 is a historic archaeological site, and 1 is a historic building. Archaeological site types are summarized in Table 4 below.

Table 4. Archaeological Site Types

Site Type	Count
Historic-period resource (bridge, refuse scatter, structure, well/cistern)	1
Prehistoric habitation/temporary camp	3
Prehistoric lithic & shell scatter	6
Prehistoric shell midden/scatter	2
Isolated artifact/feature	2

Based on geological and environmental characteristics of the area, it is likely that undiscovered archaeological sites may exist within portions of the County's Coastal Zone. In particular, the area around San Elijo Lagoon is rich in resources that would have been appealing to past peoples. Many of the prehistoric sites identified during the records search are clustered around the lagoon.

8.1.3 Coastal Act Provisions

The Coastal Act does not explicitly address protection of historical resources; however, Sections 30244 and 30253(e) of the Coastal Act mandate protection of archaeological and paleontological resources as well as protection of coastal communities that draw visitors because of their special characteristics, including in terms of the way in which historic resources contribute to an area's community character. Similarly, Section 30251 protection for visual resources extends to the manner in which history affects and informs such resources.

8.2 Coastal Act Policies

Section 30244

Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

8.3 Land Use Plan Policies

This section provides land use policies related to the preservation of cultural, archaeological, and paleontological resources.

Policy 8.1

New development within archaeologically sensitive areas shall be conditioned to implement appropriate mitigation measures.

Policy 8.2

New development should incorporate the placement of cultural resource areas within open space easements, landscape areas or parks. Capping of sites may be an appropriate measure dependent upon

the project specifics. The County Official in consultation with the Project Archaeologist and Native American monitor will determine the appropriate mitigations.

Policy 8.3

The discovery of cultural resources during pre-development surveys and during development shall require that all ground disturbance operations be stopped in the area of discovery to allow evaluation of the identified resource. Outreach shall be conducted with the culturally-affiliated tribe(s). Development shall include appropriate mitigation to protect the quality and integrity of these resources.

Policy 8.4

Require consultation with affected communities, including local tribes to determine the appropriate treatment of cultural resources.

Policy 8.5

Require human remains be treated with the utmost dignity and respect and that the disposition and handling of human remains will be done in consultation with the Most Likely Descendant (MLD) and under the requirements of Federal, State and County Regulations.

Policy 8.6

Require the salvage and preservation of unique paleontological resources when exposed to the elements during excavation or grading activities or other development processes.

Policy 8.7

Paleontological monitors are required during grading operations at the discretion of County officials, per the County's Guidelines for Determining Significance – Cultural Resources. Paleontological monitoring is required for any excavation into high, moderate, low or marginal soil sensitivity.

Policy 8.8

Encourage the preservation and/or adaptive reuse of historic sites, structures, and landscapes as a means of protecting important historic resources as part of the discretionary application process, and encourage the preservation of historic structures identified during the ministerial application process for all new development and construction.

Policy 8.9

New development shall protect and preserve significant archaeological, historical and paleontological resources from destruction, and shall avoid, and minimize impacts to such resources consistent with CEQA.

Policy 8.10

All new development or construction should be preceded by surveys, test excavations and evaluations to identify cultural resources. Appropriate mitigation shall be implemented in accordance with the County's Guidelines for Determining Significance – Cultural Resources including but not limited to monitoring, capping, and repatriation of resources. All site locations shall be maintained in a confidential appendix.

Policy 8.11

Grading operations must be suspended upon discovery of fossils greater than twelve inches in any dimension. The County Official must be notified. The appropriate resource recovery operations shall be carried out per County Guidelines and shall be completed prior to the County Official's authorization to resume normal grading operations and County's Guidelines for Determining Significance – Cultural Resources.

Policy 8.12

Encourage the owners of significant historic architectural sites to apply for Mills Act historical property designation for income tax benefits and register for Landmark Zoning with the County Historic Site Board.

Policy 8.13

New development on sites identified as archaeologically sensitive shall include on-site monitoring of all grading, excavation, and site preparation that involve earth moving operations by a qualified archaeologist(s), and appropriate Native American consultant(s).

Policy 8.14

Require the appropriate treatment and preservation of archaeological collections in a culturally appropriate manner.

Policy 8.15

The County shall coordinate with appropriate agencies (e.g. Native American Heritage Commission, State Historic Preservation Officer) and tribal representatives to identify archaeologically sensitive areas and to determine the appropriate treatment of cultural resources. Such information should be kept confidential to protect archaeological resources.

Policy 8.16

Where development would adversely impact historical or archaeological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

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9 Coastal Hazards

9.1 Introduction

There are three primary types of natural hazards in the County Coastal Zone including hillside-related geologic hazards, flooding hazards, and fire hazards. Hillside-related geologic hazards occur due to the presence of steep slopes, shown on Figure 10, Steep Slopes. Flood hazards areas in the County's Coastal Zone are related to the existence of the 100-year and 500-year floodplains, shown in Appendix A, Figure 1, Federal Emergency Management (FEMA) Special Flood Hazard Areas. Fire hazards in this portion of the County are related to the presence of wildland urban interface (WUI) which are areas designated by CALFire as those in which mature vegetation and open space are adjacent or interspersed within urban and residential zones. As illustrated on Figure 15, the entirety of the County's Coastal Zone is identified as a wildland urban interface area. Policies related to each of these natural hazard areas are included in the LUP. Other potential hazards that may occur within the County's Coastal Zone include rain-induced landslide hazards, liquefaction hazards, earthquake hazards, and dam failure hazards as described in the San Diego County Multi-Jurisdictional Hazard Mitigation Plan (August 2010).

Managing development to respond to coastal hazards is a key component of a local coastal program. The Coastal Act policies direct new development to reduce risks to life and property and avoid substantial changes to natural landforms. Coastal Act Section 30253 provides, in part, that new development shall do all of the following:

(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

(b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

The responses to coastal hazards in an LUP should provide for solutions that have the least impacts on coastal resources. There are no policies in the LUP related to waves, storm surge, tsunami, or other oceanfront-specific hazards because the County's Coastal Zone is located entirely inland.

9.2 Coastal Act Policies

Section 30236

Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.

Section 30253

New development shall do all of the following:

(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.
(b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.
(c) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Board as to each particular development.
(d) Minimize energy consumption and vehicle miles traveled.
(e) Where appropriate, protect special communities and neighborhoods that, because of their unique characteristics, are popular visitor destination points for recreational uses.

9.3 Land Use Plan Policies

This section provides land use policies related to coastal hazards.

9.3.1 General Policies

Policy 9.1

Require that development be located and designed to protect property and residents from the risks of hazards.

Policy 9.2

Information should be provided to the public concerning hazards and appropriate means of minimizing the harmful effects of natural disasters upon persons and property relative to siting, design and construction.

Policy 9.3

The County of San Diego Coastal Zone contains areas subject to hazards that present risks to life and property. These areas require additional development controls to minimize risks. Potential hazards in the Coastal Zone include, but are not limited to, the following:

- Seismic ground shaking: Shaking induced by seismic waves traveling through an area as a result of an earthquake on a regional geologic fault.
- Liquefaction Hazard: Areas where water-saturated artificial fill or sediment can potentially lose strength and fail during strong ground shaking; related hazards include dynamic compaction and lateral spread.
- Earthquake induced landslides.

- Flood Hazard: Areas most likely to flood during major storms.
- Fire hazard: Areas subject to major wildfires located in the County's WUI.
- Rain-Induced Landslide Hazard: Excessive rainfall on a cliff or slope.
- Dam Failure Hazard: Large quantity of water suddenly released with a great potential to cause human casualties, economic loss, lifeline disruption, and environmental damage.

Policy 9.4

Land divisions, including lot line adjustments, shall be prohibited unless all proposed parcels can be demonstrated to be safe from flooding, erosion, fire and geologic hazards and will provide a safe, legal, all-weather access road(s), which can be constructed consistent with all policies of the LCP.

Policy 9.5

New development which does not conform to the provisions of the LCP shall be prohibited on property or in areas where such development would present an extraordinary risk to life and property due to an existing or demonstrated potential public health and safety hazard.

9.3.2 Geologic Hazards Policies

Policy 9.6

Require development to be located a minimum of 50 feet from active or potentially active faults, unless an alternative setback distance is approved based on geologic analysis and feasible engineering design measures adequate to demonstrate that the fault rupture hazard would be avoided.

Policy 9.7

Direct development away from areas with high landslide, mudslide, or rock fall potential.

Policy 9.8

Prohibit development from causing or contributing to slope instability regarding steep slopes by limiting encroachment in accordance with policies contained in Section 7 Planning, New Development, and Public Works of the LCP.

Policy 9.9

Require a quantitative slope stability analysis for all Coastal Development Permit applications that shows the slope categories for the entire property in compliance with the IP and the policies contained in the LCP.

Policy 9.10

Where site-specific analysis indicates that a parcel contains natural slopes exceeding 25 percent grade, site development plan submittal requirements shall include:

(a) A slope analysis shall be completed by a qualified person such as a registered or licensed architect, landscape architect, engineering geologist, land surveyor, or civil engineer based upon a topographic map using ten foot contour intervals or less. The slope analysis shall show the slope categories for the entire property in acres, using the following categories: (a) less than 25% slope (b) 25% and greater up to 50% slope (c) 50% and greater slope.

(b) A geological reconnaissance report for structures or improvements proposed within any areas of greater than 25% slope, as such development is strongly discouraged and would be denied approval unless as allowed in (c) below.

(c) No development, grading, planting, excavation, deposit of soil or other material, or removal of natural vegetation, except as may be necessary for fire safety or installation of utility lines, shall be permitted on steep natural slopes of 25% grade or greater. This standard may be modified only to the extent that its strict application would preclude the minimum reasonable use of a property, provided that such a modification is consistent with the other provisions of the LCP, and that clustering, setback variances, and other appropriate techniques have been utilized to the maximum extent feasible in order to avoid or minimize alteration of such natural steep slopes. No alteration of such natural steep slopes shall be permitted in order to obtain use of a property in excess of the minimum reasonable use.

Policy 9.11

New development shall provide adequate drainage and erosion control facilities that convey site drainage in a non-erosive manner in order to minimize hazards resulting from increased runoff, erosion, and other hydrologic impacts to water bodies.

Policy 9.12

Regulate development in hillside areas to minimize alteration of natural landforms and enhance scenic qualities of the County, protect native coastal vegetation, preserve existing watersheds, and reduce the potential for environmental hazards including soil erosion, landslides, adverse impacts due to runoff, and other impacts which may affect general safety and welfare.

Policy 9.13

Any projects that propose building on inland bluffs must include a geologic reconnaissance report to determine the geologic stability of the area. When additional information is needed to assess stability, a preliminary engineering geology report must also be prepared identifying the results of the subsurface investigation regarding the nature and magnitude of unstable conditions, as well as mitigation measures needed to reduce or avoid such conditions.

Policy 9.14

On ancient landslides, unstable slopes, and other geologic hazard areas new development shall only be permitted where an adequate stability can be maintained for the expected life of the development. Adequate stability generally means a minimum factor of safety of 1.5 (static) and 1.1 (seismic).

9.3.3 Fire Hazard Policies

Policy 9.15

Require development to be located, designed, and constructed to provide adequate defensibility and minimize the risk of structural loss and life safety resulting from wildland fires.

Policy 9.16

Require development located near ridgelines, top of slopes, saddles, or other areas where the terrain or topography affect its susceptibility to wildfires to be located and designed to account for topography and reduce the increased risk from fires in consultation with the appropriate Fire Authority Having Jurisdiction (FAHJ).

Policy 9.17

Site and design development to minimize the likelihood of a wildfire spreading to structures by minimizing pockets or peninsulas, or islands of flammable vegetation within a development.

Policy 9.18

Require all new development or redevelopment, as defined in Section 7, Planning, New Development, and Public Works of this LCP, to meet current ignition resistance construction codes and establish and enforce reasonable and prudent standards that support retrofitting of existing structures in high fire threat areas.

Policy 9.19

Support programs consistent with state law that require fuel management/modification within established defensible space boundaries. When strategic fuel modification is necessary outside of defensible space, new development shall be sited so that fuel management needs to protect structures and avoid impacts to ESHA, and ESHA buffers. Impacts to other native vegetation should be avoided to the maximum extent feasible. Vegetation management outside of the areas of defensible space should occur as determined necessary by the Fire Authority Having Jurisdiction (FAHJ) and should preserve ESHA, ESHA buffers, and native vegetation.

Policy 9.20

Ensure that water supply systems for development are adequate to combat structural and wildland fires.

Policy 9.21

Fuel Modification Requirements for New Development – New development, including but not limited to subdivisions and lot line adjustments shall be sited and designed so that no brush management or the 100 ft. fuel modification encroaches into ESHA.

Policy 9.22

Fuel Modification Requirements for Additions to Existing Structures –Where a new addition would encroach closer than 100 feet to an ESHA, the Fire Authority Having Jurisdiction shall review the project for fuel modification requirements. If a 100 foot fuel modification zone would encroach into ESHA, the additions shall not be permitted unless the addition would not encroach any closer to ESHA than existing principal structures on either side of the development.

Policy 9.23

Fuel Modification Requirements for Existing Development - The County shall encourage property owners to implement fire risk reduction alternatives, as a priority over fuel modification in ESHA. However, the Fire Authority Having Jurisdiction may require fuel modification to occur adjacent to existing development as outlined in the established zones. If fuel modification is required by the Fire Authority Having Jurisdiction for existing development that would encroach into ESHA, the alternative that has the least impact on ESHA shall be implemented where feasible.

Policy 9.24

All new development in the WUI or adjacent to ESHA shall be sited and designed to minimize required fuel modification to the maximum extent feasible in order to avoid environmentally sensitive habitat disturbance or destruction, removal or modification of natural vegetation, while providing for fire safety.

Policy 9.25

Any required thinning of flammable vegetation in the WUI shall be conducted by hand crews between September 15 and February 15. To minimize impacts to habitat, sensitive plant species will not be thinned or removed. Sensitive species will not be thinned or disturbed in any way.

9.3.4 Flood Hazard Policies

Policy 9.26

Federal floodplain development requirements, as established by the Federal Emergency Management Agency (FEMA), are tied to present day 100-year flood conditions. Future sea-level rise (SLR) guidance has been established by the California State Coastal Conservancy (CSCC), U.S. Army Corps of Engineers (USACE), and California Coastal Commission (California Coastal Commission Sea Level Rise Policy Guidance, 8/12/2015). Since establishment of this guidance, projects located within the Coastal Zone will be required to incorporate sea-level rise projections in their planning and engineering studies. Consistent with this guidance, floodways, as determined by the Director of Public Works are all land which meets the following criteria:

1. The floodway shall include all areas necessary to pass the current and future 100-year flood without increasing the water surface elevation more than one foot (or, in the case of San Luis Rey River, San Dieguito River, San Diego River, Sweetwater River, and Otay River, upon adoption by the Board of Supervisors of revised floodplain maps which so specify, the increase shall be no more than 2/10ths of one foot).
2. The current and future floodway shall include all land area necessary to convey a ten-year flood without structural improvements.
3. To avoid creating erosion and the need for channelization, rip-rap or concrete lining, the floodway will not be further reduced in width when the velocity at the floodway boundary is six feet per second or greater.
4. Floodways are determined by removing equal conveyance (capacity for passing flood flow) from each side unless another criterion controls.
5. Modeling future 100-year flood conditions and floodway extent within the Coastal Zone shall include sea level rise (SLR) into the water conditions at the downstream bay or ocean terminus.

Policy 9.27

Floodplains are defined as the relatively flat area of low lands adjoining and including the channel of a river, stream watercourse, bay, or other body of water which is subject to inundation by the flood waters of a 100-year frequency flood as shown on floodplain maps approved by the Board of Supervisors.

Policy 9.28

The development of permanent structures for human habitation or as a place of work shall not be permitted in current or future floodways or floodplains. Uses permitted in a floodway shall be limited to agricultural, recreational, and other such low-intensity uses provided however, that no use shall be permitted which will substantially harm the environmental resources of a particular floodway area. Permitted uses within floodways must comply with all provisions of the County's LCP.

Policy 9.29

Development within flood prone areas subject to inundation or erosion shall be prohibited unless no alternative building site exists on the legal lot and proper mitigation measures are provided to minimize or eliminate risks to life and property from flood hazard. Using the most updated version of the Sea Level Rise maps, in addition to the 100-year floodplain or floodway, the County shall ensure that permitted development and fill in the 100-year floodplain will not result in an obstruction to flood control and that such development will not adversely affect coastal wetlands, riparian areas, or other sensitive habitat areas within the floodplain, in accordance with the LCP.

Policy 9.30

Using the most updated version of the SLR maps, in addition to the 100-year flood plain or floodway, permitted infill development in the 100-year floodplain shall be limited to structures capable of withstanding periodic flooding without requiring the construction of on or off-site flood protective works or channelization. Proposed development shall be required to incorporate the best mitigation measures feasible pursuant to Public Resources Code Section 30236.

Policy 9.31

Prohibit filling and substantial alteration of streams and/or diversion or culverting of such streams except as necessary to protect existing structures in the proven interest of public safety, where no other method for protection of existing structures in the flood plain are feasible or where the primary function is to improve fish and wildlife habitat.

Policy 9.32

Ensure that options are identified for protecting existing trails and roads, as well as other infrastructure as it becomes relevant, from sea level rise, storm surge, and riverine flooding. If necessary, identify potential future alignments for relocating roads and trails if existing locations cannot be feasibly protected.

Policy 9.33

Using the most updated version of the Sea Level Rise maps, in addition to the 100-year floodplain or floodway, require all proposed development to be set back from the floodway in accordance with the County's LCP related to floodways and floodplains so that it is outside any areas where the Director of Public Works has determined that the potential for erosion or sedimentation in the floodplain is significant.

Policy 9.34

The County shall maintain and periodically update maps of potential flood extents as influenced by sea level rise over a 100-year period. Updates to the maps shall reflect the current best available science on

sea level rise impacts and projections, and shall reflect the effects of any restoration projects that may impact tidal flow within the San Elijo Lagoon Ecological Reserve.

9.3.5 Miscellaneous

Policy 9.34

An emergency Coastal Development Permit shall include an expiration date of no more than one year and the necessity for a subsequent non-emergency Coastal Development Permit application, if it is determined that:

1) An emergency exists that requires action more quickly than permitted by the procedures for a Coastal Development Permit and the work can and will be completed within thirty (30) days unless otherwise specified by the terms of the Coastal Development Permit.

2) Public comment on the proposed emergency action has been reviewed, if time allows.

3) The work proposed would be consistent with the requirements of the certified LCP.

4) The emergency action is the minimum needed to address the emergency and shall, to the maximum extent feasible, be the least environmentally damaging temporary alternative. Prior to expiration of the emergency Coastal Development Permit, if required, the permittee must submit a non-emergency Coastal Development Permit application for the development even if only to remove the development undertaken pursuant to the emergency Coastal Development Permit and restore the site to its previous condition.

5) All emergency permits shall be conditioned and monitored to ensure that all authorized development is approved under a regular Coastal Development Permit in a timely manner, but in no case greater than one year.

10 List of Acronyms and Abbreviations

BMP	Best Management Practice
CCC	California Coastal Commission
CCT	California Coastal Trail
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CESA	California Endangered Species Act
cm	centimeter
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
Coastal Act	California Coastal Act of 1976
County's Coastal Zone	County of San Diego's Coastal Zone
CP	Community Plan
CRPR	California Rare Plant Ranks
CTMP	Community Trails Master Plan
CoSMoS	Coastal Storm Modeling System
CZ	Coastal Zone
DPR	County of San Diego, Department of Parks and Recreation
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ENSO	El Niño Southern Oscillation
ESA	Endangered Species Act
ESHA	Environmentally Sensitive Habitat Area
FEMA	Federal Emergency Management Agency
GP	General Plan
GIS	Geographic Information System
General Plan	San Diego County General Plan
I-5	Interstate 5
IP	Implementation Plan
LCP	Local Coastal Program
LCP Update Report	County of San Diego Local Coastal Program Update Existing Conditions, Vulnerability and Risk, and Key Issues Report
LID	Low Impact Development
LUP	Land Use Plan
MHHW	mean higher high water
MLLW	mean lower low water
MSCP	Multiple Species Conservation Program
MWD	Metropolitan Water District of Southern California
NOAA	National Oceanic and Atmospheric Administration
NAVD88	North American Vertical Datum of 1988
NRC	National Research Council
NPDES	National Pollution Discharge Elimination System Permit
OHP	California Office of Historic Preservation
Park	San Dieguito Regional Park
PDO	Pacific Decadal Oscillation
PDS	County of San Diego Planning & Development Services Department

PRC	Public Resources Code
RCA	Resource Conservation Area
RWQCB	Regional Water Quality Control Board
SCIC	South Coastal Information Center
SD	San Diego County
SDCWA	San Diego County Water Authority
SLR	sea level rise
U.S.C.	U.S. Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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Appendix A

CLIMATE CHANGE VULNERABILITY AND RISK ASSESSMENT

APPENDIX A

Climate Change Vulnerability and Risk Assessment

According to the California Coastal Commission's (CCC) Sea Level Rise (SLR) Policy Guidance (CCC 2015), to be consistent with the Coastal Act hazard avoidance and resource protection policies, it is critical that local governments with coastal resources at risk from sea level rise certify or update Local Coastal Programs (LCPs) that provide a means to prepare for and mitigate these impacts. The CCC recommends the following six steps to address sea level rise as part of the development of an LCP.

1. Choose range of SLR projections relevant to LCP planning area

2. Identify potential SLR impacts in LCP planning area

3. Assess risks to coastal resources and development in planning area (i.e., identify problem areas)

4. Identify adaptation measures and LCP policy options

5. Draft updated or new LCP for certification with the CCC

6. Implement LCP and monitor and revise as needed

As part of the process to develop the Land Use Plan (LUP), a report was prepared addressing steps 1 through 3 above, entitled *County of San Diego Local Coastal Program Update Existing Conditions, Vulnerability and Risk, and Key Issues Report*. The climate change vulnerabilities and risk section of the report is presented below.

1.1 Sea Level Rise Projections

The following section summarizes SLR projections relevant to the County's CZ. The selected SLR scenarios were developed through a review of the CCC's SLR Policy Guidance (CCC 2015) and other local and regional SLR planning efforts conducted to date within the County. AECOM concluded that there are currently no consistently applied SLR scenarios within the County based on review of these prior studies. The majority of prior studies were performed prior to finalization of the CCC's recently adopted SLR Policy Guidance in August 2015 and therefore reflect the available guidance at the time of each study.

SLR Ranges and Scenarios

The 2015 CCC SLR Policy Guidance recommends use of the best-available SLR science for the California coast when addressing SLR in LCPs. The National Research Council's (NRC) 2012 report, *Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, Future,* is currently considered the "best available science" by climate scientists. The years 2030, 2050, and 2100 were selected as the planning time horizons for the SLR vulnerability and risk assessment for the San Diego County LCP

update for consistency with NRC planning horizons, to allow for evaluation of assets with a range of service lives, and to facilitate identification of trigger points for SLR impacts. NRC SLR projections were adopted for evaluation as part of the SLR vulnerability and risk assessment conducted for the San Diego County LCP update. NRC's 2012 report provides three different SLR scenarios: low-range (or best-case), mid-range, and high-range. These scenarios represent a range of possible futures. Use of the lowest projections is not recommended for planning purposes, since robust planning generally requires use of more conservative futures than best-case scenarios. AECOM evaluated the mid-range and high-range SLR scenarios as part the vulnerability and risk assessment. These projections are shown in Table 7 and Exhibit 1.

Table 7. NRC (2012) Regional Sea Level Rise Projections for Southern California

	NRC (2012) SLR Projections California – South of Cape Mendocino Region	
Year	**Mid-Range (inches)**	**High-Range (inches)**
2030	6	12
2050	11*	24
2100	37	66

Note: *An SLR value of 12 inches was adopted for the 2050 mid-range projection for the vulnerability and risk assessment because the risks at 11 and 12 inches of SLR would be comparable and a 12-inch SLR amount can represent the 2030 high-range and 2050 mid-range scenarios using a single value. *Source: NRC (2012) – Table 5.3, Regional Sea-Level Rise Projections Relative to Year 2000 for the Los Angeles Tide Station.*

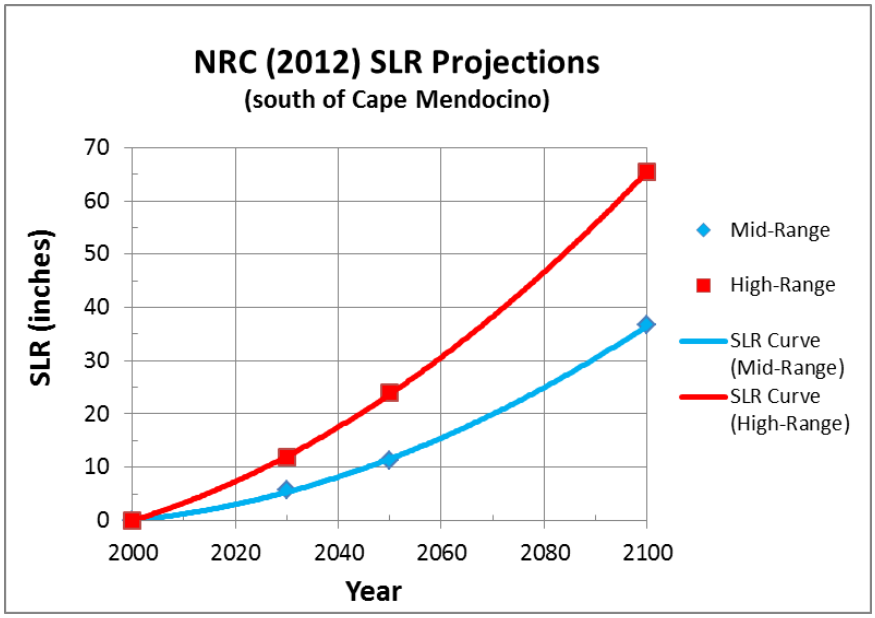


Exhibit 1. NRC (2012) Sea Level Rise Projections for Southern California

1.2 Potential Physical SLR Impacts

The following sections discuss potential SLR impacts to physical hazards, such as local water conditions, historical and future shoreline change, and water quality.

1.2.1 Existing Local Water Conditions

a. Tides

Coastal water levels fluctuate naturally throughout the day due to astronomical tides caused by the gravitational pull of the moon and sun. The San Diego coast experiences two high and two low tides each day, which vary in height over time. The largest annual tides, often referred to as King Tides, occur approximately 4 to 5 days each year. King Tides produce ocean levels that are approximately 1 foot higher than average high tides.

Tide elevations along the coast are typically measured relative to a vertical datum—a baseline position against which other elevations may be related. Tidal datums are defined by a certain phase of the tide, for example, mean higher high water (MHHW) or mean sea level. Tidal datums are calculated by the NOAA over a standard 19-year period of observation. The North American Vertical Datum of 1988 (NAVD88) is the current national standard reference datum. Tides along the San Diego open coast are characterized by NOAA's recorded water levels at the La Jolla tide station. Table 8 shows NOAA's published tidal datums and extreme tide estimates from the Federal Emergency Management Agency (FEMA) (BakerAECOM 2015). The diurnal tide range (height from MHHW to mean lower low water [MLLW]) is approximately 5.3 feet, although extreme tides can reach heights of nearly 8 feet.

Table 8. Tidal Datums and Extreme Tides at La Jolla, CA Tide Station

Water Level	Feet MLLW	Feet NAVD88
100-year Tide	7.93	7.74
50-year Tide	7.78	7.59
10-year Tide	7.46	7.27
Highest Observed Tide	7.66	7.47
Highest Astronomical Tide	7.14	6.95
Mean Higher High Water (MHHW)	5.32	5.13
Mean High Water (MHW)	4.50	4.31
Mean Tide Level (MTL)	2.75	2.56
Mean Sea Level (MSL)	2.73	2.54
Mean Low Water (MLW)	0.90	0.71
Mean Lower Low Water (MLLW)	0.00	-0.19

Source: NOAA Tides and Currents La Jolla, CA Tide Station (#9410230) and BakerAECOM (2015)

High tides propagate from the open coast through the mouth of San Elijo Lagoon, but tidal exchange and flushing are impeded by four constrictions or barriers within the lagoon: Highway 101, the railroad bridge, I-5, and the CDFW dike. These barriers divide the lagoon into three distinct basins (west, central, and east) and mute the tide range within the lagoon so that high tides are lower and low tides are higher than along the open coast. The CDFW dike extends from north to south across the marsh and is the primary constraint on tidal flows reaching the upstream reaches of the lagoon. The CDFW dike and constriction at I-5 also impound freshwater discharge from Escondido and La Orilla Creeks. The east basin is primarily freshwater influenced as a result. The reduced tide range and impoundment of freshwater discharge produce a variety of transitional marsh habitats, including riparian, freshwater, brackish, and salt marsh. The distribution of these habitats depends on ground elevation, inundation regime, and water salinity.

b. Water Level Changes from Storms, PDO, ENSO, and Basin Phenomena

Many factors influence ocean water levels, including storm surge, ocean swell, wind waves, the El Niño Southern Oscillation (ENSO), the Pacific Decadal Oscillation (PDO), and tsunamis. Each of these factors can raise water levels independently, and two or more may combine to form exceptionally high coastal waters. Elevated coastal waters along the open Pacific coast will flow into San Elijo Lagoon and elevate water levels within the lagoon as well.

El Niño-Southern Oscillation: California's coastal water levels are strongly influenced by the large-scale changes in the ENSO cycle. Under normal conditions, global trade winds blow from east to west across the Pacific, moving warm surface water away from the Americas toward the western Equatorial Pacific. Every 2 to 7 years, these winds weaken or reverse, pushing warm, equatorial water toward the Americas, and north along the San Diego coastline. This warmer ocean water expands and coastal waters during El Niño conditions are higher than typical. In addition, El Niño conditions in the Pacific Ocean frequently produce severe winter storms that impact the San Diego coastline because Pacific Ocean storms follow a more southerly route. Because the storm tracks are shifted farther south, waves approach from a more southerly direction, exposing normally protected reaches of shoreline to high water levels and wave hazards.

Pacific Decadal Oscillation: The PDO is a long-term (multi-decadal) ocean-atmosphere cycle of climate variability that shifts the locations of cold and warm water masses in the Pacific Ocean basin and alters the path of the jet stream. It is similar to ENSO, but it occurs over a longer time scale. The "warm" phase of the PDO is characterized by warmer than normal water temperatures in the eastern North Pacific and a more southerly jet stream. The "cool" phase of the PDO is characterized by cooler than normal water temperatures in the eastern North Pacific and a more northerly jet stream.

Coastal Storms: Large storm systems can impact the San Diego coast during the winter season. These storms are typically characterized by low barometric pressure and strong winds, which produce storm surge, and are accompanied by large powerful waves. Storm characteristics such as wind speed, water level, and wave height are often described statistically using a concept referred to as the "return period" such as a "100-year wave runup elevation." It is important to note that a 100-year storm does not occur once every 100 years, but rather has a 1% chance of occurring in any given year. Therefore, it is possible to experience two 100-year storm events in a single year, or have a period of greater than 100 years without a 100-year storm.

Table 9 presents factors that may contribute to extreme water levels along the San Diego coast.

Table 9. Processes That Temporarily Elevate Coastal Waters along the San Diego Coast

Factors Affecting Water Level	Typical Range	Duration of Impact	Frequency
King Tides	1 to 1.3 feet above MHHW	Hours	2 to 4 times each year
Storm Surge	0.5 to 2 feet	Days	Several times each year
Storm Waves	10 to 15 feet	Hours to Days	Several times each year
El Niño	0.5 to 1 feet	Months	Every 2 to 7 years
Pacific Decadal Oscillation	Unknown	20 to 30 years	Decades

c. Wave Impacts

Wave impacts from wave runup occur during coastal storm events along coastlines exposed to high tides, storm surge, and ocean storm waves. Since the County's CZ is located landward of the Pacific coastline, it is not exposed to these hazards.

d. Flooding from Extreme Events

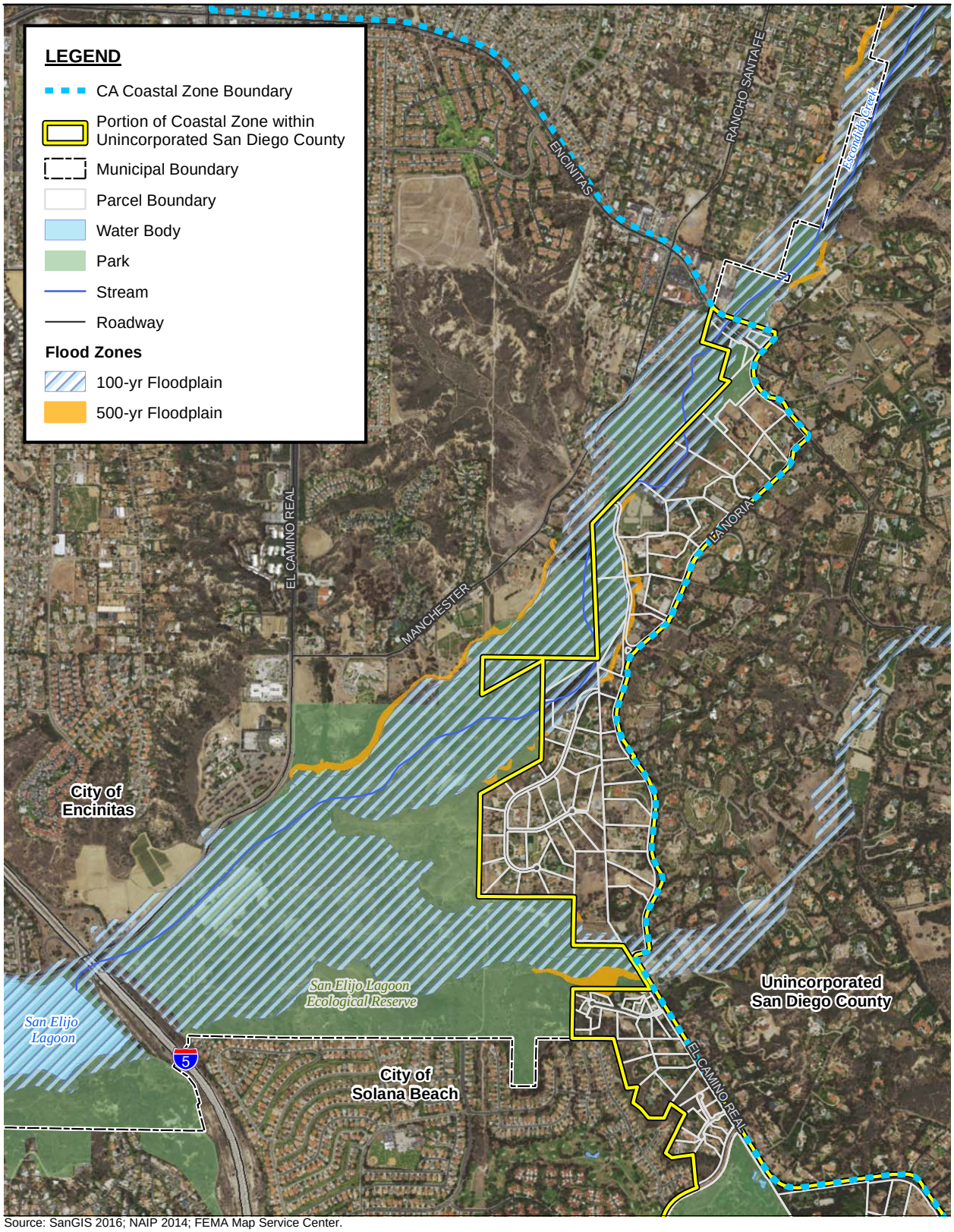
The County's CZ is subject to flooding from extreme events from a number of sources: (1) extreme tide flooding from the Pacific Ocean, (2) riverine flooding from watershed runoff, and (3) tsunami runup and inundation from local and distant seismic events. Potential sources of existing conditions flooding due to extreme events within the County's CZ are discussed below.

Extreme Tidal Flooding: Extreme tidal flooding along the open coast is a relatively rare occurrence that results from the combination of high astronomical tides coupled with other factors such as storm surge and/or El Niño conditions (Table 9). These factors elevate high tides above normal levels and can result in temporary flooding of low-lying areas along the shoreline. Extreme tides along the San Diego open coast do not have the potential to reach inland areas of the County's CZ except within San Elijo Lagoon. Extreme tides along the San Diego open coast will propagate through the lagoon mouth, overtop the CDFW dike, and flood the upstream reaches of San Elijo Lagoon Ecological Reserve at its boundary with the County's CZ. Statistical analysis of extreme tide levels along the San Diego open coast conducted by FEMA (Table 8) estimated the 100-year tide level to be approximately 7.7 feet NAVD88. Low-lying coastal resources and assets exposed to extreme tides would experience temporary flooding by

saltwater. High waters within the lagoon drain to the ocean over subsequent low tides. Given the inland and upland location of the County's CZ, extreme tides do not impact the County's CZ under existing conditions.

Riverine Flooding: Riverine flooding within the County's CZ occurs as a result of freshwater discharge during heavy precipitation events. Portions of the County's CZ are immediately adjacent to and contained within the FEMA Special Flood Hazard Area along Escondido and La Orilla Creeks. The Escondido Creek watershed is much larger in size and therefore represents the primary source of riverine flooding within the County's CZ. Freshwater discharge from Escondido and La Orilla Creeks enters San Elijo Lagoon prior to draining to the ocean. The CDFW dike impounds freshwater discharge within the east basin of San Elijo Lagoon Ecological Reserve. Modeling conducted as part of the San Elijo Lagoon Restoration Project EIR/EIS estimated the 100-year riverine flood level in the east basin to be approximately 14 to 15 feet NAVD88 (Moffatt & Nichol 2012)—approximately 6 feet higher than the 100-year tide level. Floodwaters within the lagoon can completely fill the east basin and freshwater conditions can remain for approximately 1 week following a storm (Moffatt and Nichol 2012). Approximately 24 parcels along Escondido Creek upstream of San Elijo Lagoon and within the County's CZ are located within FEMA's 1% (100-year) or 0.2%-annual-chance (500-year) riverine floodplain (Figure 3-1).

Tsunami Inundation: Tsunamis are ocean waves with very long wavelengths that are generated from geologic events such as earthquakes, landslides, and volcanic eruptions. The California coast is exposed to tsunami hazards from local sources within the Southern California Bight and distant sources such as the Pacific Northwest, Aleutian Islands, Japan, and Kuril Islands. The State of California (2009) evaluated potential tsunami inundation hazard zones along the California coast and developed exposure maps for emergency planning purposes. Tsunami hazard zones within San Elijo Lagoon are depicted on the Encinitas Quadrangle; however, the tsunami inundation area does not extend landward of I-5 so impacts to the County's CZ would be negligible.



Source: SanGIS 2016; NAIP 2014; FEMA Map Service Center.

2,000 1,000 0 2,000 Feet

Scale: 1:24,000; 1 inch = 2,000 feet

Figure 1-1
FEMA Special Flood Hazard Areas

1.2.2 Future Local Water Conditions

Future coastal and riverine flood risks may be magnified by the effect of future climate change. As sea levels rise, the frequency and magnitude of tidal flooding will increase. Higher sea levels may also exacerbate riverine flooding because higher water levels at the coast may impede drainage of freshwater discharge from lagoons and creeks. Other aspects of climate change, such as changes in storm frequency and intensity, may change the nature of coastal and watershed storm events in the future.

The following coastal and riverine flood hazards may increase as a result of climate change:

Daily tidal inundation: As sea level rises, the amount of land and infrastructure subjected to daily inundation by high tides will increase. The County's CZ is relatively high in elevation compared to typical daily high tide elevations and currently does not experience adverse impacts of tidal flooding. However, as seas rise, previously dry or rarely inundated areas may be reached with increased frequency. This will result in the conversion of transitional or upland areas to tidal wetland within the upper reaches of San Elijo Lagoon Ecological Reserve, but daily tidal inundation is not anticipated to occur within the County's CZ under the SLR scenarios and with the proposed restoration actions evaluated in this report.

Annual high tide inundation (King Tides): King Tides are abnormally high, predictable astronomical tides that occur approximately two to four times per year. As seas rise, the elevation of King Tides will rise concurrently. When King Tides occur coincident with storm waves, coastal flood and erosion impacts are more likely to occur; however, these conditions are not anticipated to occur within the County's CZ under the SLR scenarios and proposed restoration actions evaluated in this report.

Extreme tides: Extreme tides refer to any temporary ocean water level above the predicted (astronomical) daily high tide (not including wave effects). They occur as a combination of high astronomical tides, storm surge, and El Niño effects (see Table 9). As seas rise, the elevation of extreme tides will rise concurrently. The impact of future extreme tides on the County's CZ is discussed in Section 3.3 (Potential Risks for Sea Level Rise to Coastal Resources and Development) of this report.

Storms and El Niño: Climate change may affect the frequency and intensity of coastal storms, El Niño cycles, and related processes. A clear consensus has not yet fully emerged on the nature of these changes in the Pacific Ocean and this is an area of active research.

Shoreline change and coastal erosion: The San Diego County coastline has undergone natural and manmade alterations that have impacted natural shoreline change processes. The long-term cumulative effects of tides, waves, and SLR generally results in the landward migration of the shoreline; however, there is much variability depending on location and time period. A general consensus among the scientific community is that SLR will increase long-term rates of shoreline change although the exact nature of that increase is not well understood and this is an area of active research. The County's CZ is located inland from the open coast, and long-term shoreline change and coastal erosion will not directly impact coastal resources and assets in the County's CZ. However, resources and assets located along the open coast that are utilized by residents of unincorporated areas of San Diego County may be impacted.

Riverine flooding: SLR may exacerbate riverine flooding by raising flood levels along tidally influenced creeks and streams; however, a detailed assessment of the impact of SLR, changes in land use (such as future development), and climate change[1] on riverine flood hazards along Escondido and La Orilla Creeks has not been conducted to date.

Tsunami inundation: The effect of SLR on tsunami hazards is an area of active research. SLR will increase the base tide level upon which tsunami waves propagate and therefore may increase the extent of inland inundation by tsunamis; however, local topography and wave dynamics are also important factors. A detailed assessment of the impact of SLR on tsunami hazards has not been conducted to date.

Planning is currently underway to implement a restoration project within San Elijo Lagoon Ecological Reserve (San Elijo Lagoon Conservancy 2016). The proposed project would make improvements to the mouth of the lagoon and interior channel network, and would reduce existing flow constrictions that currently restrict tidal exchange and flushing of the lagoon and degrade habitat quality. The proposed improvements would promote more efficient lagoon hydraulics and increase tidal influence in the east basin. These changes would effectively unmute tides within the upper reaches of the lagoon so that high tides would be higher and low tides would be lower. In addition, reduction of flow constrictions within the lagoon would reduce impoundment of freshwater during watershed flooding events and reduce the potential for riverine flooding along Manchester Avenue. The proposed restoration actions are relevant to the County's CZ because they will change the riverine and coastal flood levels within the east basin of San Elijo Lagoon Ecological Reserve. Increased tidal influence will likely increase coastal flood risk by allowing extreme high tides to propagate farther upstream, while reduction in flow constrictions will likely decrease riverine flood risk by reducing impoundment and ponding of freshwater discharge.

1.2.3 Shoreline Change

a. Historical Shoreline Change

Shoreline change is a complex process that can occur on a variety of time scales, ranging from individual storm events to multi-decadal climatic cycles, and can result in either retreating or advancing shorelines. Short-term shoreline change generally consists of episodic, storm-induced erosion or human alterations (e.g., beach nourishments or placement of coastal protection or sand retention structures). Long-term shoreline change is typically facilitated by natural or human-induced changes in sediment budget, longshore and cross-shore sediment transport, wave climate, SLR, surface runoff, and groundwater processes (Hapke et al. 2006; Hapke and Reid 2007). The USGS National Assessment of Shoreline Change estimated historical rates of change along sandy and cliff shorelines in Encinitas, Cardiff, and Solana Beach. Results indicated that shorelines remained fairly stable over the long term (1887–1998) but moderately erosional over the short term (1972–1998).

[1] Effects of climate change on riverine flood hazards include changes in storm characteristics such as magnitude, intensity, and duration.

b. Future Shoreline Changes

While historical rates of shoreline change can be estimated from careful measurements of aerial photographs and topography changes, no standard methodology exists to predict future rates of shoreline change. Coastal engineers apply a variety of methods and techniques to incorporate the effects of SLR on shoreline response. The simplest approach is to project historical rates of shoreline change into the future; however, there is broad consensus among scientists that SLR will increase the rate of shoreline retreat above historical values. Uncertainties in future management scenarios further complicate future projections of shoreline change. The U.S. Geological Survey (USGS) recently completed a study of long-term shoreline evolution in southern California for sandy beaches and bluffs using the Coastal Storm Modeling System (CoSMoS). Initial future shoreline positions corresponding to SLR scenarios of 0.5 meter (1.6 feet), 1.0 meter (3.3 feet), 1.5 meters (4.9 feet), and 2.0 meters (6.6 feet) are available for public use. Additional scenarios will be available at the end of 2016.

Shoreline change within San Elijo Lagoon Ecological Reserve will occur due to the increased extent of tidal influence as a result of SLR and the proposed restoration actions. The tidally influenced footprint of the lagoon will increase gradually over time as high tides reach higher elevations and the lagoon expands. These potential shoreline changes within the lagoon are discussed here for context and are not anticipated to impact the County's CZ.

1.2.4 Water Quality

a. Saltwater Intrusion

Saltwater intrusion into aquifers can occur when freshwater aquifers have a direct connection to the ocean or other saltwater source (such as a lagoon or estuary system). The extent of saltwater influence within freshwater aquifers depends on the balance between dense saltwater intruding from the ocean side and the characteristics of the freshwater aquifer, including subsurface geology, elevation of the water table, volume and rate of groundwater withdrawal, and rate of recharge.

The extent of saltwater intrusion into a freshwater aquifer is affected by the relative difference between water levels in the ocean and the aquifer. Typically, groundwater elevations are higher than mean sea level and groundwater flows toward the coast, effectively blocking intrusion of saltwater into the aquifer. When the relative difference between the ocean and the groundwater level decreases—due to drawdown of the aquifer by pumping, or raising of mean sea level due to SLR—the interface between saltwater and freshwater can move inland. Once saltwater intrudes into a freshwater aquifer, it can be very difficult and costly to remove.

San Elijo Lagoon is underlain by the San Elijo Valley Groundwater Basin, which has been identified as a potential source of potable water. The basin comprises a surface alluvial aquifer directly underlying the lagoon and a deeper aquifer. The basin is unconfined and exchange occurs between the aquifer and the overlying lagoon and adjacent ocean waters. Natural recharge of the alluvial aquifer is primarily through percolation from Escondido Creek. Infiltration from direct precipitation and agricultural and residential uses contributes additional recharge (DWR 2004).

Increased tidal exchange and shifts in salinity regime that would occur as a result of SLR and proposed restoration actions are not predicted to cause a substantial change in conditions that influence groundwater quality and/or recharge characteristics within the County's CZ (although seawater intrusion may impact the groundwater basin in the area west of I-5). The groundwater aquifer is at depths substantially lower than the alluvial aquifer directly underlying the lagoon and exchange between the lagoon and groundwater is believed limited to the alluvial aquifer (San Elijo Lagoon Conservancy 2016).

b. Coastal Water Pollution

Potential effects of SLR on coastal water pollution are typically the result of failure of wastewater infrastructure as a result of exposure to erosion and flood conditions. AECOM did not identify any critical wastewater infrastructure exposed to SLR impacts within the County's CZ, thereby concluding that increased risk of coastal water pollution as a result of SLR is minimal.

1.3 Potential Risks for Sea Level Rise to Coastal Resources and Development

In addition to direct exposure to coastal flooding and erosion as a result of SLR, coastal communities may also be at risk of, and indirectly affected by, impairment of critical infrastructure and services. Within the County's CZ, SLR impacts could directly damage, destroy, or temporarily interrupt critical infrastructure including roads and water, wastewater, and power supply systems. Temporary or permanent loss of such facilities would have indirect, but serious, impacts to coastal residents. This section evaluates direct and indirect impacts[2] to:

Existing and planned development, including residential and commercial property

Vulnerable public facilities, such as schools, post offices, libraries, or community centers

Critical infrastructure, including transit, water and wastewater, and power

Public access, including beaches, recreation areas, and coastal trails

Environmentally sensitive habitats and sensitive marine species, such as seals and sea lions and sensitive coastal bird species

The County's CZ is generally located landward and upland of coastal oceanographic processes that are typically evaluated as part of a SLR vulnerability and risk assessment, such as waves, tides, storm surge, coastal storm erosion, and long-term shoreline change. Discussion of physical SLR impacts will therefore be limited to the upstream reaches of San Elijo Lagoon at the confluence of Escondido and La Orilla Creeks, where portions of the County's CZ have the potential for exposure to SLR impacts.

[2] Residents of the County's Coastal Zone (CZ) rely on critical infrastructure that is located outside of the study area (for example, power and wastewater treatment facilities). Sea level rise impacts to these assets were not evaluated as part of this assessment.

1.3.1 Exposure Analysis

AECOM evaluated potential risks of SLR to coastal resources and development within the County's CZ through the creation of inundation and flooding exposure maps. The mapping effort focused on the upstream reaches of San Elijo Lagoon Ecological Reserve and its boundary with the County's CZ. The inundation maps were developed using a 1-meter digital elevation model created from high-resolution coastal Lidar data obtained from NOAA. Each SLR scenario (Table 7) was combined with the estimated daily high tide (MHHW) and extreme tide (100-year tide) water levels to estimate future inundation and flooding extents within the County's CZ. The future conditions water level scenarios are shown in Table 10. The evaluated scenarios assume full tidal exchange between the lagoon and the Pacific Ocean because the exact nature of the lagoon response to SLR and proposed restoration actions is unknown. The inundation maps do not take into account detailed hydraulics, storm duration, and other elements that affect the extent of inundation, such as constrictions and overland flow. The inundation maps therefore represent a conservative estimate of tide levels and any potential increase of these levels due to restoration activity in the lagoon. Hydrodynamic modeling conducted as part of the San Elijo Lagoon Restoration Project EIR/EIS found that all proposed restoration alternatives would increase the high tide range within the east basin of the lagoon; however, the exact response will depend on a variety of natural and anthropogenic factors. Actual future daily high tide and extreme tide elevations may be less than shown in Table 10 depending on future management and geomorphic evolution of the lagoon.

Table 10. Future Conditions Daily High Tide and Extreme Tide Sea Level Rise Scenarios

Sea Level Rise (inches)	Daily High Tide (MHHW) (feet NAVD88)	Extreme Tide (100-yr tide) (feet NAVD88)	Sea Level Rise Scenario
Existing	5.1	7.7	-
6	5.6	8.2	2030 mid
12	6.1	8.7	2030 high, 2050 mid
24	7.1	9.7	2050 high
37	8.2	10.8	2100 mid
66	10.6	13.2	2100 high

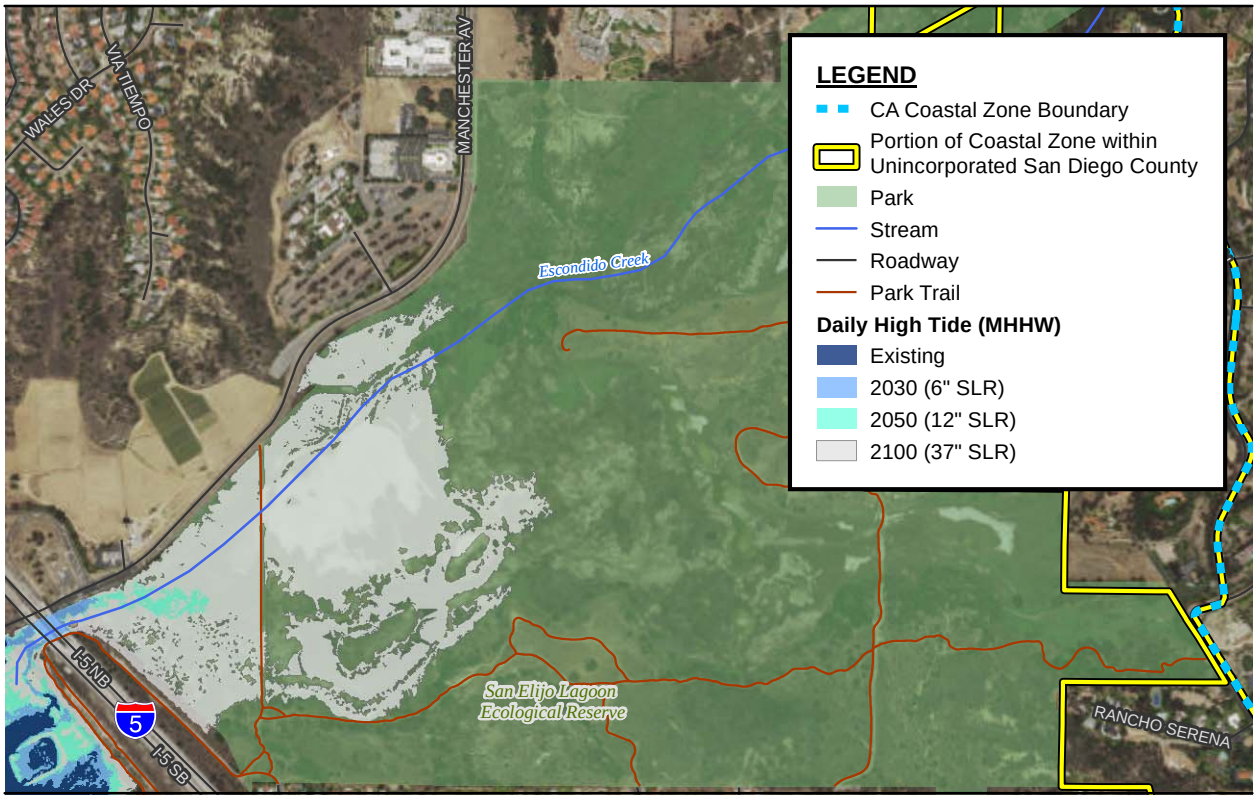
The future inundation and flooding maps for the County's CZ are shown in Figures 3-2 and 3-3, respectively, for the mid-range and high-range SLR scenarios (see NRC SLR scenarios Table 7).

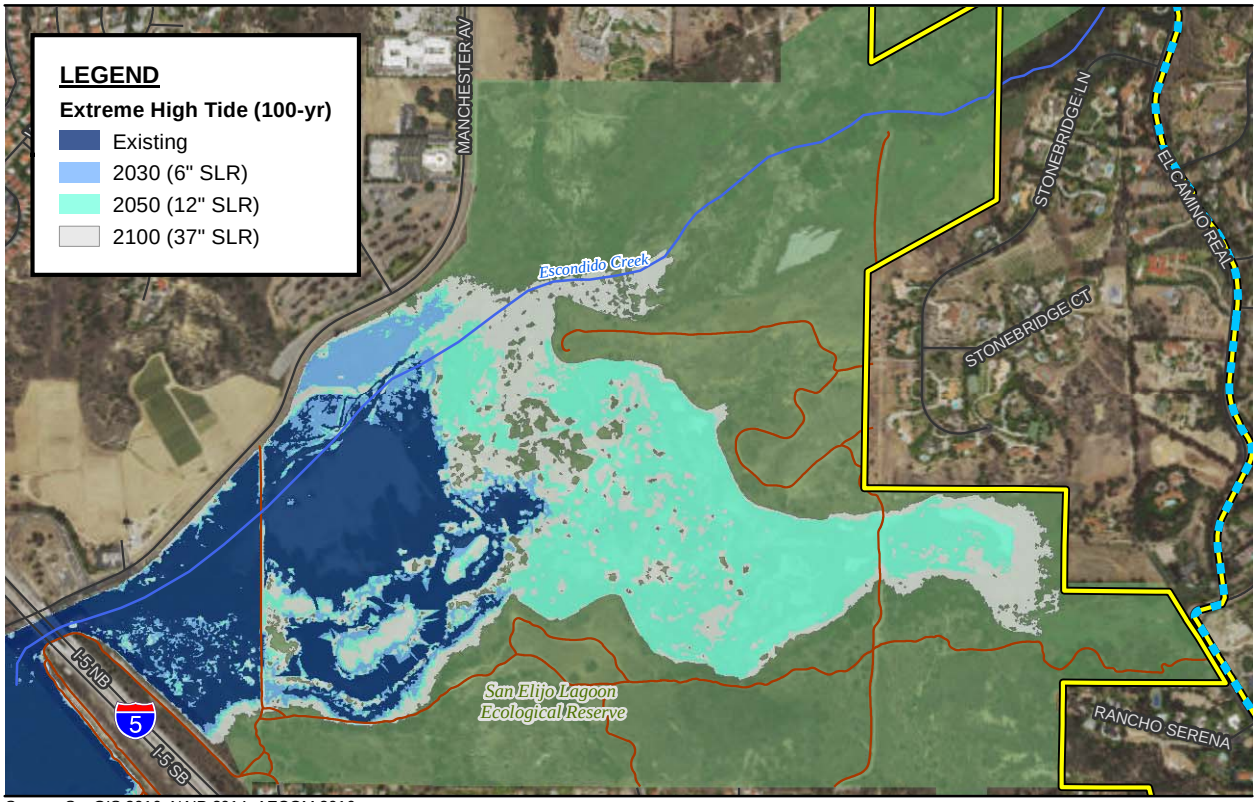
AECOM also evaluated future exposure to combined coastal and riverine flooding using modeling results from the USGS CoSMoS study.[3] The CoSMoS modeling results are shown in Figure 3-4.[4] The USGS modeling evaluated combined flooding from a future conditions 100-year coastal storm event with SLR and a likely coincident riverine discharge event.[5] The results suggest that the flow constriction at I-5 impounds freshwater discharge in the lagoon and that flood levels in the east basin do not increase as a

[3] Note that the U.S. fore do not exactly align with the adopted National Research Council SLR scenarios used to produce the inundation maps presented in Figures 3-2 and 3-3.

[4] USGS sea level rise scenarios: 50 cm (20 inches), 100 cm (39 inches), 150 cm (59 inches), and 200 cm (79 inches). The flood extents of the existing and future SLR scenarios overlap in the eastern portion of San Elijo Lagoon Ecological Reserve, indicating that SLR does not influence the extent of riverine flooding east of Interstate5.

[5] The USGS modeling scenarios were intended to capture future flooding associated with the 100-year coastal storm event. Freshwater discharge was included in the coastal storm modeling because the same storm systems that contribute to coastal flooding are often accompanied by watershed precipitation. The return period of the freshwater discharge event modeled with the coastal storm conditions is not known and represents a best guess of the discharge that may occur coincident with the 100-year coastal storm event.



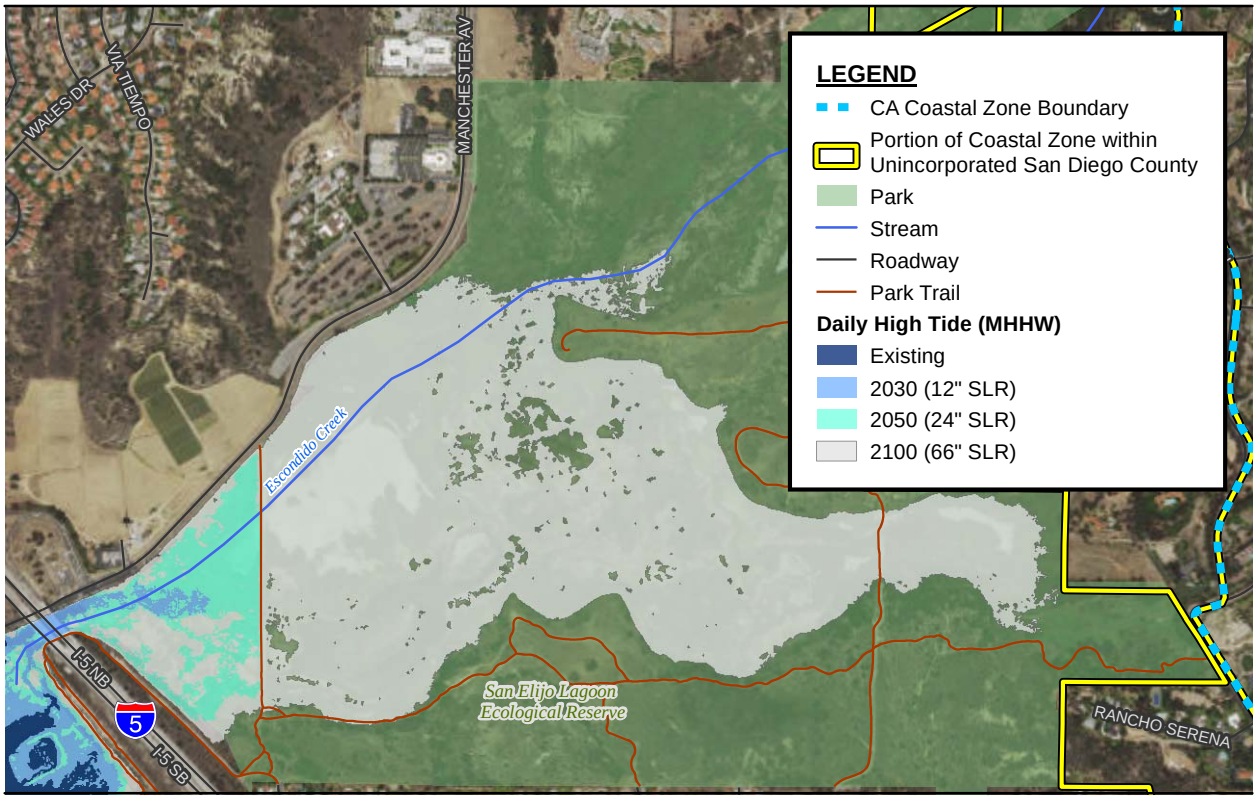


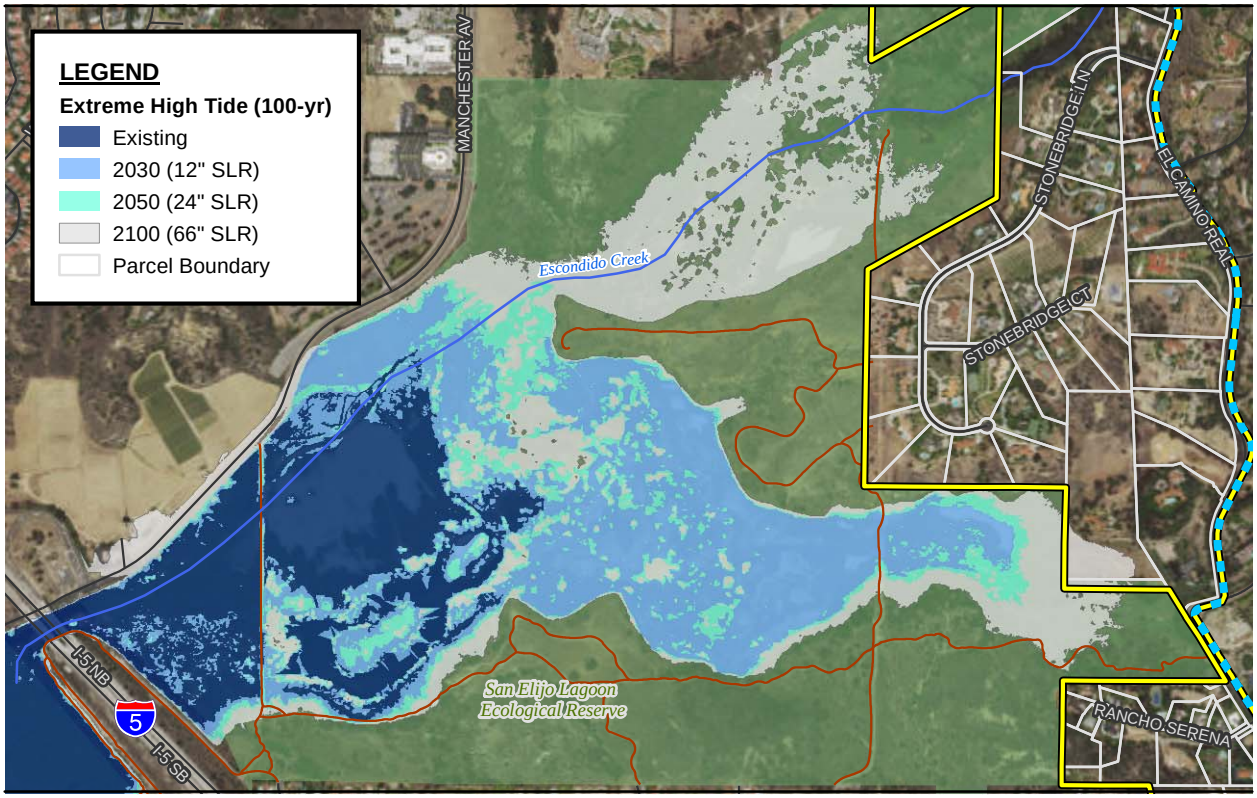
Source: SanGIS 2016; NAIP 2014; AECOM 2016.

1,250 625 0 1,250 Feet

Scale: 1:15,000; 1 inch = 1,250 feet

Figure 1-2
San Elijo Lagoon Ecological Reserve
Future Inundation and Flooding (Mid-range SLR)



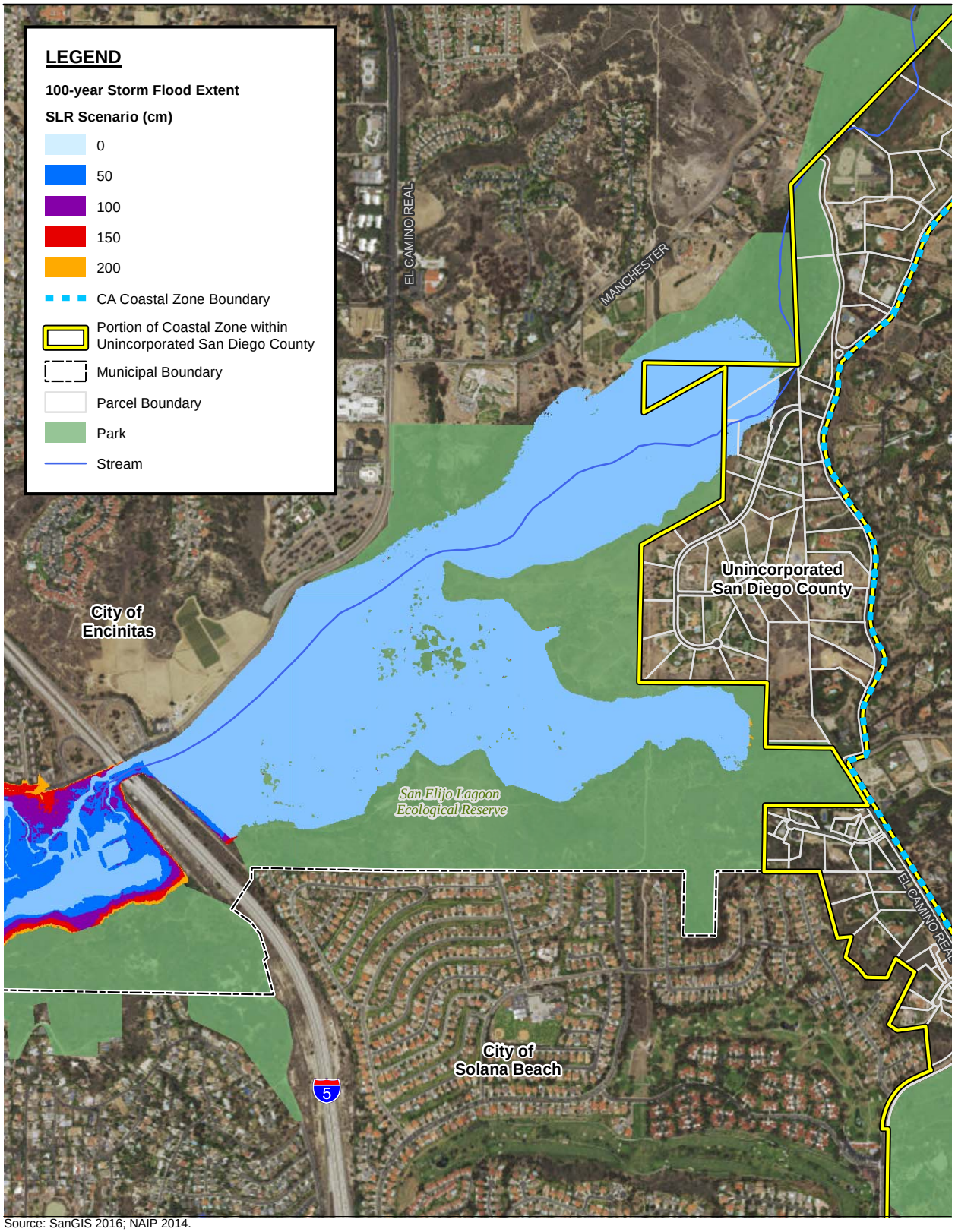


Source: SanGIS 2016; NAIP 2014; AECOM 2016.

1,250 625 0 1,250 Feet

Scale: 1:15,000; 1 inch = 1,250 feet

Figure 1-3
San Elijo Ecological Reserve
Future Inundation and Flooding (High-range SLR)



Source: SanGIS 2016; NAIP 2014.

1,500 750 0 1,500 Feet

Scale: 1:18,000; 1 inch = 1,500 feet

Figure 1-4
USGS CoSMoS Modeling Results within San Elijo Lagoon Ecological Reserve

result of SLR; however, the combined effects of an extreme freshwater discharge event (e.g., 100-year discharge) and SLR were not evaluated. These findings are consistent with modeling completed for the San Elijo Lagoon Restoration Project EIR/EIS (Moffatt & Nichol 2012), which showed elevated flood levels within the east basin due to impoundment of freshwater behind the CDFW dike and I-5 embankment.

1.3.2 Resource Inventory

The full list of coastal resources and assets identified above was screened to identify those that could potentially be exposed to direct and indirect SLR impacts in the future. Potentially exposed assets were identified by overlaying the maximum flood extent for the 100-year extreme tide with 66 inches of SLR[6] on the resource and asset inventory. Coastal resources and assets that were located within this exposure area were identified for further evaluation. The list of resources below includes those located within the County's CZ and those located immediately adjacent to the County's CZ, which may indirectly impact residents of the County's CZ (for example, transportation routes that provide access from the County's CZ to the coast):

Existing development within the Stonebridge Community along Stonebridge Lane;

Manchester Avenue, east of I-5 and north of San Elijo Lagoon;

ESHAs immediately adjacent to or within the County's CZ; and

San Elijo Lagoon Ecological Reserve trail network.

1.3.3 Vulnerability and Risk

Existing development: Existing development within the County's CZ may be exposed to coastal or riverine flood hazards under future SLR scenarios. Existing development within the County's CZ is generally located landward and upland of the extent of tidal influence, with the exception of one parcel located west of the El Camino Real-La Orilla intersection and near the limit of flooding under the 100-year tide + 66 inches of SLR scenario (Figure 3-3). In general, however, all existing development within the County's CZ is located at an elevation above the predicted future limit of riverine and coastal flooding and is not vulnerable to direct impacts of SLR.

Transportation infrastructure: No transportation infrastructure is located within the County's CZ that falls within the SLR exposure area; however, Manchester Avenue, which runs along the northern boundary of San Elijo Lagoon Ecological Reserve, provides an important transportation route from the County's CZ to I-5, Highway 101, and coastal recreation areas. The 0.4-mile-long portion of Manchester Avenue east of I-5 is at an elevation of approximately 12 feet NAVD88 and is exposed to temporary flooding under the 100-year + 66 inches SLR scenario. Flooding during such an event would inundate the roadway by approximately 1 foot of water for approximately 2 to 3 hours around high tide. Vehicular

[6] The flood extent of the 100-year extreme tide with 66 inches of SLR was used to develop the SLR exposure area because it encompassed the maximum extent of tidal flooding under the end-of-century high-range SLR scenario and covered the functional service life of existing assets.

passage along this stretch of Manchester Avenue may be interrupted during this time and travelers may have to take an alternate route. Adaptation strategies such as elevating the roadway, construction of a low-profile floodwall, or setback of the roadway from the lagoon edge could improve the resiliency of this transportation route in the future.

Environmentally Sensitive Habitat Areas: ESHAs are discussed in Section 2.4.2 (Biological Resources) of this report, with additional information provided in Appendix B. Changes in inundation and salinity regime as a result of SLR and/or proposed restoration actions (which would increase conveyance of tidal waters to upper reaches of the lagoon) could expose some of these existing habitat areas to increasingly saline conditions. Existing wetland habitat adjacent to and downstream of the County's CZ primarily consists of coastal salt marsh along Escondido and La Orilla Creeks, although a more diverse mix of riparian, brackish, and freshwater marsh exists along Escondido Creek due to larger freshwater inflows. These existing freshwater-influenced habitats (riparian, brackish, and freshwater marsh) within San Elijo Lagoon may convert to more saline habitats such as coastal salt marsh in the future as a result of regular but infrequent flooding by saltwater caused by SLR and improved drainage of freshwater ponding due to proposed restoration actions. This would allow sensitive habitats and species to migrate inland or upland as sea level rises; however, habitat conversion within the County's CZ is not expected because its higher ground elevations are above the reach of future conditions daily high tides.

San Elijo Lagoon Ecological Reserve trail network: As mentioned in Section 2.4.5 (Recreation and Public Access) of this report, a network of trails provides public access to San Elijo Lagoon Ecological Reserve. The La Orilla trailhead near the El Camino Real-La Orilla intersection provides the only public access point to the lagoon located within the County's CZ (Figure 2-8). The trailhead is located at an elevation above 20 feet NAVD88 and is not exposed to coastal flooding under the SLR scenarios evaluated for this study; however, portions of the trail network within San Elijo Lagoon Ecological Reserve accessed from this trailhead are impacted by coastal flooding:

North-south cross trail connecting La Orilla and Stonebridge Trails: This trail has low spots at an elevation of approximately 7–8 feet NAVD88 and is first impacted at the MHHW + 37 inches SLR scenario (daily inundation) and 100-year existing conditions scenario (temporary flooding).

CDFW Dike/Levee Trail: This trail has low spots at an elevation of approximately 8 feet NAVD88 and is first impacted at the MHHW + 66 inches SLR scenario (daily inundation) and 100-year + 12 inches SLR scenario (temporary flooding). The proposed restoration action within San Elijo Lagoon would remove the CDFW dike so this impact is only relevant for the without-project scenario.

Trails subject to daily inundation would likely be rendered inoperable unless they were raised or elevated on a boardwalk. Trails subject to infrequent temporary flooding during an extreme tide event may require monitoring and/or more frequent maintenance but could likely remain in service except during storm events.

Appendix B

Wildlife and Plants Tables

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name **Scientific Name**	**Sensitivity Status[2]**	**Habitat Requirements**
Invertebrates		
Riverside fairy shrimp *Streptocephalus woottoni*	ESA: Endangered MSCP: Covered	Deep vernal pool habitat in southern California. May occur in road ruts, vernal pools, or other temporarily ponded waters where the water remains ponded for several weeks.
San Diego fairy shrimp *Branchinecta sandiegonensis*	ESA: Endangered MSCP: Covered	Vernal pool habitat in southern California. May occur in road ruts, vernal pools, or other temporarily ponded waters.
wandering (saltmarsh) skipper *Panoquina errans*	MSCP: Covered	Restricted to estuarine and tideland habitats where adults are often associated with salt grass (*Distichlis spicata*).
Quino checkerspot butterfly	ESA: Endangered	Primarily scrublands, however adult butterflies will

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
Euphydryas editha quino		only deposit eggs on species they recognize as host plants including species of *Plantago*.
Riverside fairy shrimp *Streptocephalus woottoni*	ESA: Endangered MSCP: Covered	Vernal pool habitat in southern California. May occur in road ruts, vernal pools, or other temporarily ponded waters.
western spadefoot *Spea hammondii*	CDFW: Species of Special Concern	Temporary ponds, vernal pools, and backwaters of slow-flowing creeks for breeding and upland habitats such as grasslands and coastal sage scrub for aestivation.
western pond turtle *Emys marmorata*	CDFW: Species of Special Concern MSCP: Covered	Associated with permanent water or nearly permanent water from sea level to 6,000 feet. Prefers

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name **Scientific Name**	**Sensitivity Status[2]**	**Habitat Requirements**
		habitats with basking sites such as floating mats of vegetation, partially submerged logs, rocks, or open mud banks.
coast horned lizard *Phrynosoma blainvillii*	CDFW: Species of Special Concern MSCP: Covered	A variety of habitats including sage scrub, chaparral, and coniferous and broadleaf woodlands (Stebbins 2003). Found on sandy or friable soils with open scrub. Requires open areas, bushes, and fine loose soil.
coastal whiptail *Aspidoscelis tigris stejnegeri*	CDFW: Species of Special Concern	Inhabits low-elevation coastal scrub, chamise-redshank chaparral, mixed chaparral, and valley-foothill hardwood habitats.
Coronado island skink	CDFW: Species of Special Concern	Most commonly found in open

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
Eumeces skitonianus interparietalis		areas, sparse brush, and in oak woodlands, usually under rocks, leaf litter, logs, debris, or in the shallow burrows it digs (CDFG 1994).
orange-throated whiptail *Aspidoscelis hyperythra*	CDFW: Species of Special Concern MSCP: Covered	A variety of habitats including sage scrub, chaparral, and coniferous and broadleaf woodlands (Stebbins 2003). Found on sandy or friable soils with open scrub. Requires open areas, bushes, and fine loose soil.
silvery legless lizard *Anniella pulchra pulchra*	CDFW: Species of Special Concern	Loose soil in a number of vegetation communities including coastal dunes; chaparral; pine-oak woodland; and streamside growth of sycamores, cottonwoods, or

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
		oaks. Small shrubs such as bush lupine (*Lupinus* sp.) growing in sandy soils indicate suitable conditions. Occurs often near intermittent and permanent streams.
coast patch-nosed snake *Salvadora hexalepis virgultea*	CDFW: Species of Special Concern	A variety of habitats including coastal sage scrub, chaparral, riparian, grasslands, and agricultural fields. Prefers open habitats with friable or sandy soils, burrowing rodents for food, and enough cover to escape predation.
two-striped garter snake *Thamnophis hammondii*	CDFW: Species of Special Concern	Aquatic habitats, preferably rocky streams with protected pools, cattle ponds, marshes, vernal

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
		pools, and other shallow bodies of water.
red-diamond rattlesnake *Crotalus ruber ruber*	CDFW: Species of Special Concern	Chaparral, coastal sage scrub, along creek banks, and in rock outcrops or piles of debris. Habitat preferences include dense vegetation in rocky areas.
Birds		
Bell's sage sparrow *Artemisiospiza belli belli*	CDFW: Watch List USFW: Birds of Conservation Concern	Chaparral and coastal sage scrub.
burrowing owl *Athene cunicularia*	CDFW: Species of Special Concern USFW: Birds of Conservation Concern MSCP: Covered	Prefers grassland and open scrub. Take over the burrows of mammals, especially those of the California ground squirrel (*Spermophilus beecheyi*) as well as culverts and artificial burrows.
coastal cactus wren	CDFW: Species of Special Concern	Breeds and winters in

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
Campylorhynchus brunneicapillus sandiegonensis	MSCP: Covered	coastal sage scrub, including prickly pear and/or cholla cacti; found only in coastal and near-coastal portions of California, generally below 3,000 feet.
coastal California gnatcatcher *Polioptila californica californica*	ESA: Threatened CDFW: Species of Special Concern MSCP: Covered	Diegan coastal sage scrub dominated by California sagebrush (*Artemisia californica*) and flat-topped buckwheat (*Eriogonum fasciculatum*) below 2,500 feet elevation in Riverside County and below 1,000 feet elevation along the coastal slope. Generally avoids steep slopes above 25% and dense, tall vegetation for nesting.
California black	CESA: Threatened	Found in southern

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name **Scientific Name**	**Sensitivity Status[2]**	**Habitat Requirements**
rail *Laterallus jamaicensis coturniculus*	CDFW: Fully Protected USFW: Birds of Conservation Concern	California coastal marshes.
California Clapper Rail *Rallus longirostris obsoletus*	ESA: Endangered CESA: Endangered MSCP: Covered	Salty and brackish water marshes with pickleweed and cordgrass.
light-footed Ridgway's rail *Rallus longirostris levipes*	ESA: Endangered CESA: Endangered MSCP: Covered	Salty and brackish water marshes with pickleweed and cordgrass.
common Loon *Gavia immer*	CDFW: Species of Special Concern	Widespread along the coast both in the ocean and within tidal bays and estuaries.
Costa's hummingbird (nesting) *Calypte costae*	USFW: Birds of Conservation Concern	Primarily found in desert wash, edges of desert riparian and valley foothill riparian, coastal scrub, desert scrub, desert

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name **Scientific Name**	**Sensitivity Status[2]**	**Habitat Requirements**
		succulent shrub, lower-elevation chaparral, and palm oasis.
Cooper's hawk *Accipiter cooperii*	CDFW: Watch List (nesting) MSCP: Covered	Known to nest in a variety of woodland habitats including oak, willow, eucalyptus and other large trees that provide suitable cover. May nest in urban riparian vegetation.
grasshopper sparrow *Ammodramus savannarum*	CDFW: Species of Special Concern (nesting)	Arid grasslands with shrubs.
Catalina Hutton's vireo *Vireo huttoni*	CDFW: Species of Special Concern	Endemic to Catalina, but known to breed in San Diego. Habitat consists of oak woodland (primarily coast live oak), riparian woodland and chaparral habitats (Shuford and

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
		Gardali 2008).
Lawrence's goldfinch *Spinus lawrencei*	USFW: Birds of Conservation Concern	Desert riparian, palm oasis, pinyon-juniper, and lower montane habitats.
least bittern *Ixobrychus exilis*	CDFW: Species of Special Concern (nesting)	Marsh habitats or large emergent wetlands with cattails (*Typha* sp.) and tules.
California least tern *Sternula antillarum browni*	ESA: Endangered CESA: Endangered CDFW: Fully Protected (nesting colony) MSCP: Covered	A ground nesting bird that requires undisturbed stretches of beach and coastline. Adults are highly philopatric to natal colonies, and forage in bays and estuaries near their colonies.
Clark's marsh wren *Cistothorus palustris clarkae*	CDFW: Species of Special Concern	Year-round resident of coastal freshwater and brackish marshes in coastal southern

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name **Scientific Name**	**Sensitivity Status[2]**	**Habitat Requirements**
		California.
northern harrier *Circus cyaneus*	CDFW: Species of Special Concern (nesting) MSCP: Covered	Breeds predominantly in wetland habitats but will also use upland habitats. Prefers grasslands and agricultural fields during migration and in winter.
osprey *Pandion haliaetus*	CDFW: Watch List (nesting)	Primarily along rivers, lakes, reservoirs, and seacoasts, occurring widely in migration, often crossing land between bodies of water. Nests in dead snags, live trees, cliffs, utility poles, wooden platforms, channel buoys, chimneys, windmills, etc. Usually near or above water.
Reddish Egret *Egretta rufescens*	MSCP: Covered	Salt and brackish water wetlands
southern	CDFW: Watch List	Grassy or rocky

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
California rufous-crowned sparrow *Aimophila ruficeps canescens*	MSCP: Covered	slopes with open scrub at elevations from sea level to 2,000 feet. Occurs mainly in coastal sage scrub.
Belding's savannah sparrow *Passerculus sandwichensis beldingi*	CESA: Endangered MSCP: Covered	Resident in salt marshes with dense pickleweed, particularly *Salicornia virginica*, within which most nests are found. Found in areas with tidal flow.
large-billed savannah sparrow *Passerculus sandwichensis rostratus*	CDFW: Species of Special Concern (wintering) MSCP: Covered	Breeds in open, low salt marsh vegetation, including grasses, pickleweed, and iodine bush (does not breed in North America). Winters along rocky shorelines in Southern California.
tricolored blackbird	CDFW: Species of Special Concern	Breeds near freshwater,

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
Agelaius tricolor	(nesting colony) MSCP: Covered	especially marshy areas. The most favored sites for colonies are heavy growths of cattails and tules. Winters near pastures, dry seasonal pools, agricultural fields, rice fields, feedlots, and dairies.
vermilion flycatcher *Pyrocephalus rubinus*	CDFW: Species of Special Concern (nesting)	Prefers open riparian woodland, arid lands, and mesquite bosques on desert floodplains. Nests in native trees such as willows and cottonwoods.
western snowy plover *Charadrius nivosus nivosus*	ESA: Threatened CDFW: Species of Special Concern (nesting) MSCP: Covered	Nests on beaches, dunes, and salt flats in San Diego County, with the highest concentrations in two areas: Marine Corps

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name **Scientific Name**	**Sensitivity Status[2]**	**Habitat Requirements**
		Base Camp Pendleton and Silver Strand. Outside the breeding season species is more widespread but not common along the county's coast.
white-tailed kite *Elanus leucurus*	CDFW: Fully Protected (nesting)	Breeds and winters in savanna, open woodlands, marshes, desert grassland, partially cleared lands, and cultivated fields.
golden eagle *Aquila chrysaetos*	CDFW: Fully Protected (nesting and wintering) MSCP: Covered	Nests on cliff ledges and trees on steep slopes. Hunts for prey in nearby grasslands, sage scrub, or broken chaparral. Requires very large territories.
ferruginous hawk *Buteo regalis*	CDFW: Watch List (wintering) MSCP: Covered	Does not breed in California. Only winters in San Diego County in open country,

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name **Scientific Name**	**Sensitivity Status[2]**	**Habitat Requirements**
		primarily plains, prairies, badlands, sagebrush, and shrubland.
Swainson's hawk *Buteo swainsoni*	CESA: Threatened (nesting) MSCP: Covered	Open grasslands; however it has become increasingly dependent on agriculture, especially alfalfa crops, as native grassland communities are converted to agricultural lands.
prairie falcon *Falco mexicanus*	CDFW: Watch List (nesting) MSCP: Covered	Forages in open grasslands, agricultural fields, and desert scrub. Prefers ledges on rocky cliffs for nesting.
American peregrine falcon *Falco peregrinus anatum*	CDFW: Fully Protected (nesting) MSCP: Covered	Nests in open areas from tundra, moorlands, steppe, and seacoasts to mountains and open forested regions, especially where

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
		there are suitable nesting cliffs.
light-footed Ridgway's rail *Rallus obsoletus levipes*	ESA: Endangered CESA: Endangered CDFW: Fully Protected MSCP: Covered	Found in southern California in coastal salt marshes, especially those dominated by cordgrass. Nearby breeding locations include San Elijo Lagoon and to the east of the BSA.
long-billed curlew	CDFW: Watch List MSCP: Covered	Tidal mudflats, coastal strand, salt marshes, fallow agricultural fields, and grasslands along the coast. Uncommon migrant and winter visitor to San Diego County.
black skimmer *Rynchops niger*	CDFW: Species of Special Concern (nesting)	Breeds in loose groups on sand banks or bare dirt areas near water sources. May utilize the

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name **Scientific Name**	**Sensitivity Status[2]**	**Habitat Requirements**
		same habitat as terns.
burrowing owl *Athene cunicularia*	CDFW: Species of Special Concern (burrow sites and some winter sites) MSCP: Covered	Breeds and winters in flat, open terrain with soft soil, short grass, sparsely distributed vegetation, or exposed ground. Strongly associated with California ground squirrel burrows.
least Bell's vireo *Vireo bellii pusillus*	ESA: Endangered CESA: Endangered MSCP: Covered	Riparian woodland with understory of dense young willows or mulefat and willow canopy. Nests often placed along internal or external edges of riparian thickets (Unitt 2004).
California horned lark *Eremophila alpestris actia*	CDFW: Watch List	Found year-round in coastal strand, grasslands, and sandy deserts of San Diego County. This

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
		species requires open, low-growing vegetation for nesting and prefers sandy areas with occasional vegetation.
yellow-breasted chat *Icteria virens*	CDFW: Species of Special Concern (nesting)	Riparian woodland, with dense undergrowth.
grasshopper sparrow *Ammodramus savannarum perpallidus*	CDFW: Species of Special Concern (nesting)	Breeds and winters in open grasslands and prairies with patches of bare ground. This species tends to nest in open native grassland.
Bell's sparrow *Amphispiza belli*	CDFW: Watch List	Occurs mainly in coastal sage scrub and semi-open chaparral habitats several years after fire events have opened up the vegetation.
western bluebird *Sialia mexicana*	MSCP: Covered	Frequents open woodlands for foraging, but requires suitable

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name **Scientific Name**	**Sensitivity Status[2]**	**Habitat Requirements**
		roosting and nesting cavities usually in snags. Availability of snags may limit population density.
Mammals		
big free-tailed bat *Nyctinomops macrotis*	CDFW: Species of Special Concern	Rocky and rugged terrain including desert shrub, woodlands, and evergreen forests
Dulzura pocket mouse *Chaetodipus californicus femoralis*	CDFW: Species of Special Concern	Slopes covered with chaparral and live oaks.
pallid bat *Antrozous pallidus*	CDFW: Species of Special Concern	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect them from high temperatures.

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
Mexican long-tongued bat *Choeronycteris mexicana*	CDFW: Species of Special Concern	In San Diego County, occurs primarily in urban areas. In Arizona and Mexico, found in deep canyons and in the mountains, foraging in riparian, desert scrub, and pinyon-juniper habitats, in particular on *Yucca* sp.
pocketed free-tailed bat *Nyctinomops femorosaccus*	CDFW: Species of Special Concern	Rugged cliffs, rocky outcrops, and slopes in desert shrub and pine oak forests.
western red bat *Lasiurus blossevillii*	CDFW: Species of Special Concern	Obligate foliage-roosting species that roosts in trees and forages along wooded edges and riparian areas. Feeds over grasslands, shrublands, open woodlands, forests, and croplands.
western mastiff	CDFW: Species of	Colonial roosting

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
bat *Eumops perotis californicus*	Special Concern	species that prefers steep rocky cliffs, but occasionally may use buildings. Chaparral, live oaks, and arid, rocky regions. Requires downward-opening crevices.
western yellow bat *Lasiurus xanthinus*	CDFW: Species of Special Concern	Below 600 meters in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats.
northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	CDFW: Species of Special Concern	Inhabits coastal sage scrub, sage scrub/grassland ecotones, and chaparral communities.
pacific pocket mouse *Perognathus longimembris pacificus*	ESA: Endangered CDFW: Species of Special	Plant communities suitable for the Pacific pocket mouse consist of shrublands with firm, fine-grain, sandy substrates in the immediate vicinity of the

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
		ocean. These communities include coastal strand, coastal dunes, river alluvium, and coastal sage scrub growing on marine terraces.
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	CDFW: Species of Special Concern	Typical habitats include early stages of chaparral, open coastal sage scrub, and grasslands near the edges of brush.
San Diego desert woodrat *Neotoma lepida intermedia*	CDFW: Species of Special Concern	Common to abundant in Joshua tree, piñyon-juniper, mixed and chamise-redshank chaparral, sagebrush, and most desert habitats.
Mule deer *Odocoileus hemionus*	MSCP: Covered	This species requires large areas of chaparral or coastal sage scrub and

Special-Status Wildlife Species Potentially Occurring[1] in the LCP		
Common Name Scientific Name	**Sensitivity Status[2]**	**Habitat Requirements**
		riparian vegetation for cover and foraging.
mountain lion *Felis concolor*	MSCP: Covered	This species requires vast areas of rugged mountains, forests, riparian vegetation, deserts, and other areas with plenty of cover and a mammalian prey base.
American badger *Taxidea taxus*	CDFW: Species of Special Concern MSCP: Covered	Coastal sage scrub, mixed chaparral, grassland, oak woodland, chamise chaparral, mixed conifer, pinyon-juniper, desert scrub, desert wash, montane meadow, open areas, and sandy soils.

[1] Species listed in this table were found to have been historically recorded within the vicinity of the LCP area (San Diego County Bird Atlas [Unitt 2004], U.S. Fish and Wildlife Service [USFWS 2016], California Natural Diversity Database [CNDDB 2016], and San Diego County [County 2016]) during a desktop analysis of the USGS 7.5-minute Topographic Quadrangles that include and surround the LCP area (Del Mar, Encinitas, Rancho Santa Fe). The traditional nine-quadrangle search could not be implemented

because the LCP area is directly adjacent to the Pacific Ocean, for which there are no designated quadrangles. Focused surveys and detailed vegetation mapping are required on a project-by-project basis to determine the presence, absence or potential for a species to occur within the LCP area.

[2]Sensitivity status taken from CDFW Special Animals List July 2016 and the MSCP list of covered species.

Sensitivity Status Key

ESA: Federal Endangered Species Act (ESA)

CESA: California Endangered Species Act (CESA)

CDFW: California Department of Fish and Wildlife

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Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
Red-sand verbena *Abronia maritima*	CNPS: List 4.2	Perennial herb. Found in coastal dunes. Elevation 0-100 meters.	February - November
San Diego thorn-mint *Acanthomintha ilicifolia*	CNPS: List 1B.1 ESA: Threatened CESA: Endangered MSCP: Covered	Annual herb. Found in clay (openings), chaparral, coastal scrub, valley and foothill grassland, vernal pools. Elevation 10 – 960 meters.	April – June
Nuttal's acmispon *Acmispon prostratus*	CNPS: List 1B.1	Annual herb. Found in coastal dunes, coastal scrub. Elevation 0-10 meters.	March – July
California adolphia *Adolphia californica*	CNPS: List 2B.1	Deciduous shrub. Found in chaparral, coastal scrub, and valley and foothill grassland/clay soils. Elevation 45 – 740 meters.	December– May
Shaw's agave *Agave shawii* var. *shawii*	CNPS: List 2B.1	Perennial leaf succulent. Found in maritime succulent scrub, coastal bluff scrub, and coastal scrub. Elevation 10 – 120 meters.	September – May

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
singlewhorl burrobrush *Ambrosia monogyra*	CNPS: List 2B.2	Perennial shrub. Found in chaparral and Sonoran desert scrub. Elevation 10 – 50 meters.	August – November
San Diego ambrosia *Ambrosia pumila*	CNPS: List 1B.1 ESA: Endangered MSCP: Covered	Perennial rhizomatous herb. Found in chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 20 – 450 meters.	April – October
aphanisma *Aphanisma blitoides*	CNPS: List 1B.2 MSCP: Covered	Annual herb. Found in coastal bluff scrub, coastal dunes, and coastal scrub in sandy soils. Elevation 3–920 meters.	March –June
Del Mar manzanita *Arctostaphylos glandulosa* ssp. *Crassifolia*	ESA: Endangered CNPS: List 1B.1 MSCP: Covered	Evergreen shrub. Found in chaparral maritime scrub in sandy soils. Elevation 0–350 meters.	December– June
Rainbow manzanita *Arctostaphylos rainbowensis*	CNPS: List 1B.1	Perennial evergreen shrub Found in chaparral. Elevation 205-670 meters.	December – March

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
San Diego sagewort *Artemisia palmeri*	CNPS: List 4.2	Deciduous shrub. Found in chaparral, coastal scrub, riparian forest, riparian scrub, and riparian woodland. Elevation 15 – 915 meters.	May–September
Western spleenwort *Asplenium vespertinum*	ESA: Endangered CESA: Endangered CNPS: List 4.2	Perennial rhizomatous herb. Found in chaparral, cismontane woodland, coastal scrub. Elevation 180 – 1000 meters.	February – June
coastal dunes milkvetch *Astragalus tener* var. *titi*	ESA: Endangered CESA: Endangered CNPS: List 1B.1	Annual herb. Found in coastal bluff scrub, coastal dunes, and coastal prairie. Elevation 0–50 meters.	March–May
Coulter's saltbush *Atriplex coulteri*	CNPS: List 1B.2	Perennial herb. Found in coastal bluff scrub, coastal dunes, and coastal scrub, valley and foothill grassland. Elevation 3 – 460 meters.	March–October

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
south coast saltscale *Atriplex pacifica*	CNPS: List 1B.2	Annual herb. Found in coastal bluff scrub, coastal dunes, coastal scrub, and playas. Elevation 0 – 140 meters.	March–October
Parish's brittlescale *Atriplex parishii*	CNPS: List 1B.1	Annual herb. Found in chenopod scrub, playas, and vernal pools Elevation 25 - 1900 meters.	June – October
Encinitas baccharis *Baccharis vanessae*	ESA: Threatened CESA: Endangered CNPS: List 1B.1 MSCP: Covered	Perennial deciduous shrub. Found in chaparral (maritime) and Cismontane woodland. Elevation 60 - 720 meters.	August – November
golden-spined cereus *Bergerocactus emoryi*	CNPS: List 2 B.2	Perennial stem succulent. Found in closed-cone coniferous forest, chaparral, and coastal scrub. Elevation 3 – 395 meters.	May – June

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
San Diego goldenstar *Bloomeria clevelandii*	CNPS: List 1B.1 MSCP: Covered	Perennial bulbiferous herb. Found in chaparral, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 50 – 465 meters.	April – May
thread-leaved brodiaea *Brodiaea filifolia*	ESA: Threatened CESA: Endangered CNPS: List 1B.1 MSCP: Covered	Perennial bulbiferous herb. Found in chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grassland, and vernal pools. Elevation 25 – 1120 meters.	March – June
Orcutt's brodiaea *Brodiaea orcuttii*	CNPS: List 1B.1 MSCP: Covered	Perennial bulbiferous herb. Found in closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation 30 – 1692 meters.	May – July

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
Brewer's calandrinia *Calandrinia breweri*	CNPS: List 4.2	Annual herb. Found in chaparral and coastal scrub. Elevation 10 – 1220 meters.	January – June
Dunn's mariposa lily *Calochortus dunnii*	CESA: Rare CNPS: List 1B.2 MSCP: Covered	Perennial bulbiferous herb. Found in closed-cone coniferous forest, chaparral, and valley and foothill grassland. Elevation 185 – 1830 meters.	February – June
Lewis's evening-primrose *Camissonia lewisii*	CNPS: List 3	Annual herb. Found in coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland. Elevation 0 – 300 meters.	March–May
Lakeside ceanothus *Ceanothus cyaneus*	CNPS: List 1B.2	Perennial evergreen shrub. Found in closed-cone coniferous forest and chaparral. Elevation 235 - 455 meters.	April – June

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
Otay Mountain ceanothus *Ceanothus otayensis*	CNPS: List 1B.2	Perennial evergreen shrub. Found in chaparral in metavolcanic or gabbroic soils. Elevation 600 - 1000 meters.	January – April
wart-stemmed ceanothus *Ceanothus verrucosus*	CNPS: List 2.2 MSCP: Covered	Evergreen shrub. Found in chaparral. Elevation 1 – 380 meters.	December–May
southern tarplant *Centromadia parryi* ssp. *australis*	CNPS: List 1B.1	Annual herb. Found in marshes and swamps, valley and foothill grassland, and vernal pools. Elevation 0 – 480 meters.	May–November
smooth tarplant *Centromadia pungens* ssp. *laevis*	CNPS: List 1B.1	Annual herb. Found in chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland. Elevation 0 – 640 meters.	April–September
Orcutt's pincushion *Chaenactis glabriuscula* var. *orcuttiana*	CNPS: List 1B.1	Annual herb. Found in coastal bluff scrub and coastal dunes. Elevation 0 – 100 meters.	January–August

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
southern mountain misery *Chamaebatia australis*	CNPS: List 4.2	Perennial evergreen. Found in chaparral. Elevation 300 – 1020 meters.	November – May
salt marsh bird's-beak *Chloropyron maritimum* ssp. *maritimum*	ESA: Endangered CESA: Endangered CNPS: List 1B.2 MSCP: Covered	Annual herb (hemiparasitic). Found in coastal dunes, marshes and swamps (coastal salt). Elevation 0 – 30 meters.	May – October
Orcutt's spineflower *Chorizanthe orcuttiana*	ESA: Endangered CESA: Endangered CNPS: List 1B.1	Annual herb. Found in closed-cone coniferous forest, chaparral (maritime), coastal scrub. Elevation 3 - 125 meters.	March – May
long-spined spineflower *Chorizanthe polygonoides* var. *longispina*	CNPS: List 1B.2	Annual herb. Found in chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pools. Elevation 30 – 1530 meters.	April – July

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
seaside cistanthe *Cistanthe maritima*	CNPS: List 4.2	Annual herb. Found in coastal bluff scrub, coastal scrub, and valley and foothill grassland. Elevation 5 - 300 meters.	February – August
delicate clarkia *Clarkia delicata*	CNPS: List 1B.2	Annual herb. Found in chaparral and cismontane woodland. Elevation 235 - 1000 meters.	April–June
summer holly *Comarostaphylis diversifolia* ssp. *diversifolia*	CNPS: List 1B.2	Evergreen shrub. Found in chaparral and cismontane woodland. Elevation 30 – 790 meters.	April–June
small-flowered morning-glory *Convolvulus simulans*	CNPS: List 4.2	Annual herb. Found in chaparral, coastal scrub, and valley and foothill grassland. Elevation 30 – 740 meters.	March – July
San Diego sand aster *Corethrogyne filaginifolia* var. *incana*	CNPS: List 1B.1	Perennial herb. Found in coastal bluff scrub, chaparral, and coastal scrub. Elevation 3 – 115 meters.	June – September

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
Del Mar Mesa sand aster *Corethrogyne filaginifolia* var. *linifolia*	CNPS: List 1B.1	Perennial herb. Found in coastal bluff scrub, chaparral, and coastal scrub. Elevation 15 – 150 meters.	May – September
Wiggins' cryptantha *Cryptantha wigginsii*	CNPS: List 1B.2	Annual herb. Found in coastal scrub. Elevation 20 – 275 meters.	February – June
snake cholla *Cylindropuntia californica* var. *californica*	CNPS: List 1B.1 MSCP: Covered	Perennial stem succulent. Found in chaparral and coastal scrub. Elevation 30 – 150 meters.	April – May
paniculate tarplant *Deinandra paniculata*	CNPS: List 4.2	Annual herb. Found in coastal scrub, valley and foothill grassland, and vernal pools. Elevation 25-940 meters.	March – November

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
western dichondra *Dichondra occidentalis*	CNPS: List 4.2	Rhizomatous herb. Found in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. Elevation 50 - 500 meters.	March–July
Blochman's dudleya *Dudleya blochmaniae* ssp. *blochmaniae*	CNPS: List 1B.1	Perennial herb. Found in chaparral, coastal scrub, and valley and foothill grassland. Elevation 5 - 450 meters.	April – June
short-leaved dudleya *Dudleya brevifolia*	CESA: Endangered CNPS: List 1B.1 MSCP: Covered	Perennial herb. Found in chaparral and coastal scrub. Elevation 30 - 250 meters.	April – May
variegated dudleya *Dudleya variegata*	CNPS: List 1B.2 MSCP: Covered	Perennial herb. Found in chaparral, cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 3 – 580 meters.	April – June

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
sticky dudleya *Dudleya viscida*	CNPS: List 1B.2	Perennial herb. Found in coastal bluff scrub, chaparral, cismontane woodland, and coastal scrub. Elevation 10 – 550 meters.	May – June
Palmer's goldenbush *Ericameria palmeri* var. *palmeri*	CNPS: List 1B.1 MSCP: Covered	Perennial evergreen shrub. Found in chaparral and costal scrub. Elevation 30 – 600 meters.	July – November
San Diego button-celery *Eryngium aristulatum* var. *parishii*	ESA: Endangered CESA: Endangered CNPS: List 1B.1 MSCP: Covered	Annual / perennial herb. Found in coastal scrub, valley and foothill grassland, and vernal pools. Elevation 20 – 620 meters.	April – June
Pendleton button-celery *Eryngium pendletonense*	CNPS: List 1B.1	Perennial herb. Found in coastal bluff scrub, valley and foothill grassland, and vernal pools. Elevation 15-110 meters.	April – July

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
cliff spurge *Euphorbia misera*	CNPS: List 2B.2	Perennial shrub. Found in coastal bluff scrub, coastal scrub, and Mojave and desert scrub. Elevation 10 – 500 meters.	December – October
San Diego barrel cactus *Ferocactus viridescens*	CNPS: List 2B.1 MSCP: Covered	Perennial stem succulent. Found in chaparral, coastal scrub, valley and foothill grassland, vernal pools. Elevation 3 – 450 meters.	May – June
Palmer's frankenia *Frankenia palmeri*	CNPS: List 2B.1	Perennial herb. Found in coastal dunes, marshes and swamps (coastal salt), and playas. Elevation 0 – 10 meters.	May - July
Campbell's liverwort *Geothallus tuberosus*	CNPS: List 1B.1	Ephemeral liverwort. Found in coastal scrub (mesic), and vernal pools. Elevation 10 – 600 meters.	N/A
Mission Canyon bluecup *Githopsis diffusa* ssp. *filicaulis*	CNPS: List 3.1	Annual herb. Found in chaparral. Elevation 450 - 700 meters.	April – June

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
San Diego gumplant *Grindelia hallii*	CNPS: List 1B.2	Perennial herb. Found in chaparral, lower montane coniferous forest, meadows and seeps, valley and foothill grassland. Elevation 185 – 1745 meters.	May – October
Palmer's grapplinghook *Harpagonella palmeri*	CNPS: List 4.2	Annual herb. Found in chaparral, coastal scrub, and valley and foothill grassland. Elevation 20 – 955 meters.	March–May
Orcutt's goldenbush *Hazardia orcuttii*	CESA: Threatened CNPS: List 1B.1	Evergreen shrub. Found in chaparral and coastal scrub. Elevation 80 – 85 meters.	August–October
beach goldenaster *Heterotheca sessiliflora* ssp. *sessiliflora*	CNPS: List 1B.1	Perennial herb. Found in chaparral (coastal), coastal dunes, and coastal scrub. Elevation 0 – 1225 meters.	March – December

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
graceful tarplant *Holocarpha virgata* ssp. *elongata*	CNPS: List 4.2	Annual herb. Found in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. Elevation 60 – 1100 meters	May – November
vernal barley *Hordeum intercedens*	CNPS: List 3.2	Annual herb. Found in coastal dunes, coastal scrub, valley and foothill grassland (saline flats and depressions), and vernal pools. Elevation 5 - 1000 meters.	March – June
Ramona horkelia *Horkelia truncata*	CNPS: List 1B.3	Perennial herb. Found in chaparral, cismontane woodland. Elevation 400 - 1300 meters.	May – June
decumbent goldenbush *Isocoma menziesii* var. *decumbens*	CNPS: List 1B.2	Perennial shrub. Found in chaparral and coastal scrub. Elevation 10 – 135 meters.	April – November
San Diego marsh-elder *Iva hayesiana*	CNPS: List 2.2 MHCP	Perennial herb. Found in marshes, swamps, and playas. Elevation 10 – 500 meters.	April–October

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
southwestern spiny rush *Juncus acutus* ssp. *leopoldii*	CNPS: List 4.2	Perennial herb. Found in coastal dunes, meadows and seeps, and marshes and swamps. Elevation 3 – 900 meters.	May–June
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	CNPS List 1B.1	Annual herb. Found in marshes and swamps, playas, and vernal pools Elevation 1 – 1220 meters.	February–June
Robinson's pepper-grass *Lepidium virginicum* var. *robinsonii*	CNPS List 4.3	Annual herb. Found in chaparral and coastal scrub. Elevation 1 – 885 meters.	January – July
sea dahlia *Leptosyne maritima*	CNPS List 2B.2	Perennial herb. Found in coastal bluff scrub and coastal scrub. Elevation 5 – 150 meters.	March – May
California desert thorn *Lycium californicum*	CNPS: List 4.2	Perennial shrub. Found in coastal bluff scrub and coastal scrub. Elevation 5 – 150 meters.	March–August

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
small-flowered microseris *Microseris douglasii* ssp. *platycarpha*	CNPS: List 4.2	Annual herb. Found in cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pools. Elevation 15 – 1070 meters.	March – May
low bush monkeyflower *Mimulus aurantiacus* var. *aridus*	CNPS: List 4.3	Perennial evergreen shrub. Found in chaparral (rocky), Sonoran desert scrub. Elevation 750 – 1200 meters.	April – July
Palomar monkeyflower *Mimulus diffusus*	CNPS: List 4.3	Annual herb. Found in chaparral and lower montane coniferous forest. Elevation 1220 – 1830 meters.	April – June
light gray lichen *Mobergia calculiformis*	CNPS: List 3	Crustose lichen (saxicolous). Found in coastal Scrub. Elevation 10 meters.	N/A
felt-leaved monardella *Monardella hypoleuca* ssp. *lanata*	CNPS List 1B.2 MSCP: Covered	Perennial rhizomatous herb. Found in chaparral and cismontane woodland. Elevation 300 - 1575 meters.	June – August

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
willowy monardella *Monardella viminea*	ESA: Endangered CESA: Endangered CNPS List: 1B.1	Perennial herb. Found in coastal scrub/alluvial ephemeral washes with adjacent coastal scrub, chaparral, riparian forest, and/or riparian scrub. Elevation 50-225 meters	June-August
little mousetail *Myosurus minimus* ssp. *apus*	CNPS List 3.1	Annual herb. Found in valley and foothill grassland and vernal pools. Elevation 20 - 640 meters.	March – June
mud nama *Nama stenocarpa*	CNPS List: 2B.2	Annual herb. Found in marshes and swamps. Elevation 5-500 meters.	January- July
spreading navarretia *Navarretia fossalis*	ESA: Threatened CNPS List: 1B.1	Annual herb. Found in vernal pools, chenopod scrub, marshes and swamps, and playas. Elevation 30-655 meters.	April-June

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
prostrate vernal pool navarretia *Navarretia prostrata*	CNPS List: 1B.1	Annual herb. Found in coastal scrub, valley and foothill grassland, and vernal pools. Elevation 3 - 1210 meters.	April-July
Coast woolly-heads *Nemacaulis denudata* var. *denudata*	CNPS: List 1B.1	Annual herb. Found in coastal Dunes. Elevation 0-100 meters.	April-September
slender cottonheads *Nemacaulis denudata* var. *gracilis*	CNPS: List 2B.2	Annual herb. Found in coastal dunes, desert dunes, and Sonoran desert scrub. Elevation -50 - 400 meters.	March – May
California adder's-tongue *Ophioglossum californicum*	CNPS: List 4.2	Perennial rhizomatous herb. Found in chaparral, valley and foothill grassland, and vernal pools. Elevation 60-525 meters.	December – June
California Orcutt grass *Orcuttia californica*	ESA: Endangered CESA: Endangered CNPS List: 1B.1	Annual herb. Found in vernal pools. Elevation 15-660 meters	April-August

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
short-lobed broomrape *Orobanche parishii* ssp. *brachyloba*	CNPS List: 4.2	Perennial herb. Found in coastal bluff scrub, coastal dunes, and coastal scrub. Elevation 3-305 meters	April-October
golden-rayed pentachaeta *Pentachaeta aurea* ssp. *aurea*	CNPS List: 4.2	Annual herb. Found in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland, and valley and foothill grassland. Elevation 80-1850 meters.	March – July
south coast branching phacelia *Phacelia ramosissima* var. *austrolitoralis*	CNPS List: 3.2	Perennial herb. Found in chaparral, coastal dunes, coastal scrub, and marshes and swamps. Elevation 5-300 meters.	March – August
Brand's star phacelia *Phacelia stellaris*	CNPS List: 1B.1	Annual herb. Found in coastal scrub and coastal dunes Elevation 1-400 meters	March-June

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
Torrey pine *Pinus torreyana* var. *torreyana*	CNPS: List 1B.2 MSCP: Covered	Evergreen coniferous tree. Found in closed-cone coniferous forest and chaparral in sandstone soils. Elevation 75-160 meters	N/A
chaparral rein orchid *Piperia cooperi*	CNPS List: 4.2	Perennial herb. Found in chaparral, cismontane woodland, and valley and foothill grassland. Elevation 15-1585 meters.	March – June
San Diego mesa mint *Pogogyne abramsii*	ESA: Endangered CESA: Endangered CNPS List: 1B.1	Annual herb. Found in vernal pools. Elevation 90-200 meters.	March-July
Otay Mesa mint *Pogogyne nudiuscula*	ESA: Endangered CESA: Endangered CNPS List: 1B.1	Annual herb. Found in vernal pools. Elevation 90-250 meters.	May-July

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
Delta woolly-marbles *Psilocarphus brevissimus* var. *multiflorus*	CNPS List: 4.2	Annual herb. Found in vernal pools. Elevation 10-500 meters.	May – June
Nuttall's scrub oak *Quercus dumosa*	CNPS: List 1B.1	Evergreen shrub. Found in closed-cone coniferous forest, chaparral, and coastal scrub. Elevation 15-400 meters.	February-April
Engelmann oak *Quercus engelmannii*	CNPS List: 4.2	Perennial deciduous tree. Found in chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland. Elevation 50-1300 meters.	March – June
Munz's sage *Salvia munzii*	CNPS: List 2B.2	Perennial evergreen shrub. Found in chaparral and coastal scrub. Elevation 115-1065 meters.	February – April

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
ashy spike-moss *Selaginella cinerascens*	CNPS: List 4.1	Perennial rhizomatous herb. Found in chaparral and coastal scrub. Elevation 20-640 meters.	N/A
chaparral ragwort *Senecio aphanactis*	CNPS List: 2B.2	Annual herb. Found in chaparral, cismontane woodland, and coastal scrub. Elevation 15-800 meters	January-April
bottle liverwort *Sphaerocarpos drewei*	CNPS List: 1B.1	Ephemeral liverwort. Found in chaparral and coastal scrub. Elevation 90-600 meters.	N/A
purple stemodia *Stemodia durantifolia*	CNPS List: 2B.1	Perennial herb. Found in Sonoran desert scrub. Elevation 180-300 meters	January – December
San Diego County needle grass *Stipa diegoensis*	CNPS List: 4.2	Perennial herb. Found in chaparral and coastal scrub. Elevation 10-800 meters.	February – June

Special-Status Plant Species Potentially Occurring within the LCP[1]			
Common Name **Scientific Name**	**Sensitivity Status[2]**	**General Habitat Description (CNPS 2016)**	**Blooming Period**
estuary seablite *Suaeda esteroa*	CNPS List: 1B.2	Perennial herb. Found in marshes and swamps. Elevation 0-5 meters.	May - January
woolly seablite *Suaeda taxifolia*	CNPS List: 4.2	Perennial evergreen shrub. Found in coastal bluff scrub, coastal dunes, and marshes and swamps. Elevation 0-50 meters.	January – December
Parry's tetracoccus *Tetracoccus dioicus*	CNPS List: 1B.2	Perennial deciduous shrub. Found in chaparral and coastal scrub. Elevation 165-1000 meters.	April – May
woven-spored lichen *Texosporium sancti-jacobi*	CNPS List: 3	Crustose lichen (terricolous). Found in chaparral. Elevation 290-660 meters.	N/A
San Diego County viguiera *Viguiera laciniata*	CNPS List: 4.2	Perennial shrub. Found in chaparral and coastal scrub. Elevation 60-750 meters.	February – August
rush-like bristleweed *Xanthisma junceum*	CNPS List: 4.3	Perennial herb. Found in chaparral and coastal scrub. Elevation 240 – 1000 meters.	May – January

[1]**Historical Occurrence:** Species listed in this table were found to have been historically recorded within the vicinity of the LCP area (CNPS 2016;CNDDB 2016) during a desktop analysis of the USGS 7.5-minute Topographic Quadrangles that include and surround the LCP area (Del Mar, Encinitas, Rancho Santa Fe). The traditional nine-quadrangle search could not be implemented because the LCP area is directly adjacent to the Pacific Ocean, for which there are no designated quadrangles. Focused surveys and detailed vegetation mapping are required on a project-by-project basis to determine the presence, absence or potential for a species to occur within the LCP area.

[2]**Sensitivity Status Key**

ESA: Federal Endangered Species Act (ESA)

CESA: California Endangered Species Act (CESA)

CNPS: California Native Plant Society California Rare Plant Rank Lists:

1B: Considered rare, threatened, or endangered in California and elsewhere

2: Plants rare, threatened, or endangered in California, but more common elsewhere

3: Plants for which we need more information – review list

4: Plants of limited distribution a watch list

Decimal notations: .1 – Seriously endangered in California, .2 – Fairly endangered in California, .3 – Not very endangered in California

Multiple Species Conservation Program (MSCP)

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